

Women's Economic Empowerment in Sudan: Assets and Agency

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Working Paper No. 1697

December 2023

The authors acknowledge funding support from the World Bank Living Standards Measurement Study – Plus project via a grant to the Economic Research Forum. The authors appreciate the helpful comments of Talip Kilic and Ragui Assaad in preparing the paper.

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First published in 2023 by
The Economic Research Forum (ERF)
21 Al-Sad Al-Aaly Street
Dokki, Giza
Egypt
www.erf.org.eg

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Abstract

This paper investigates women's economic empowerment in Sudan, with a particular focus on their agency and assets. The analyses use the nationally-representative Sudan Labor Market Panel Survey 2022 data and compare agency and assets by gender. Rights to parcels, livestock, durables, mobile phones, and financial assets are explored, along with gender role attitudes, justification of domestic violence, mobility, and decision-making. The findings show how agency and assets evolve over the life course differently for men and women, with empowerment often diminishing at marriage for women but rising for men.

Keywords: Gender, norms, assets, Sudan

JEL Classifications: J16, O12, Z10

ملخص

تبحث هذه الورقة في التمكين الاقتصادي للمرأة في السودان، مع التركيز بشكل خاص على وكالتها وأصولها. تستخدم التحليلات بيانات المسح التتبعي لسوق العمل السودانية لعام 2022 المتمثلة على المستوى الوطني ومقارنة الوكالة والأصول حسب النوع. ويجري استكشاف الحقوق في الطرود، والثروة الحيوانية، والسلع المعمرة، والهواتف النقالة، والأصول المالية، إلى جانب مواقف الدور النوعي، وتبرير العنف المنزلي، والتنقل، وصنع القرار. تُظهر النتائج كيف تتطور الوكالة والأصول على مدار الحياة بشكل مختلف بالنسبة للرجال والنساء، حيث يتضاءل التمكين غالبًا عند زواج النساء ولكنه يرتفع بالنسبة للرجال.

1 Introduction

Women's economic empowerment is a complex and contested concept. Dimensions of empowerment can include resources (such as assets), agency (such as decision-making), and achievements (such as education) (Kabeer 1999). Empirical research has clearly established that households are not "unitary" – they do not perfectly pool their assets nor do they have identical preferences (Quisumbing and Maluccio 2003; Doss 1996). There are thus, globally, large gender gaps in assets (Deere and Doss 2006), agency (Hanmer and Klugman 2016), and achievements (World Bank 2011) that necessitate a focus on women's economic empowerment.

Our research investigates the nature of gender disparities in economic empowerment in Sudan. We specifically investigate the extent of gender disparities in the resources of economic assets (rights to livestock, land, durables, mobile phones, and financial assets). We also explore agency in terms of gender role attitudes, women's mobility, and decision-making.² Outcomes are analyzed by gender, and also with a particular focus on differences over the life course.

Past research in MENA has emphasized gender-differentiated life course trajectories (Amer 2019; Amer and Atallah 2022; Assaad and Krafft 2021; Assaad, Krafft, and Salemi 2023; Krafft and Assaad 2020; Assaad, Binzel, and Gadallah 2010; Assaad, Krafft, and Selwaness 2022; Dhillon and Yousef 2009; Gebel and Heyne 2014). The region has the largest gender disparities in care work, including in Sudan (International Labour Organization 2018; Assaad, Krafft, and Jamkar 2023). Gender norms in the region tend to emphasize a strong female homemaker/male breadwinner model (Keo, Krafft, and Fedi 2022; El-Feki, Heilman, and Barker 2017; Hoodfar 1997), and Sudan is no exception (Osman, Etang, and Kirkwood 2022; Etang et al. 2022).

Research in Sudan has established substantial gender disparities in labor force participation and employment rates (Ebaidalla and Nour 2021; Krafft et al. 2023; Krafft, Nour, and Ebaidalla 2022; Assaad, Krafft, and Jamkar 2023). Early marriage for women and large spousal age differences are common in Sudan (Central Bureau of Statistics (CBS) and UNICEF Sudan 2016; Krafft et al. 2023), which could lead to disparities in economic empowerment at marriage.

This paper demonstrates important gender disparities in economic empowerment, limiting the agency and resources of women in Sudan. While in some areas, such as education, gender norms usually support gender parity, in other areas, such as employment, results are more mixed, with substantial constraints on the conditions under which employment is acceptable for women. While only a minority of respondents believe domestic violence is potentially justifiable, women's mobility faces substantial constraints. Although women gained additional decision-making involvement at marriage, men still had more agency in this realm as well. Women face particularly large disparities in their rights to assets such as parcels. As men age and marry, they tend to have increased rights to assets, whereas for women, marriage often means reduced rights.

The paper is organized as follows. Section 2 discusses the Sudan Labor Market Panel Survey data and measures of empowerment used in our analyses, as well as our methods. Section 3 presents the results, first for agency (gender role attitudes, justification of domestic violence, mobility, and

² Other work explores gender disparities in achievements, such as education and employment (Assaad, Krafft, and Jamkar 2023; Krafft et al. 2023).

decision making), then for rights to different assets. The paper concludes with a discussion of the findings and their implications for the future and wellbeing of women in Sudan.

2 Data and methods

2.1 Survey

Our analyses use the Sudan Labor Market Panel Survey (SLMPS) 2022 data (OAMDI 2023; Krafft, Assaad, and Cheung 2023).³ The SLMPS is the first wave of a planned panel series in Sudan. This multipurpose nationally representative household survey had a particular focus on gender. This focus included a partnership with the World Bank Living Standards Measurement Study – Plus (LSMS+) project. LSMS+ works to enhance the availability and quality of intra-household, self-reported, individual-disaggregated survey data collected in low- and middle-income countries on key dimensions of men’s and women’s economic opportunities and welfare. The SLMPS included modules from LSMS+ (Hasanbasri et al. 2021a) on individual asset ownership and rights with a heavy emphasis on self-reporting for employment and asset ownership and control. The SLMPS also included questions on gender role attitudes, mobility, and decision-making that have been used in past LMPs elsewhere in MENA (Assaad et al. 2016; Krafft and Assaad 2021; Krafft, Assaad, and Rahman 2021). The SLMPS 2022 sampled 4,878 households and 25,442 individuals. Our analyses focus on the 12,697 individual respondents aged 15-64. All analyses are weighted using the sampling weights (see Krafft, Assaad, and Cheung 2023 for details on weighting).

2.2 Measuring empowerment: Assets and agency

There are a wide variety of approaches to measuring women’s empowerment, as well as specific dimensions of assets and agency (Glennerster, Walsh, and Diaz-Martin 2018; Kabeer 1999; Donald et al. 2020; Doss et al. 2015; Doss, Kieran, and Kilic 2020). The key empowerment variables we examine are metrics of resources (economic assets) and agency (gender role attitudes; mobility; and decision making). For economic assets, households were asked whether they had livestock, land, or durables (e.g., bicycles). Individuals were asked if they had mobile phones or financial assets (e.g., bank accounts). For each of these assets that the individual or household held, each individual in the household was asked a series of questions about their rights to the asset.

For agency, both men and women were asked about their gender role attitudes. A number of questions were asked on a Likert scale (strongly agree/agree/neutral/disagree/strongly disagree) for statements such as “boys and girls should be treated equally.” Several “is it okay...” questions were also asked specifically about the conditions under which women might work on a yes/no scale (for example, “is it okay for women to work in an environment with mostly men?”). These questions were based on Gauri et al. (2019). Additionally, yes/no questions were asked about justification of domestic violence. Specifically, the question asked: “Sometimes, disagreements arise between a husband and his wife pertaining to things the wife does. In your opinion, does the husband have the right to hit his wife, or punish her, in any of the following situations?” (for example, “If she burns the food?”). These items are derived from the Demographic and Health

³ For more information on SLMPS 2022 see Krafft, Assaad, and Cheung (2023).

Survey and commonly used to measure women's agency and empowerment (Hanmer and Klugman 2016).

Women's mobility is measured based on a series of questions on freedom of movement, an important component of agency and empowerment (Hanmer and Klugman 2016). The questions ask, "If you need to go to any of the following places, can you go on your own without permission or do you need to inform someone or get permission or you just can't go?" for (1) the local market, (2) going to the doctor for treatment, (3) taking children to the doctor, and (4) visiting the homes of friends or relatives. Possible responses were: "Go alone without permission," "Go alone after informing them," "Go alone, but must be granted permission first," and "Cannot go alone." These items have been used in other LMPSs and validated as key to women's agency and empowerment in past research in Egypt (Yount et al. 2016).

Decision-making was measured across a series of "Who in your family usually has the final say on the following decisions?" (for instance, for major household purchases). These questions have a long history in measuring women's agency (Donald et al. 2020). Responses were for different decision-makers (e.g. "you and your spouse"). We specifically quantify whether the respondent was involved in a decision, either alone or in conjunction with others.

The modules on economic assets were based on those designed by the LSMS+. The modules were designed to operationalize international recommendations for individual-disaggregated survey data collection on asset ownership, employment, and entrepreneurship. The LSMS+ project (2016-2023) built on growing international momentum around the need for better individual-disaggregated data to help refine the targeting of economic policies, including towards women. The LSMS+ modules on physical and financial assets follow the "Guidelines for Producing Statistics on Asset Ownership from a Gender Perspective" produced by the United Nations Evidence and Data for Gender Equality (EDGE) initiative (United Nations 2019). They also follow the guidance on measurement of the two Sustainable Development Goal (SDG) land-related indicators developed by FAO, World Bank, and UN-Habitat (2019) "Measuring Individuals' Rights to Land: An Integrated Approach to Data Collection for SDG Indicators 1.4.2 and 5.a.1."

The UN guidelines, consistent with the previous work by Doss et al. (2008), provide empirical evidence in support of (i) reducing the reliance on most knowledgeable household member(s) in collecting individual-disaggregated survey data on asset ownership and rights, (ii) expanding the practice of interviewing multiple adults per household (in fact interviewing either all adults, as in the LMPS, or one randomly selected adult for collecting the required data for the SDG 5.a.1), and (iii) probing directly and solely regarding respondents' personal asset ownership and rights, either exclusively or jointly with someone else. Evidence from the Methodological Experiment on Asset Ownership (MEXA) in Uganda in 2014 that field-tested five approaches to respondent selection and whose recommendations fed into the UN Guidance (Kilic and Moylan 2016), and further research using the LSMS+ data from Malawi (Kilic, Moylan, and Koolwal 2021) showed that these recommendations, when implemented, provide a more complete picture of ownership and rights to assets within households, particularly among women. They also minimize both distortionary proxy respondent effects and intra-household discrepancies in reporting and reveal hidden assets.

For assets, parcels were first rostered at the household level to ensure a comprehensive list of parcels and that each individual was referring to the same piece of land. The household was asked: “Do you or does any member of this household use, own, rent, or hold use rights for any parcel of land, either alone or jointly with someone else, irrespective of whether the parcel is used by your or another household, and irrespective of the use of the parcel (including dwelling, agricultural, pastoral, forest and business/commercial parcels) (including land outside this area)?” For any household who responded yes, each parcel was listed along with its characteristics. This information was then fed forward to individual-level modules. Individuals aged 15+ who lived in households with parcels were then asked a series of questions about their rights to these assets in the individual questionnaire. We analyze those 18+ who responded for themselves (not a proxy). We specifically analyze responses to questions about each parcel from the individual questionnaire, starting with ownership of the parcel, based on “Do you use, own or hold use rights for this [parcel] either alone or jointly with someone else?” If yes, respondents were asked a series of questions about their rights, including, (1) “Do you OWN this [parcel] either alone or jointly with someone else?” If yes, we can distinguish exclusive versus joint ownership based on a yes/no question for (2) “Does anyone jointly own this [parcel] with you?” In our data, to undertake analyses on the individual rather than parcel level to assess individual rights, we define exclusive ownership as a yes for at least one parcel in (1) to ownership and a no in (2) for a joint owner for at least one parcel. We define joint ownership as a yes for at least one parcel in (1) to ownership and only responding yes to joint ownership to all parcels to which the individual had any rights.

Similar outcomes are calculated for joint and exclusive rights to sell, bequeath, and receive proceeds from a sale. Selling rights are specifically based on questions (1) “With regard to this [parcel], are you among the individuals who have the right to sell it, even if you need to obtain consent or permission from someone else?” and (2) “Do you need permission or consent from anyone else?.” The right to bequeath is specifically based on (1) “With regard to this [parcel], are you among the individuals who have the right to bequeath it, even if you need to obtain consent or permission from someone else?” (2) “Do you need permission or consent from anyone else?” The right to proceeds from sales is based on (1) “If this [parcel] were to be sold today, would you be among the individuals to decide how the money is used?” and (2) “If this [parcel] were to be sold today, is anyone else among the individuals to decide how the money is used?” We likewise code exclusive rights for these outcomes as at least one yes for a parcel in (1) and at least one yes for a parcel in (2). Joint rights only are a yes for at least one parcel in (1) but only joint rights per (2) for all parcels to which the individual had rights.

Likewise, for livestock, the roster of livestock was first built at the household level and asked, “Does any member of your household currently own any livestock (animals), exclusively and/or jointly with someone else?” and if yes, details were collected across eight types of animals. Individuals aged 15+ were then asked in the individual questionnaire about their rights to each type of livestock that the household reported in the household questionnaire. We analyze those 18+ who responded for themselves (not a proxy). We calculate rights to livestock based on “Do you own, exclusively or jointly with someone else, any of these [animal]?” and “Are any of these [animal] owned exclusively by you, without any joint owners?” We define exclusive ownership rights on an individual level as having exclusive ownership over any animal type, and joint as only joint ownership across all types to which the individual had any rights. For livestock rights, we only analyze rights among households with livestock.

Durables were asked at the household level for a variety of different durables, and individual rights to the specific durables of bicycle, motorcycle/moped, private car, taxi, truck, tok-tok/rickshaw, desktop computer, or laptop/tablet computer. Individuals aged 15+ in households with these durables were then asked, “Do you own, exclusively or jointly with someone else, any of these [durable]?” We analyze those 18+ who responded for themselves (not a proxy). The nature of ownership was not asked, so we use a yes on this as an ownership right to the durable. For durables, we only analyze rights among households with at least one durable.

Mobile phones were asked only at the individual level, specifically, “Do you own any mobile phones, exclusively or jointly with someone else?” for individuals 15+. We analyze those 18+ who responded for themselves (not a proxy). We take a yes response to this question to be a right to mobiles. While there was an additional question on joint ownership for each mobile, joint ownership was rare (2%), and therefore we do not disaggregate ownership types.

The last asset we consider is owning a financial asset (current account, savings account, informal savings program/club, certificate of deposit, or other). A question about owning each of these (“Do you own (exclusively or jointly) [asset]?”) was asked of individuals aged 15+. We analyze those 18+ who responded for themselves (not a proxy). We distinguish between those who responded that they exclusively owned at least one such asset or only jointly owned assets based on a question “Does anyone else jointly own [asset] with you?”.

2.3 Methods

The paper undertakes descriptive analyses of our economic empowerment outcomes by gender. Additional analyses focus on differences by gender and marital status (single; currently married; widowed/divorced) or age, to understand economic empowerment outcomes over the life course. Some analyses also compare differences by completed educational level (illiterate, read and write, primary, secondary, or higher education).

3 Results

3.1 Patterns of agency: gender role attitudes, mobility, and decision making

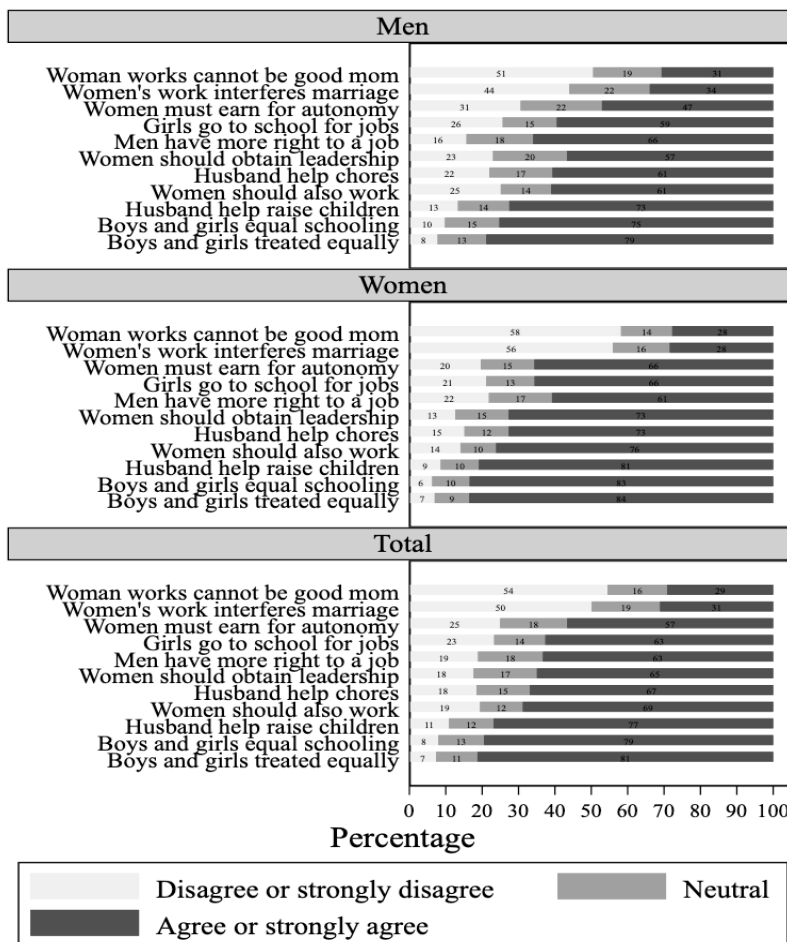
We begin our results with the patterns of agency, describing gender role attitudes, mobility, and decision making. Figure 1 shows a series of gender role attitude statements and whether respondents agree/strongly agree, are neutral, or disagree with the statements. While in most cases a large majority of respondents hold equitable attitudes, there is a sizable fraction of the population that does not. The strongest beliefs in equality were around boys and girls being treated equally (81% agreed) and boys and girls receiving equal schooling (79% agreed). A further 77% agreed that the husband should help raise the children, however, fewer agreed the husband should help with chores (67%).

In terms of attitudes around gender and work, 69% agreed women should also work, but at the same time 63% agreed that men have more right to a job when jobs are scarce. A further 63% thought that girls should go to school in part to obtain jobs, and 57% agreed that women needed earnings for their autonomy. Around a third agreed with gender *inequitable* attitudes about work:

31% agreed that women’s work interferes with marriage and 29% agreed that a woman who works cannot be a good mother.

Women hold more equitable gender role attitudes than men. There is a particularly large difference on the item “women must earn for autonomy,” where 47% of men and 66% of women agree. There are also larger gender gaps in “women should obtain leadership positions” (73% of women and 57% of men agree), “husband should help with chores” (61% of men agree vs. 73% of women), and “women should also work” (61% of men and 76% of women agree). The gender gaps around attitudes towards women’s work in combination with parenting/marriage, education, men’s right to jobs when they are scarce, husbands helping raise children, and treatment of boys and girls are (relatively) smaller.

Figure 1: Gender role attitude statements (percentages), by sex, ages 15-64



Source: Authors’ calculations based on SLMPs 2022

Notes: Full statements are: “A woman’s place is not only in the household, but she should also be allowed to work.” “The husband should help his working wife raise their children.” “The husband should help his working wife with household chores.” “Girls should go to school to prepare for jobs, not just to make them good mothers and house-wives.” “A woman who works outside the home cannot be a good mother.” “For a woman’s financial autonomy, she must work and have earnings.” “A woman’s work interferes with her ability to keep a good relationship with her husband.” “Women should continue to obtain leadership positions in society.” “Boys and girls should get the same amount of schooling.” “Boys and girls should be treated equally.” “When jobs are scarce, men should have more right to a job than women.”

Past research has underscored, in other contexts in MENA, that the acceptability of women’s employment is strongly nuanced, and that there are specific reservation working conditions that constrain women’s employment (Barsoum and Abdalla 2022; Caria et al. 2022; Gauri, Rahman, and Sen 2019). Figure 2 specifically explores acceptance of women working under certain conditions. Recall from Figure 1 that 69% of individuals aged 15-64 agreed women should also work. However, this abstract acceptance of women working contradicts the realities of many jobs. Only 47% of individuals (51% of women and 42% of men) thought it was okay for women to work with mostly men. Given gender disparities in employment rates, this excludes the majority of employment. More positively, only 14% of individuals (12% of women and 16% of men) thought women risked their reputations by working, generally.

Furthermore, only 38% of respondents (41% of women and 34% of men) thought it was okay for women to use a nursery for their children in order to work. Likewise, only 40% of respondents (42% of women and 37% of men) thought it was okay for married women to return from work after 5pm. These limitations on acceptable work, sometimes termed “reservation working conditions” in the literature on MENA (Dougherty 2014; Groh et al. 2015), substantially constrain women’s employment.⁴ Gender gaps in caregiving are the largest in the world in MENA, and Sudan is no exception to this trend (International Labour Organization 2018; Assaad, Krafft, and Jamkar 2023). Gender role attitudes illustrate that, while theoretically most of Sudan’s population supports women and married women working, the majority also do so only under restrictive conditions that prioritize care roles.

Figure 2: Acceptance of women working under certain conditions (percentage respond yes to each statement), by sex, ages 15-64



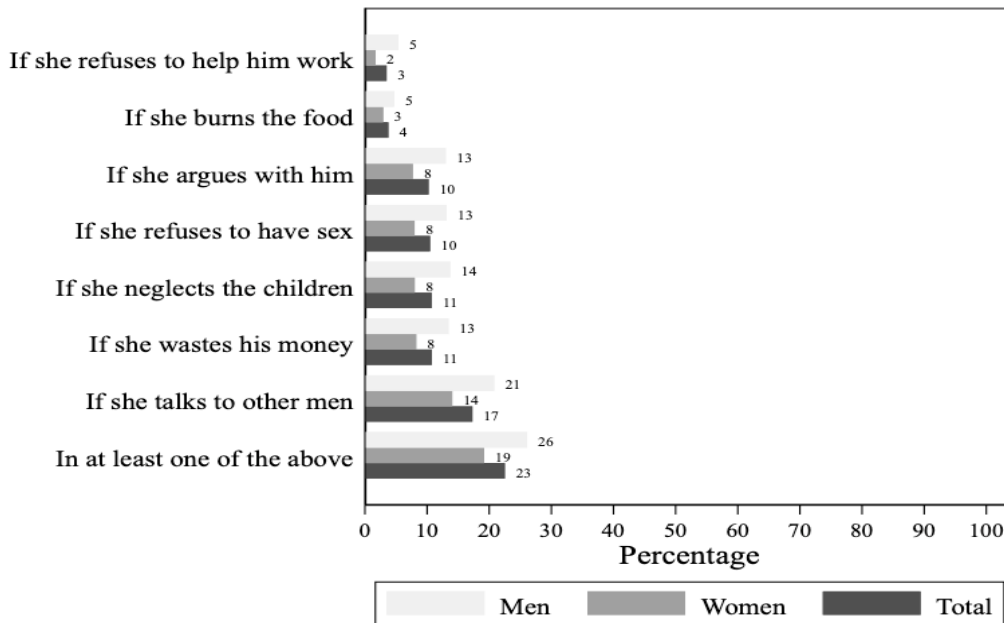
Source: Authors’ calculations based on SLMPS 2022

Notes: Full statements are: (1) Is it okay for women to work in an environment with mostly men? (2) Does women’s work harm their reputation? (3) It is okay for a married woman to return after 5 PM from work? (4) Is it okay to leave child under 5 years old with nursery to go to work?

⁴ Research in Jordan (Gauri, Rahman, and Sen 2019) that used these same questions found slightly higher rates of respondents stating working women risk their reputation (35%, vs. 14% in Sudan), slightly lower acceptance of working with men (38% in Jordan vs. 47% in Sudan), and lower acceptance of returning after 5pm (26% in Jordan vs. 40% in Sudan).

Freedom from violence is an important part of women’s empowerment. The SLMPS shows some respondents believe that domestic violence is justified. Figure 3 shows specific gender role attitudes around domestic violence, whether a husband has the right to hit his wife or punish her in a series of situations. Nearly a quarter (23%) of respondents agreed in at least one of the seven scenarios (19% of women and 26% of men).⁵ The least commonly accepted reasons were if she refused to help him work (3%) or if she burns the food (4%). Somewhat more common were if she argues with him, refuses to have sex, neglects the children, or wastes his money (each 10-11%). The most common was if she talks to other men (17%). Throughout all the reasons, men were slightly more likely to justify domestic violence than women.

Figure 3: Believe that a husband has the right to hit his wife or punish her in the following situations (percentage) by sex, ages 15–64

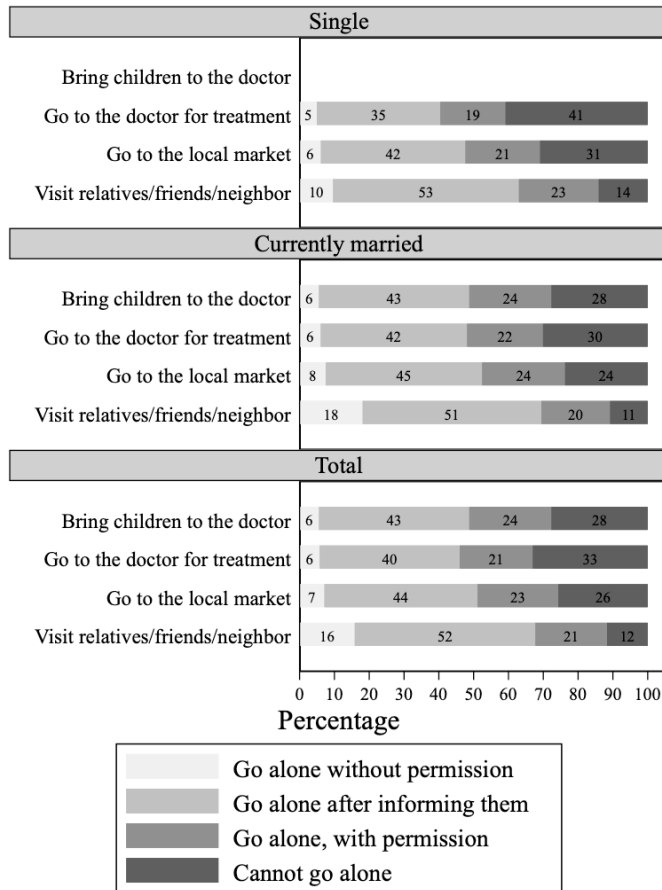


Source: Authors’ calculations based on SLMPS 2022

Freedom of movement is an important component of women’s agency. Figure 4 explores mobility to different destinations for women, comparing single and currently married women. Overall, just 6% of women can bring children to the doctor or go to the doctor for treatment without any permission, informing, or escort, only 7% can go alone without permission to the local market, and only 16% can go alone without permission to visit friends, relatives, or neighbors. A sizeable share can, however, go alone after informing their family (but without needing permission), between 40-52% across destinations. A further 21-24% can go alone only if they receive permission. A sizeable share cannot go alone at all to various destinations: 33% cannot go alone to the doctor for treatment, 28% to bring children to the doctor, 26% to the local market, and 12% to visit relatives, friends or neighbors. Mobility is more restrictive, but only slightly so, for single women than currently married ones.

⁵ Belief that domestic violence is justified may have decreased over time when comparing the SLMPS 2022 with the MICS 2014, but that survey only asked certain sub-populations about their attitudes (Central Bureau of Statistics (CBS) and UNICEF Sudan 2016).

Figure 4: Mobility to different destinations (percentages), by marital status, single and currently married women aged 15-64

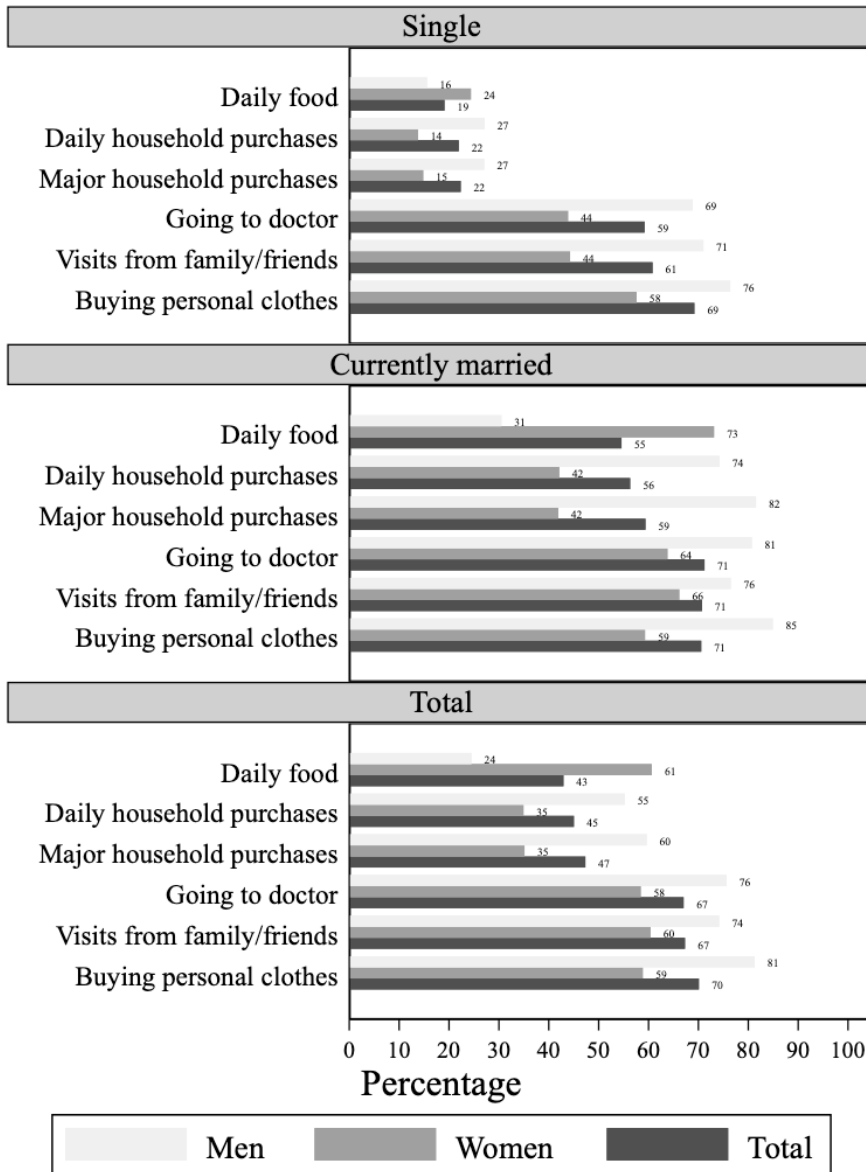


Source: Authors' calculations based on SLMPS 2022

Notes: Excludes divorced/widowed women. Bringing children to the doctor excluded for single women.

There are substantial differences in involvement in decision making by gender and marital status, as well as the specific decision (Figure 5). Overall, women, and particularly married women, were most likely to be involved in decisions about daily food, likely because they were responsible for cooking. For all other decisions, men were more likely to be involved in the decision. Single persons (both men and women) were least likely to be involved in decisions about daily food, daily household purchases, or major household purchases (19-22% overall), but had more decision-making involvement in personal decisions such as going to the doctor, visits from family/friends, and buying personal clothes (59-69% overall, 44-58% for women and 69-76% for men). For married individuals, there were particularly large gender gaps in major household purchases (82% of men were involved and only 42% of women), along with daily household purchases (74% of men were involved and 42% of women). Additional questions (not shown) on decisions around children's clothes, doctor visits, and school attendance were somewhat more gender equitable, which may reflect gender norms that emphasize women's caregiving.

Figure 5: Decision-making (percentage involved in decision), by sex and marital status, individuals aged 15-64



Source: Authors' calculations based on SLMPS 2022
 Notes: Excludes divorced/widowed women.

3.2 *Patterns of resources: gender and assets*

This section examines economic empowerment in terms of rights to different assets (parcels, livestock, durables, mobile phones, and financial assets). We first focus on assets that were initially collected at the household level (parcels, livestock, and durables). We then turn to individual ownership of mobile phones and financial assets. As context, we initially describe how common these assets are. The section then presents gender disparities in asset rights.

3.2.1 *How common are assets?*

There are a substantial minority (41%) of households that use, own, rent, or hold use rights to a parcel.⁶ Among those, 63% have a parcel that holds their dwelling and 50% have a parcel that does not hold their dwelling (adds to more than 100% due to those households with multiple parcels). A third (34%) of households own livestock.⁷ In terms of durables, 15% of households owned at least one of a bicycle, motorcycle/moped, private car, taxi, truck, tok-tok/rickshaw, desktop computer, or laptop/tablet computer.⁸

3.2.2 *Gendered rights to land*

For the remaining analyses on rights, we focus only on respondents who self-reported (did not use a proxy respondent). The vast majority (90%) of individuals answering the rights section self-reported (92% of women and 88% of men). We first examine some of the different rights individuals may have to parcels. We present whether individuals report they (1) owned (2) had the right to sell (3) had the right to bequeath or (4) had the right to sale proceeds for any parcel, among those individuals aged 18+ with household parcels. We present the share who had exclusive rights for each right for at least one parcel and the share who had only joint rights to any parcels to which they had rights.

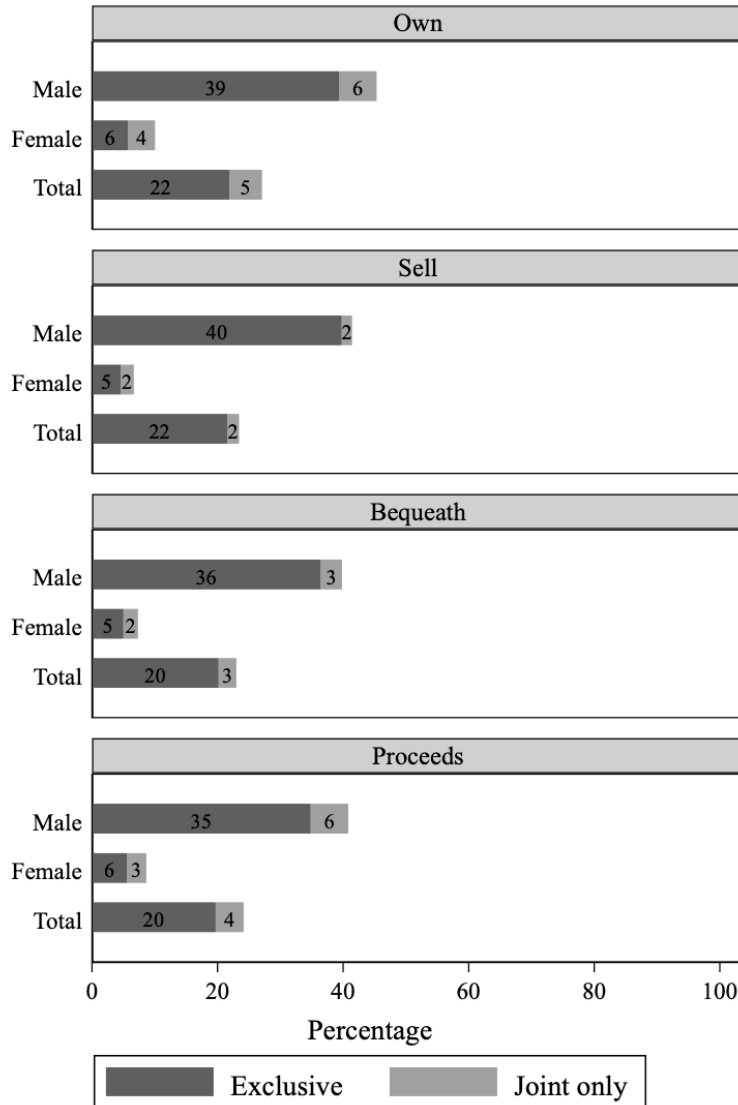
Figure 6 shows parcel rights (owning, selling, bequeathing, and rights to sale proceeds) by gender, for those in households with parcels. There are, notably, large differences by gender. For instance, in terms of ownership, 39% of men exclusively own a parcel and only 6% of women. Disparities in joint ownership are somewhat smaller but joint ownership is rare; only 6% of men and 4% of women jointly own a parcel. Exclusive rights to sell a parcel are very similar to ownership (40% for men, 5% for women), but joint rights to sell are rare (2% for both men and women). Rights to bequeath a parcel are 36% exclusively and 3% jointly for men and 5% exclusively and 2% jointly for women. Likewise, the rights to sale proceeds are 45% exclusively for men and 6% jointly, but just 6% exclusively and 3% jointly for women. Overall, there are not large differences in patterns of rights by gender by the type of right. Men very clearly have more rights, and especially more exclusive rights, to parcels.

⁶ There is only a small difference of one percentage point between men and women in being in households with rights to a parcel for those aged 18+, the group we analyze below.

⁷ Among those aged 18+, 35% of men and 32% of women live in households with livestock.

⁸ Among those aged 18+, 18% of men and 16% of women live in households with these durables.

Figure 6: Parcel rights (percentages of individuals with right), individuals living in households with parcels, aged 18+, by sex



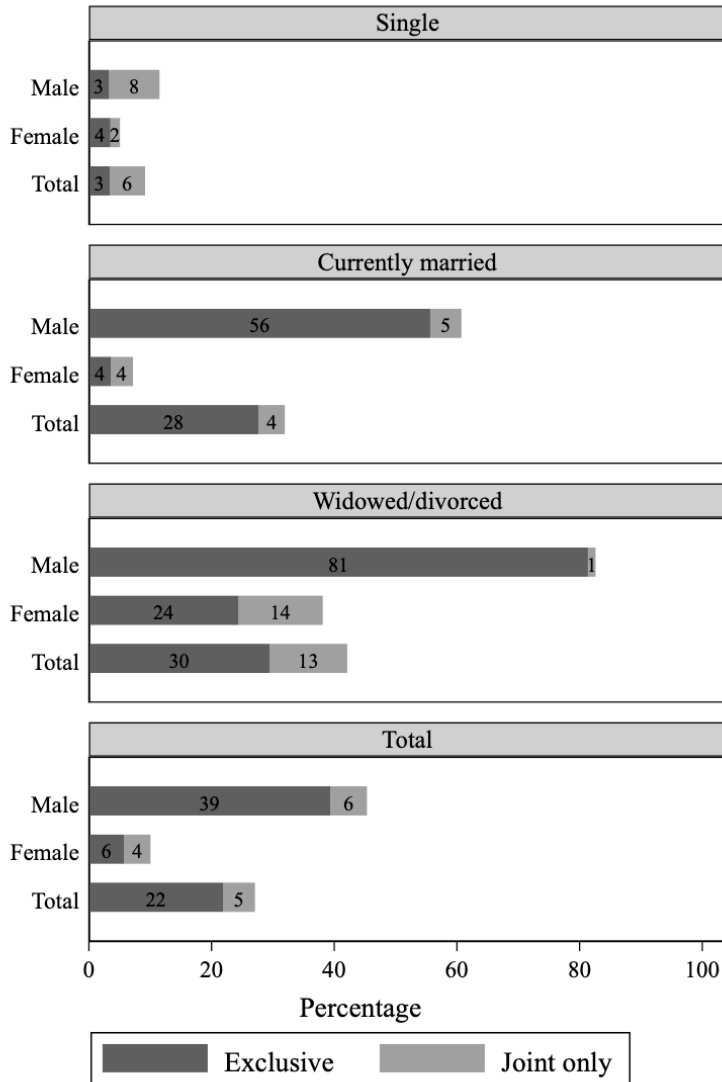
Source: Authors' calculations based on SLMPS 2022

Notes: Exclusive refers to the exclusive right to at least one parcel; joint only refers to only joint rights across all parcels to which the individual had rights. Restricted to self-reporting respondents.

Given the substantial similarity across different rights in gendered patterns, in what follows we focus on ownership rights in order to further understand differences by gender across the life course. Figure 7 shows ownership rights by marital status and sex. Generally, single individuals have limited rights; 3% of single men have exclusive ownership of parcels and 4% of women, while 2% of single women have joint rights and 8% of single men. Married women do not see much change from their single state in parcel rights; it is still only 4% who have exclusive rights to parcels. In contrast, 56% of married men have exclusive parcel rights (and 5% joint rights, compared to 2% joint for women). Widowed and divorced individuals have the most rights, for instance, 81% of such men have exclusive rights and 1% joint rights. And although they do not

approach gender parity, widowed and divorced women have more rights, 24% exclusive parcel ownership rights and 14% joint parcel rights. Gender and the life course stages of single, married, and widowed/divorced therefore strongly interact in shaping rights.

Figure 7: Ownership parcel rights (percentage of individuals), individuals living in households with parcels, aged 18+, by sex and marital status

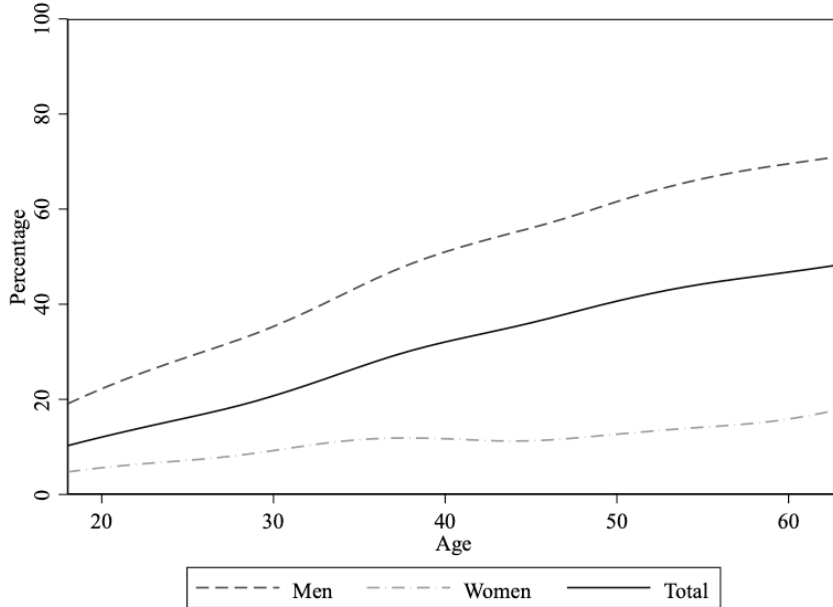


Source: Authors' calculations based on SLMPs 2022

Notes: Exclusive refers to the exclusive right to at least one parcel; joint only refers to having joint rights across all parcels to which the individual had rights. Restricted to self-reporting respondents.

Figure 8 further explores patterns over the life course, focusing on ownership rights (either exclusive or joint) by age and sex. Disparities start even for those young adults aged just 18, wherein women are less likely to have ownership rights. Rights increase with age, relatively briskly for men aged 18-40 before increasing at a slower pace past 40. For women, there are slight increases in rights with age, but plateauing and fluctuations between 35 to 45 before slight increases at older ages.

Figure 8: Ownership parcel rights (percentage of individuals), individuals living in households with parcels, aged 18+, by sex and age

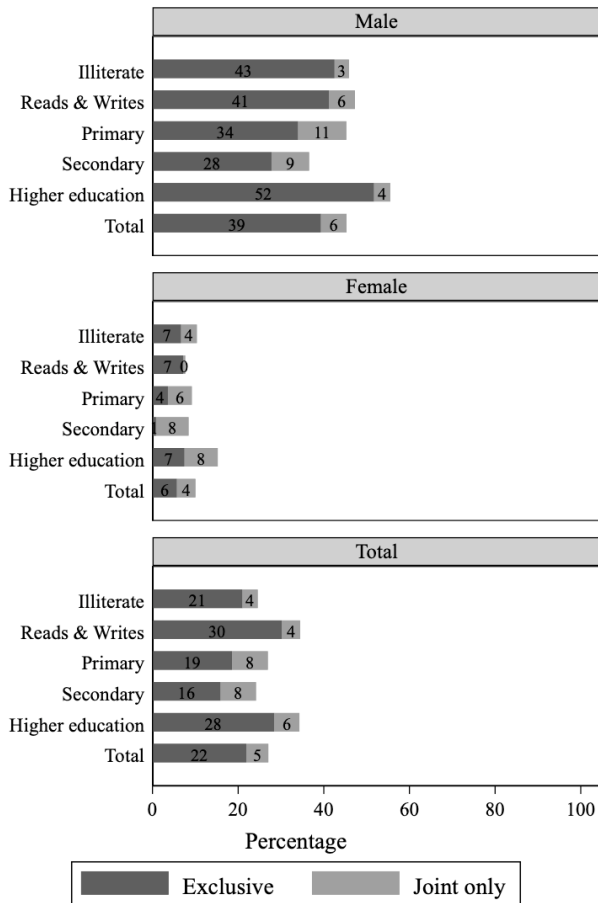


Source: Authors' calculations based on SLMPS 2022

Notes: Ownership is exclusive or joint. Lowess moving average, bandwidth five. Restricted to self-reporting respondents. Restricted to ages <63 as the 95th percentile of ages.

In Figure 9, we explore ownership rights by education level. Interestingly, there is not a strong gradient by education. For instance, 43% of men who are illiterate and live in households with parcels have exclusive rights, compared to 41% of those who can read and write, 34% of those with primary, and 28% of those with secondary education. Higher education does seem to be associated with additional rights; 52% of men and 7% of women with higher education have exclusive rights to land. A similar pattern of weak or no associations between education and outcomes has been observed for other economic outcomes, such as employment, in other research on Sudan (Ebaidalla and Nour 2021; Krafft, Nour, and Ebaidalla 2022; Krafft et al. 2023). This may also be in part because of the intersection between education patterns and life course stages, with more educated individuals being disproportionately younger.

Figure 9: Ownership parcel rights (percentage of individuals), individuals living in households with parcels, aged 18+, by sex and education level



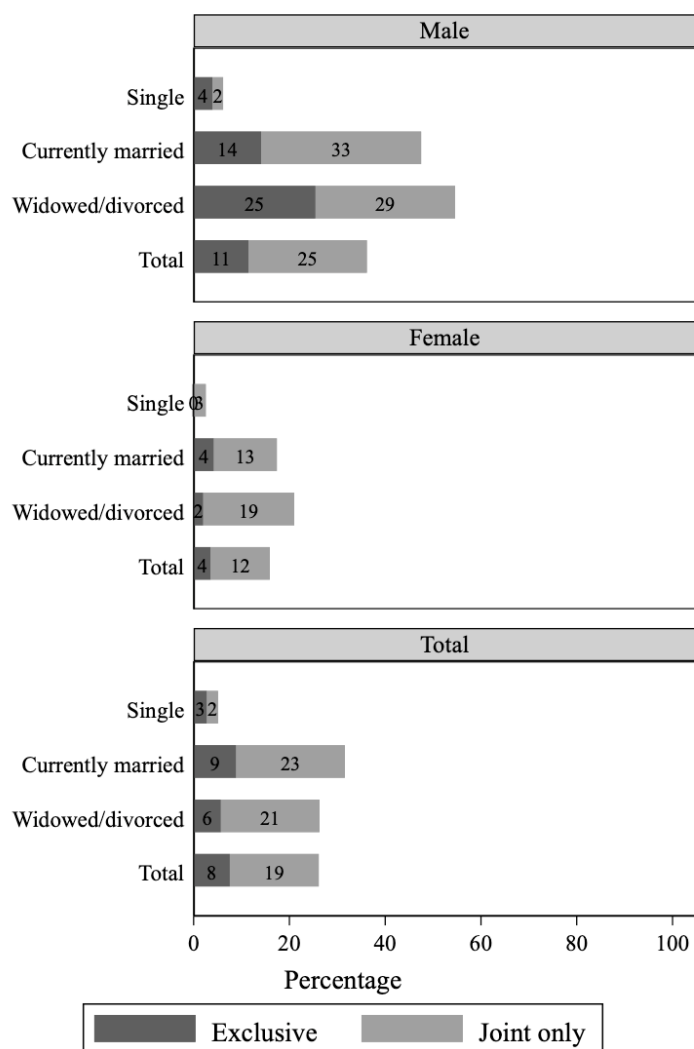
Source: Authors' calculations based on SLMPS 2022

Notes: Exclusive refers to the exclusive right to at least one parcel; joint only refers to having joint rights across all parcels to which the individual had rights. Restricted to self-reporting respondents.

3.2.3 Gendered ownership of livestock and durables

Figure 10 explores gendered rights to livestock for individuals in households with livestock, by marital status. Single individuals, whether male or female, rarely own livestock. Those who are married have higher rights to livestock, although often joint rights. For instance, 14% of currently married men have exclusive rights to livestock and a further 33% joint rights. Rights to livestock increase with marriage for women, although to a lesser extent than for men, to 4% having an exclusive right and 13% a joint right. For both men and women, such rights increase slightly more if widowed/divorced. Livestock rights are, notably, less gender unequal than parcel rights, although still inequitable.

Figure 10: Livestock ownership (percentage of individuals), individuals living in households with livestock, aged 18+, by sex and marital status

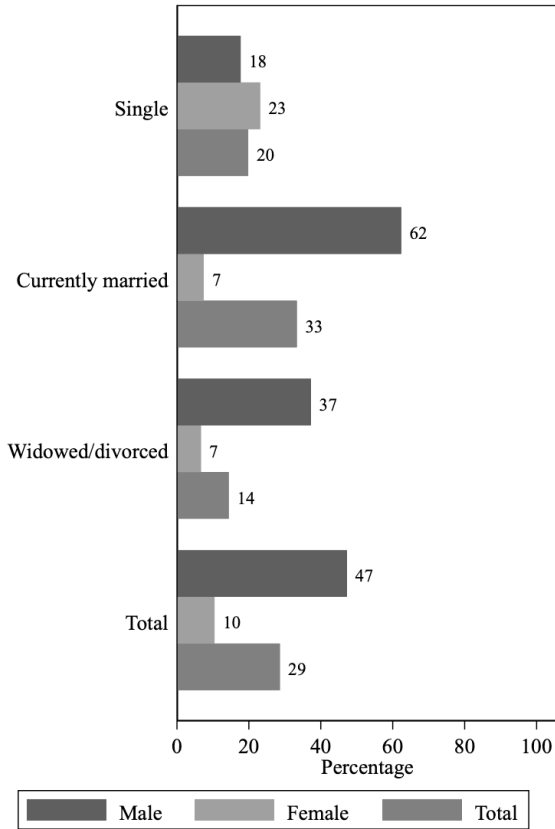


Source: Authors' calculations based on SLMPS 2022

Notes: Exclusive refers to the exclusive right to at least one animal; joint only refers to having joint rights across all animals to which the individual had rights. Restricted to self-reporting respondents.

Figure 11 explores rights to durables by gender and marital status. Women's rights to durables are highest when they are single and are actually reported as higher than men's (18% for single men and 23% for single women). However, only 7% of currently married women, compared to 62% of currently married men, have rights to their households' durables. Shares are similar for widowed/divorced women as for married women, and lower for widowed/divorced compared to married men.

Figure 11: Durable ownership (percentage of individuals), individuals living in households with durables, aged 18+, by sex and marital status

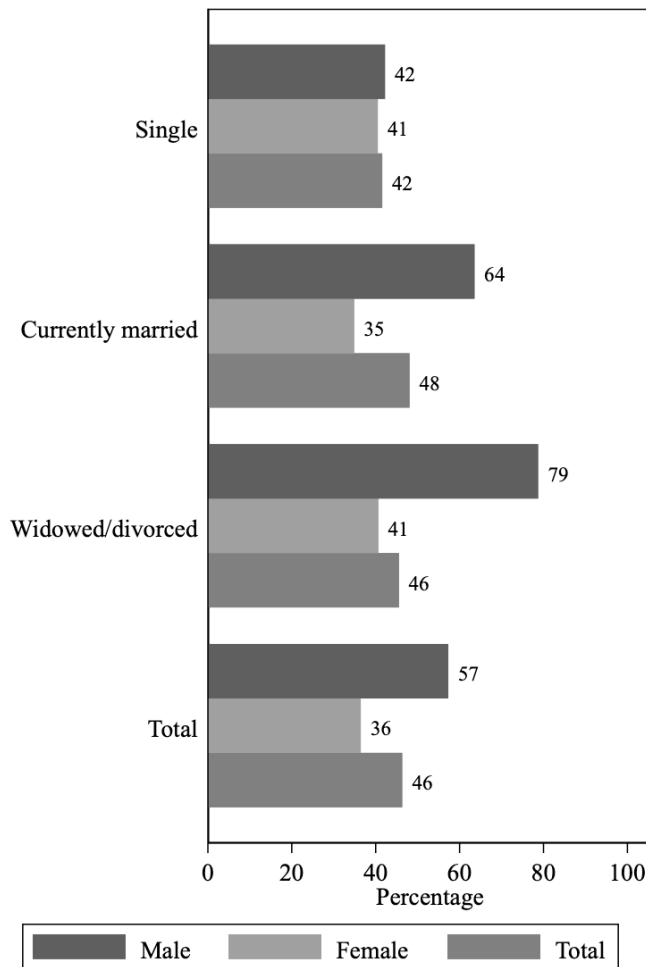


Source: Authors’ calculations based on SLMPS 2022
 Notes: Ownership is exclusive or joint. Restricted to self-reporting respondents.

3.2.4 Gendered ownership of mobile phones and financial assets

Mobile phones assets were collected in the individual questionnaire. We therefore show the percentage of individuals who owned (either exclusively or jointly) these assets among all individuals in Figure 12. There is not gender inequity in phone assets for single individuals – 41% of single women and 42% of single men own phones. Fewer married women (35%) but more married men (64%) own phones, with additional increases but persistent gender disparities for those widowed or divorced.

Figure 12: Phone ownership (percentage of individuals), individuals aged 18+, by sex and marital status

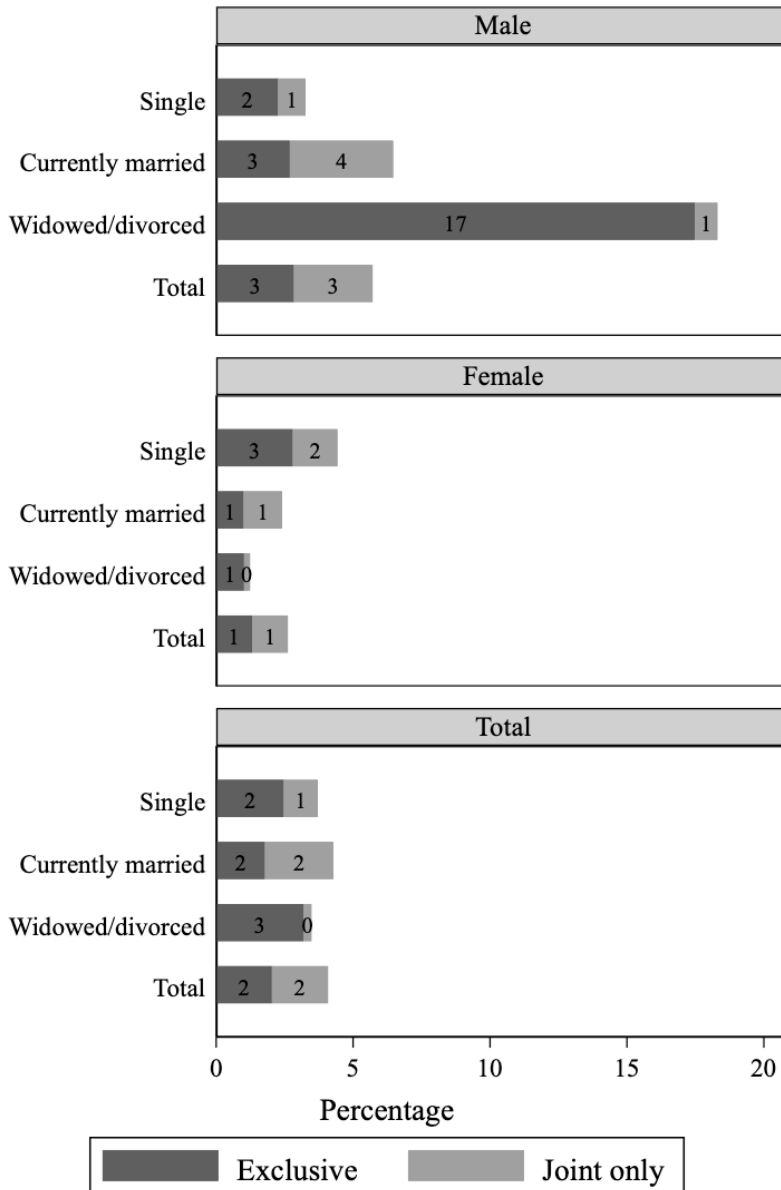


Source: Authors' calculations based on SLMPS 2022

Notes: Ownership is exclusive or joint. Restricted to self-reporting respondents.

Financial assets are relatively rare in Sudan, with only 4% of respondents having any kind of financial asset. Figure 13 illustrates financial asset ownership, distinguishing joint and exclusive, by sex and marital status. Financial assets are slightly higher for single women than single men (3% exclusive and 2% joint for single women vs. 2% exclusive and 1% joint for single men). Married men have more assets (2% exclusive, 2% joint) than married women (1% exclusive, 1% joint). Widowed and divorced women rarely have financial assets (1% exclusive and less than 1% joint), but widowed and divorced men do, 17% exclusive and 1% joint. Financial assets thus increase across the life course for men but decrease for women.

Figure 13: Financial asset ownership (percentage of individuals), individuals aged 18+, by sex and marital status



Source: Authors' calculations based on SLMPS 2022

Notes: Exclusive refers to the exclusive right to at least one financial asset; joint only refers to having joint rights across all financial assets to which the individual had rights. Restricted to self-reporting respondents.

4 Discussion and conclusions

Women's resources and agency are important outcomes both in and of themselves and as potential mediators of women's achievements. This research investigated women's empowerment, specifically in regards to assets and agency in Sudan, using the new SLMPS 2022 data. The paper documented norms of near gender equity in some areas, such as education, which is reflected in relatively gender equitable current (but not historical) school enrollment patterns (Krafft et al.

2023). There is also substantial normative inequality in other areas, such as support for women's employment, which is likewise reflected in large gender disparities in employment rates (Krafft et al. 2023). Gender norms around employment manifested restrictive reservation working conditions around what employment was acceptable for women, consistent with evidence from other MENA countries (Barsoum and Abdalla 2022; Caria et al. 2022; Gauri, Rahman, and Sen 2019).

In regards to agency, women face substantial constraints in terms of their physical mobility. For instance, only 7% of women can go alone to the local market without permission, 44% can go alone after informing family, 23% can go alone only with permission, and 26% cannot go alone at all. There has been some progress over time in regards to domestic violence. While a quarter of SLMPS 2022 respondents agreed domestic violence was justified, this is a decrease from the third who did so in 2014 (Osman, Etang, and Kirkwood 2022). Involvement in decision making depended on not only gender but also marital status, as well as the type of decision being considered. Married women tended to have the most decision-making power over the daily food – likely because they were responsible for preparing it – but married men had the most decision-making power in other areas.

There were large gender disparities in rights, especially exclusive rights, to assets such as parcels. While such rights increased for men when they married, they declined for women. There are thus complex interactions between different aspects of empowerment – for instance decision-making and assets – and changes over the life course. In some cases, single women did have gender equity with single men, such as in terms of rights to mobile phones. Some rights for women increased when they were widowed or divorced (such as parcels) while others declined. Financial assets were rare in general in Sudan. Livestock, a more common asset, was both relatively more shared and equitable than most other types of assets. Both formal legal institutions and customary practices can shape assets. For instance, in Sudan, women are less likely to receive inheritance and receive a smaller share when they do (Etang et al. 2022). Assets can, in turn, play an important role in determining economic opportunities and outcomes globally. For instance, individual wealth (assets) is associated with time allocation, particularly for women (Hasanbasri et al. 2021b).

There are effective interventions that could be implemented in Sudan to improve women's agency and assets. Global evidence demonstrates interventions such as land titling and equalizing inheritance rights can improve rights to resources, particularly benefiting women (Agyei-Holmes et al. 2020; Ali, Deininger, and Goldstein 2014; Han, Zhang, and Zhang 2019; Deere et al. 2013; Deere and Doss 2006; Meinzen-Dick et al. 2019). Trainings introducing participatory intrahousehold decision-making can improve women's agency (Lecoutere and Wuyts 2021). Improvements in empowerment can be complementary and multiplicative. For instance, increasing rights to assets, such as land or inheritance, can lead to increases in other dimensions of empowerment, such as household decision-making, benefiting not only women but also their children (Allendorf 2007; Sapkal 2017). Likewise, providing women control over their earnings can increase employment and liberalize work-related gender norms (Field et al. 2021). However, improving women's economic position does not, necessarily, translate into changes in areas such as decision-making; specific efforts may be needed to change gender norms, as well as economically empower women (Karimli et al. 2021).

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