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The more, the merrier? Gender norms and access to digital technology among urban youth in Mozambique

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Cover photo: Close up of a woman using her mobile phone in the street. © LDprod/ Shutterstock ID: 160559990

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1. Introduction

Gender norms and women's agency in Mozambique

Mozambique has achieved important progress in key legislation that recognizes and protects women's rights since the 1990s (SIGI, 2019)[1], and in raising the share of women in parliamentary seats to 42% (UNDP, 2020). The country has also made progress in closing the gap between the economic participation of men and women (79% and 77%, respectively), with the narrowing of the gap driven mostly by employment in subsistence agriculture. However, the gap in labour market participation and employment rates between young men and women is still substantial in urban areas (Gradín and Tarp, 2019) and decision-making power for some groups of women, and in certain areas, remains compromised.

Previous studies have pointed to women's limited decision-making in agricultural production (Arora, 2015), their participation in unpaid care work (Arora, 2015; Van Houweling, 2016), and the constraints on their independent mobility, as well as their reproductive health care and contraceptive use (Audet et al., 2016). In addition, women are far less likely to engage in leadership positions, despite legislative reform on their representation in Parliament. Available data from Mozambique on women's engagement in leadership positions, although limited, point to an important gender disparity in favour of men in terms of working in top management positions or in the ownership of firms. These patterns of constrained decision-making and weak representation of women in leadership positions are reinforced by a set of gender norms that sanction power inequalities between men and women, including male superiority and dominance and the gendered division of labour (Arora, 2015; Arora and Rada, 2020; Audet et al., 2016; Bandali, 2011; Colonna, 2018; Groes-Green, 2012; Hildon et al., 2020; Jeong et al., 2021; Van Houweling, 2016).

This report adds to existing knowledge by investigating the role of digital technology in increasing young women's voice in decision-making and shifting discriminatory gender norms. It recognises the rapid growth of access to and use of smart phones and digital media in African countries, particularly for young people who have been among their most enthusiastic adopters (Hampshire et al., 2015).

Adolescents and young people account for the largest share of the Mozambican population, with 52% of its people under the age of 18, and young people aged 15-24 representing around 32% of the total population (UNFPA, 2022; UNICEF, 2021). They represent, therefore, a vital 'window of opportunity' for change, and it is crucial to understand the patterns of their decision-making and aspects of their agency and empowerment. In this report, we compare the relative importance of digital technology and the socio-economic characteristics that may contribute to the empowerment of young women in particular, such as education and employment.

The potential of digital technology to influence gender norms

Access to and the use of digital technology – particularly social media – can be associated with positive changes in gender norms, attitudes and behaviours and, therefore, provide potential ways to empower young women. Yet, little is known about the association between digital technology use and gender norms, especially in sub-Saharan Africa, and most previous studies have relied on qualitative and descriptive analysis.

1 In Mozambqiue, only 15.6% of firms have female top managers, and only 17.4% of firms are owned in majority by women (World Economic Forum, 2022).

Some studies suggest that the use of digital technology can promote shifts in gender norms that move towards social justice – primarily by providing spaces where dominant gender norms can be challenged, where political action can be organized and where gender relations can be renegotiated (Baker, 2018; Breheny, 2017; O'Donnell and Sweetman, 2018; Rentschler and Thrift, 2015; Washington and Marcus, 2022). Other studies have argued, in contrast, that digital technology may reinforce gender inequalities and norms through gendered patterns in its use and the self-representation of men versus women (Butkowski et al., 2019 in USA; Diepeveen, 2022; Gora and Muchenje, 2020 in Zimbabwe; Herring and Kapidzic, 2015 in USA; Hussain and Amin, 2018 in Afghanistan; Lane, 2022 in Canada; Nguyen et al., 2020 in Vietnam; Rose et al., 2012 in USA; Salam, 2020 in Pakistan).

Gendered patterns in access to and the use of digital technology can mediate its association with gender norms. First, access to digital technology, namely owning a mobile phone, is predominant among the wealthiest, the better educated and men. In much of the world, however, women are more likely to rely on shared phones and less likely to own them (Blumenstock and Eagle, 2012 in Rwanda; Budree et al., 2019).

Second, patterns of use and the quality of access to digital technology among women differ to those of men. In general, women make more use of mobile phones to communicate with family and friends, for safety reasons (in Rwanda in Blumenstock and Eagle (2012), and among female students in South Africa in North et al. (2014) and Malaysia in Balakrishnan and Raj (2012)).

Levels of access (and the type of digital technology used) may predict patterns of usage: adolescent girls who are more restricted in their phone access – whether as a result of physical or social limitations – also face restraints in phone use that may be limited to calling only friends and family, and for basic functions such as the calculator. However, girls who have more access to phones because they own them tend to use them in more sophisticated ways that would allow them to manage finances, improve their business skills and to explore new areas of development (Girl Effect, 2016, based on findings from 21 countries).

Finally, existing gender norms and perceptions of technology in some contexts continue to equate technology with masculinity, obscuring the role of women in technology. As a result, women may be less confident or interested in using digital technologies – a sense of insecurity that may be highlighted when women are being mocked by men for their perceived technological difficulties (Barbieri et al., 2020; MUVA, 2020 based on qualitative work in Mozambique; Oxford Policy Management, 2018a).[2] In Mozambique, a qualitative study found an association between digital technology, specifically mobile phones, and increased gendered conflict or relationship breakdowns among peri-urban youth, as it facilitated the spread of information that ought to remain secret, as well as proof of deceit (Archambault, 2011).

There is rarely one single factor that can support women's empowerment or drive positive changes of gender norms. It is important, therefore, to examine the relative importance of digital technology and gender norms in comparison with the other socio-economic factors that can contribute to changes in those norms.

The global literature identifies education and economic participation as key factors that can lead to greater decision-making among girls and women (Marcus, 2018, 2021; World Bank, 2012 — e.g., in South Asia and the Middle East and North Africa) and more egalitarian gender norms (Seguino, 2007). [3]

2 Less egalitarian gender norms may also lead to men, or the parents of young women, using digital technology in ways that reinforce gender inequality, such as tracking mobile phones, and the use of location-sharing features, leading to increased surveillance over women and girls and greater control of their freedom of mobility (Porter et al., 2020; Thakur, 2018).

3 Read more on drivers of change in gender norms in Marcus and Page (2019).

However, these factors sometimes demonstrate little or no association – or even negative associations – with gender norms. There are several reasons for this, including the poor quality of education and the way it intersects with existing gender norms and inequalities (Malhotra et al., 2003).

In Mozambique, qualitative studies from rural areas have emphasised the role of several factors in gender norms and decision-making, including financial independence[4], matrilineal versus patrilineal social organisation[5], and age and position in the kin structure.[6] These factors often correlate with each other, making it difficult to know which factors are the most important.

Objectives, data sources and gender norms indicators

Given this background, this research report adds to existing knowledge by examining three questions:

1. How do decision-making power and attitudes towards women's leadership differ between men and women?
2. Is access to digital resources associated with greater involvement of women in decision-making, and more equitable views on women's leadership among young men and women?
3. In addition to digital technology, what other factors are associated with the greater involvement of women in decision-making and more equitable views on women's leadership, such as education, employment status, financial independence, marital status, and household-level characteristics?

The report aims to answer these questions through a descriptive and a multivariate analysis using two waves of the MUVA[7] Urban Youth Panel Survey conducted between 2017 and 2020 (Oxford Policy Management, 2018b, 2020).[8] The MUVA Survey is representative of young men and women in urban high-density, low-income areas of Maputo (the capital) and Beira, two of Mozambique's largest cities. The sample for the first wave consisted of young men and women aged 15-25 in 2017 who were then tracked in 2020 at the ages of 18-28 years. The survey included a wealth of information on education, employment, financial inclusion, fertility and family planning, and time use. The survey also shed light on issues of digital inclusion (ownership of smart phone, use of social media and computer), as well as patterns of decision-making and attitudes to women's engagement in leadership positions.

4 Women in rural areas who are financially independent can negotiate more successfully with their male partners, e.g., Bandali (2011) in Zambezia; see also SIGI (2019).

5 In Mozambique, women in matrilineal contexts have more decision-making power than those in patrilineal contexts, with matrilineality dominating in the cities located in the north of the country and parts of the centre, whereas patrilinity dominates in the cities located in the south (Van Houweling, 2016). This is the result of patterns of higher women's ownership of assets in matrilineal contexts, together with greater family support within women's extended families than within their husband's families (T. Adam et al., 2020; Bonate & Katto, 2021; de Brauw, 2015).

6 Seniority, age and position in the kin structure endow elders with increased power and authority. These social norms interact with gender norms and, therefore, with women's decision-making and/or bargaining power (Groes-Green ,2012; Colonna,2018; SIGI, 2019). Accordingly, young women must show deference to parents and elders, as well as to men (husbands/ partners and others), among other norms (Colonna, 2018; Lenzi, 2019).

7 See MUVA website: https://muvamoz.co.mz. MUVA is a non-governmental organisation that focuses on economic empowerment of urban youth with an emphasis on young women. IIt has grown from a project supported by the UK's Foreign, Commonwealth and Development Office (FCDO). During its FCDO support, three survey waves were undertaken to understand trends in the wellbeing of urban youth and the project's impact.

8 There were three waves of the MUVA urban youth panel survey in 2017, 2018 and in 2020, which tracked the same individuals over time. The second wave conducted in 2018 was a reduced wave that measured functional literacy and numeracy skills without including the modules on digital and social norms. This report, therefore, relies solely on the first wave (in 2017) and the third wave (in 2020) as they include information on social norms.

In this report we use two sets of indicators on gender norms captured by the MUVA urban youth survey.[9]

1. The first set reflects gendered behaviours related to independent decision-making or being involved in decision-making in the following areas: participation in economic activity (work), education, independent mobility[10], and large household expenses. We use factor analysis to compute our main outcomes on decision-making as two scores that reflect the power of independent decision-making, and the power to be involved in decision-making. We then estimate the determinants of such decision-making power, using ordinary least squares (OLS) regression (see Box 2), controlling for access to digital technology, and other socio-economic individual and household-level characteristics such as gender, age groups, education level completed, work status, marital status, education level of head of household, and household asset-based wealth quintile.
2. The second set of indicators captures gendered attitudes and is measured as the respondents' own views on women's engagement in leadership positions.[11] The main outcome is whether or not youth approve of women's engagement in leadership positions in the organisations around them. We estimate the probability of such approval, using a logit model, controlling for access to digital technology, as defined above, and for other individual and household-level characteristics.

For both indicators, we measure access to digital technology through two variables: the first is owning a smart phone or the frequent use of a computer, and the second is the `intensity' of usage (the number of social media accounts that an individual has). To check for robustness, we control for the frequency of usage of social media instead of the `intensity' of usage and we find similar results.

Key contributions

This research report makes three key contributions:

1. First, our analysis focuses on young people living in low-income urban settings; a segment of the population that, although growing rapidly, has been under-researched in the countries of sub-Saharan Africa. Most of the literature on gender norms, or gendered decision-making in Mozambique, focuses on rural settings and husband-wife relationships within the household.
2. Second, we include new dimensions of gender norms related to Mozambican youth:
   a. Involvement in decision-making in areas that have not been previously examined in the literature, namely in work, education, and mobility decisions, and large household expenses.
   b. Attitudes towards women's engagement in leadership positions.
3. Third, the existing literature was based largely on qualitative or descriptive analysis. The application of a multivariate approach, as in this report, is a substantial step forward in research on the association between digital technology and gender norms, and the importance of such technology relative to the main socio-economic characteristics identified in global (and country-specific) literature as being important for gender norms. Comparing the role of these characteristics to the influence of digital technology is an area that has been explored only rarely in the literature.

It is important to note that we aim to examine only associations, and not causations, between gender norms and access to social media or digital resources and the other socio-economic determinants.

9 The MUVA survey also covered decision-making related to small household expenses and choices of partners and spouses, yet we have decided not to include these in our measures for a detailed discussion in Section 3.

10 The questionnaire defines decision-making in mobility as where to go, with whom, and when (Arau et al., 2018).

11 The MUVA survey also included information on respondents' aspiration around being in leadership positions, and the views they believe are held by other people in their communities around women's engagement in leadership positions. We decided not to include these in our measures as we focus on personal views as explained in Section 3.

The causal impacts of access to digital technology on gender norms are, therefore, beyond the scope of this research report.

The analysis is structured as follows:

- We start by providing a brief background on youth in Mozambique and patterns of use of digital technology among men and women, and outlining research questions and the hypotheses that we develop to answer those questions based on existing literature (Section 2).
- We next discuss the two main measures of gender norms that we use in this paper (Section 3).
- We then present the findings of both our descriptive and multivariate analysis on decision-making and attitudes towards women's leadership (Section 4).
- Finally, we provide concluding remarks and takeaways (Section 5) .

2. Context, research questions and hypotheses

Background

The state of gender norms in Mozambique

Previous studies have discussed two social norms that affect gender equality and that continue to fuel the gender gap in several areas in Mozambique. The first is a belief in male superiority and dominance, and the objectification of women based on this belief, with men usually seen as the central authority of the family (Audet et al., 2016; Bandali, 2011; Groes-Green, 2012; Hildon et al., 2020; Jeong et al., 2021). As a result, women are often thought of as secondary to men and as having bad decision-making skills. In the same vein, Groes-Green (2012) noted that, as the result of a perception of women as being the property of men, women owe obedience to men and defer to their authority. The second area is the gendered division of labour, where men are involved predominantly in paid work while women are expected to shoulder most of the unpaid domestic work and the caring responsibilities (Arora, 2015; Arora and Rada, 2020; Bandali, 2011; Colonna, 2018; Jeong et al., 2021; Van Houweling, 2016).

As a result of these norms, the evidence[12] shows that women have limited decision-making power in agricultural work and production, although they are just as involved in that work and production as men (Arora, 2015).[13] Van Houweling (2016) and Arora (2015) found that women do have a little bargaining power in rural households in relation to renegotiating domestic tasks, such as fetching water and irrigation. They participate slightly more in decisions related to the domestic tasks that fall mostly on their shoulders as a result of prevailing social and gender norms.

Findings from rural areas also suggest that the lack of decision-making power among women extends to and affects their sexual and reproductive health and rights.[14] In addition, women face restrictions on their freedom to move. Again, based on rural contexts and qualitative approaches, various studies have documented cultural restrictions on women's independent mobility in Mozambique, as it is considered improper for women to use some types of transport and to travel alone when overnight stays are required (R. I. Adam et al., 2020; Hildon et al., 2020; SIGI, 2019). These restrictions on women's mobility might affect their participation in the labour market.[15] This may, in turn, leave men controlling most of the income because they are the main breadwinners, with an indirect impact on women's decision-making power.

A gendered digital divide

While growth in the mobile technology industry has increased digital inclusion in low- and middle-income countries, there is still a gender gap in the ownership of mobile phones and use – and therefore, a gap in connectivity (GSMA, 2022). Surveys in Mozambique indicate a substantial gender disparity in

12 Most of the evidence is based on rural settings and husband-wife relationships within the household.

13 Although subsistence farming is a joint activity for men and women who dedicate similar amounts of time and labour to grow a variety of crops, decisions on agricultural production are rarely shared, and male family members make most of the relevant decisions (Arora, 2015).

14 Pregnant women in rural parts of Mozambique find it hard to access antenatal care services because of strong gender inequality in decision-making and a lack of bargaining power, which makes it difficult to ask for support from their husbands (Audet et al., 2016).

15 Adam et al. (2020) found that rural women often face barriers to their participation in agricultural markets in higher roles, such as that of trader, in part because this requires travelling and staying somewhere else overnight.

both access to both mobile phones and the Internet, with the country ranking as second highest in Africa in terms of a gender gap (after Rwanda) (MUVA, 2020). Among adults aged 18+, the 2020 GSMA report shows that Mozambique has the lowest level of phone ownership (of all surveyed countries), and the second lowest Internet use (after Pakistan). More specifically, an adult woman in Mozambique is on average, 17% less likely than an adult man to own a mobile phone (46% of adult women compared to 56% of adult men) (Rowntree and Shanahan, 2020, p. 20). On average, adult women are 39% less likely than men to use mobile Internet (17% of women use mobile Internet compared to 27% of men) (Rowntree, 2019)[16].

Among youth aged 15 to 25 in urban low-income settings, the MUVA Urban Youth Panel Survey allow us to calculate three measures of access to digital technology: (1) owning a smart phone, (2) having a social media account (WhatsApp, Facebook, Twitter or Instagram, and frequency of use), and (3) frequently using a computer (its location, and type of activity). The MUVA data show similar results to those of the 2020 GSMA report: as with adult women, young women in urban low-income areas of Maputo and Beira are, on average, less likely than young men to have access to, and the use of, digital technology – whether by owning a smart phone, having a social media account or frequently using a computer (Figure 1).

Figure 1 draws on the results of the first wave of the MUVA Survey in 2017 to show that 42% of young women owned a smart phone, compared to 51% of young men.[17] This means that in our sample, young women were around 18% less likely than young men to own a phone in 2017. As for having a social media account, the prevalence among both young men and women was much higher than for owning a smart phone. Slightly more than half of the young women in our sample (55%) had a social media account in 2017, compared to three-quarters of young men (76%). While the uptake of social media was higher, there was still a gender gap, with young women 29% less likely than young men to have a social media account. Among all three measures of access to digital technology, the frequent use of computers was the lowest: young men (44%) were more than twice as likely as young women (21%) to use a computer frequently.[18]

The descriptive analysis of the MUVA data shows that education, household wealth and city of residence are among key predictors of the gender gap in digital access in Mozambique (see Box 1 for more details on our descriptive results based on the MUVA data). This is in line with previous studies that the main barriers that women experience in accessing and using digital technologies successfully are low levels of literacy, income and digital skills, as well as concerns about safety and security[19] (e.g., in Mozambique (MUVA, 2020); in Rwanda (Blumenstock and Eagle, 2012); in Malawi, Ghana, and South Africa (Porter et al., 2012); and worldwide (GSMA, 2022)).

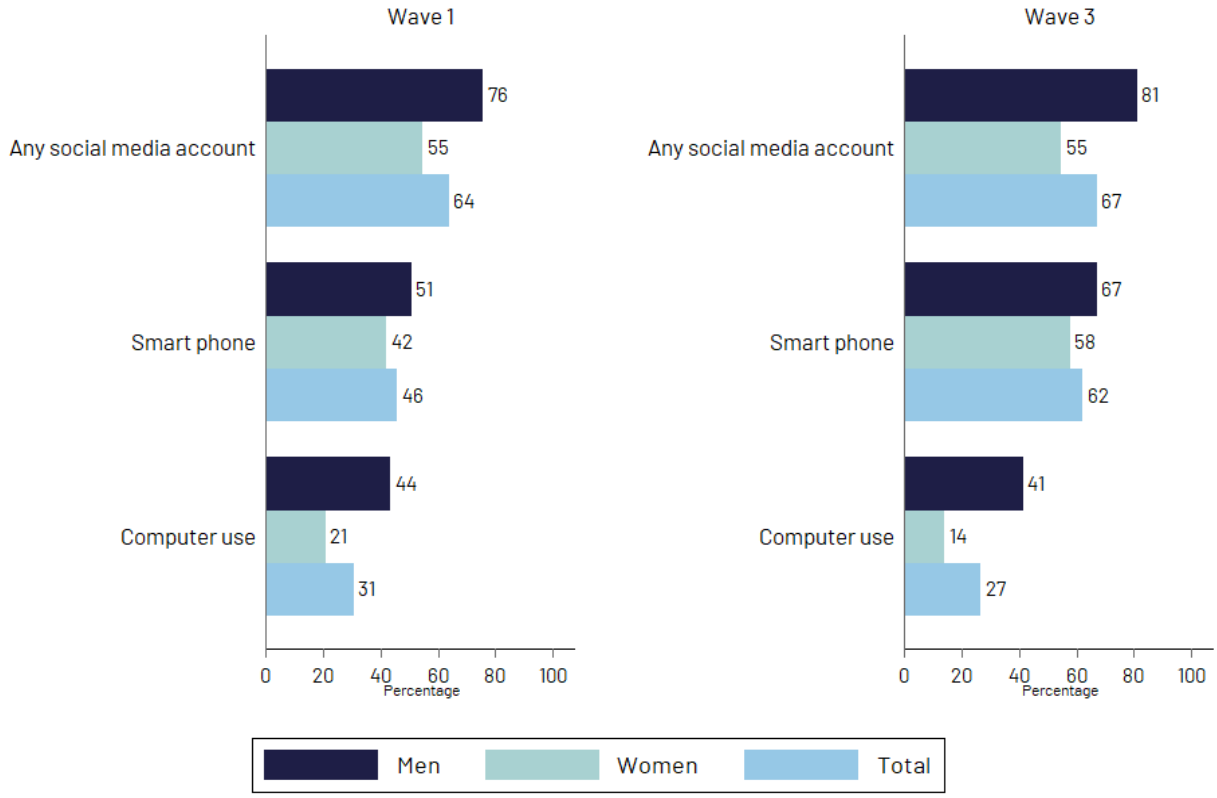
16 This is the gender gap in use of mobile Internet. Adult women aged 18+ in sub-Saharan Africa are 13% less likely than adult men aged 18+ to own mobile phones (Rowntree, 2019).

17 The proportion of young women and young men owning a smart phone in the MUVA data is comparable to that among adult women and men in the GSMA report (46% and 56%, respectively).

18 The drop in the proportion of young women who frequently use computers is the result, primarily, of a strong association between computer use and school enrolment status among young women – an association that is stronger for young women than for young men. In wave 3, we see an important drop in school enrolment among young women (and young men). However, this drop reduces the 'frequent use of a computer' among young women but not among young men. There are two reasons for this. First, the primary computer activity for young women is homework (70% of use is directed toward that), while young men have more options for computer use, like watching movies and browsing the Internet. Second, a quarter of (enrolled) young women have access to computers in school – a percentage that fell markedly during the COVID-19 pandemic.

19 Concerns about safety and security as barriers to mobile Internet access includes concerns about harmful content, strangers contacting me, and information security.

Figure 1: Access to different forms of digital technology by gender (percentage)



Source: Authors based on MUVA 2017 (Wave 1) and 2020 (wave 3) rounds. Notes: Questions on social media were not administered in the MUVA 2020 round (wave 3), and information on social media use from wave 1 have been used for wave 3.

Box 1: The gender divide in digital technology among urban youth

We used The MUVA data in Mozambique to explore the extent of young women's and men's access to mobile phones or social media in low-income urban areas of Maputo and Beira. They have also been used to identify the factors that mediate such access and can widen (or help close) the gender digital divide, e.g., education, age, work and household characteristics.

There is an important variation in digital access between young men and young women according to their education, age and city of residence. The gender gap was largest among those with only a primary-level education or below. Young women with only a primary education were, on average, three to four times less likely to have and access any type of digital technology than those who had higher levels of education. It is noteworthy that the gender gap decreases with higher education levels.

The gender gap in digital access varies less by age group. The digital gender divide seems to close among younger age groups (15-19) in social media and the frequent use of a computer, but not in access to smart phones. In other words, the gender gap in having a social media account and making frequent use of a computer among young women and young men aged 15-19 is smaller than that among those aged 20-25. This may be related to the faster adoption of social media among younger generations than older generations. The smaller gender gap in frequent use of computers among younger age groups also relates to their higher rates of school enrolment relative to their older peers; with school enrolment having a positive association with the frequent use of a computer. However, the gender gap in owning a smart phone does not vary across the different age groups. The gender gap only closes among those in the with higher wealth quintiles and favours women's ownership of smart phones only in the very wealthiest quintile.

Key questions and hypotheses

As noted, our research has focused on three key research questions. This section looks at these in a little more detail.

Research question 1: How do decision-making power and attitudes towards women's leadership differ between men and women?

Our review of the literature indicates that no studies have probed gendered decision-making patterns among young people in urban areas; and/or attitudes towards women's leadership, and the extent to which they are gendered.[20] Although there is evidence that gender norms and attitudes are often more egalitarian in urban areas, these broader cultural patterns have the potential to exert an influence on urban youth. Therefore, to answer the first question, we formulate our first hypothesis (H1) as follows:

> **H1.a: In urban low-income areas, young women have less decision-making power than young men.**
>
> **H1.b: In urban low-income areas, young women have more equitable attitudes towards leadership than young men.**

Research question 2: Is access to digital resources associated with greater involvement of women in decision-making, and more equitable views on women's leadership among young men and women?

As outlined in the introduction, the literature on the association between digital technology with gender norms is not conclusive, and there is little evidence based on quantitative analysis from Mozambique or similar countries on the association between digital technology and gender norms for urban youth. Because our sample consists of urban areas in two of Mozambique's largest cities, we assume that the patterns of usage are more diversified than in rural areas, and in a way that has a positive impact on decision-making power and the adoption of more equitable gender norms. Therefore, we test this assumption through our second hypothesis (H2):

> **H2.a: Access to digital resources is associated, on average, with higher involvement in decision-making among both urban young men and women.**
>
> **H2.b: Access to digital resources is associated, on average, with more equitable attitudes on women's leadership among both urban young men and women.**

We also assume gender-differentiated impacts of digital technology on gender norms among our sample of urban youth. This is because of the digital gender divide, with men more likely than women to own smart phones (levels of access), the different patterns of use between men and women, and potential intersections with existing gender inequalities (discussed in Section 1). Our third hypothesis (H3) is, therefore:

> **H3: The effect of digital technology on gender norms differs between men and women.**

Research question 3: In addition to digital technology, what other factors are associated with greater involvement of women in decision-making, and more equitable views on women's leadership?

20 Previous studies on gender-role attitudes show that they are usually gendered, with men less likely to support more egalitarian gender norms e.g., in the Middle East and North Africa region (UN Women and Economic Research Forum, 2020).

This question explores whether and to what extent key factors identified in the global (and country-specific) literature determine decision-making patterns and attitudes towards women's engagement in leadership position among our sample of urban youth. Specifically, and given what is available in the MUVA data, we examine the role of education, employment status, financial autonomy, age group, and city of residence. Beyond these individual factors, we investigate the role of household-level characteristics to the extent that they are available in the data. These include household wealth quintile (a proxy measure for power), and family structure in terms of share of female household members in the household (a proxy measure for potential female support within the household). We also examine the role of the educational level attained by the head of household (see the technical appendix for more details on our sample, outcome variables, independent variables and covariates, and methods).

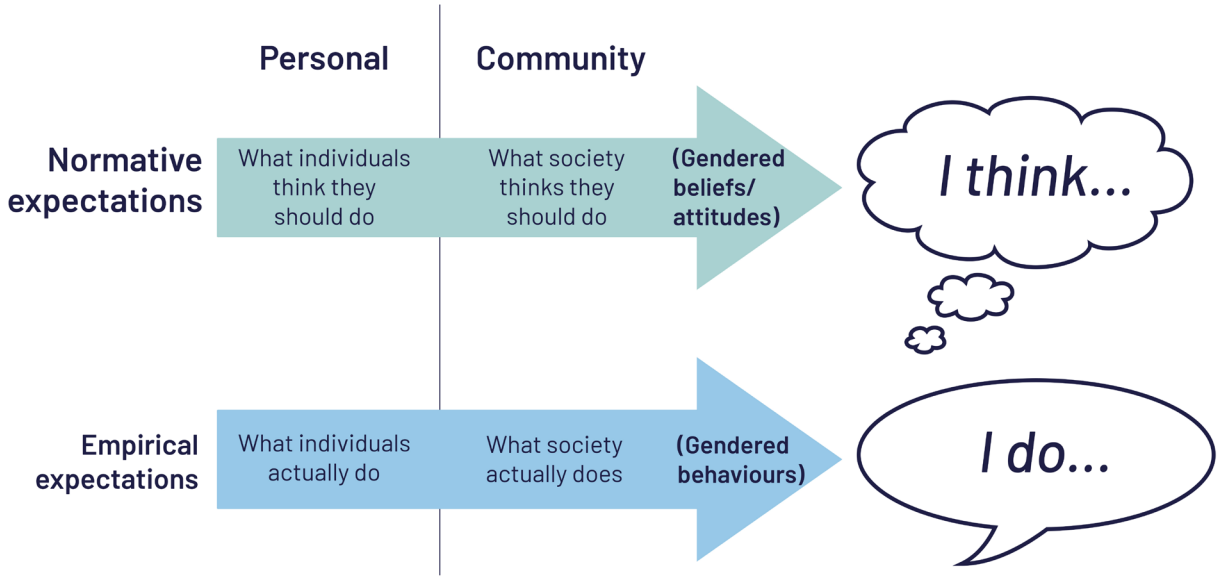
3. Key concepts on gender norms

The main concepts around gender norms that are available from the MUVA data are **gendered behaviours** measured by decision-making power, and **gendered attitudes** around women's engagement in leadership positions.

Gender norms usually consist of normative beliefs and attitudes around gender (what people think they should do), and empirical gendered behaviours (what they actually do). Those gendered beliefs and behaviours can be personal or reflect the community or society (Gauri et al., 2019; Krafft et al., 2021). There are, therefore, four key components to gender norms, as summarized in Figure 2.

1. Component 1. Personal normative (beliefs and attitudes): what **individuals** think they should do
2. Component 2. Personal empirical (gendered behaviours): what **individuals** do
3. Component 3. Community normative (beliefs and attitudes): what the **society** should do
4. Component 4. Community empirical (gendered behaviours): what the **society** actually does.

Figure 2: Personal and community expectations



In this report, we examine the first two components: personal gendered beliefs and behaviours.

1. Gendered beliefs and attitudes on women's engagement in leadership positions. This measure can be categorised as the normative personal component. The question in the MUVA survey is as follows 'Would you approve or disapprove if a woman around here was selected for leadership of an organization?' and is coded on a scale from 1 (strongly disapprove) to 5 (strongly approve). We use this question to estimate the probability of approving (either moderately or strongly) of women's engagement in leadership positions.

2. Gendered behaviours measuring individual power to (1) take decisions alone or (2) to be involved in decision-making. This measure can be categorised as the empirical (behaviour) personal component, as it reflects the individual's capacity to make decisions. For these decision-making questions, the respondent had to select one choice from the following:

- Others, excluding the respondent, take the decision
- The respondent participates in the decision with others
- The respondent can take the decision alone.

While the MUVA data includes information on decision-making in several areas[21], we focus on the following:

- Involvement in economic activities (participation in work)
- Education
- Independent mobility
- Large household expenses.[22]

We factor the decision-making in these four areas into two single scores[23]:

- The first score captures the ability of an individual to take decisions alone (**sole decision-making**).
- The second score captures **involvement in decision-making**. We calculate this score to reflect the idea that a woman's power to make decisions alone does not always reflect her agency or empowerment: it may be because of her binding responsibilities for some domestic chores and the unequal distribution of these chores within the household (Kabeer, 1999).

Higher scores reflect a greater power to take decisions alone (based on the sole-decision making score), or greater involvement in decision-making (based on the involvement in decision-making score). Literature on decision-making either uses a factor analysis technique to construct the score that reflects the power of decision-making or counts the number of times an individual reports that he/she makes the decision alone. We opt for factor analysis as this technique accounts for joint variations across the responses by domain and may yield a more nuanced construction than simply adding up the number of times women and men can take decisions alone or are involved in decision-making (Peterman et al., 2021). More details on the factor analysis can be found in the technical appendix.

21 Questions on decision-making covered work, education, movement, large household expenses, small household expenses, and choice of spouse/ boyfriend or girlfriend.

22 We opt not to include decision-making on small household expenses within our measure of decision-making, because women's ability to make decisions in some areas may be explained by gender norms and is not, therefore, associated with any transformative change.

23 We have run a battery of robustness checks using individual decision-making variables as the dependent variable rather than an index, and we found similar results.

4. Results

Decision-making

Descriptive analysis

Overview

- Women are consistently less likely than men to make decisions alone, and they are consistently more likely to be excluded from decision-making.
- The gender gap in decision-making is largest in decisions related to movement, supporting earlier literature showing that there are strong restrictions on women's mobility.
- The gender gap in decision-making has not changed over time for decisions related to education or movement because both men and women have experienced similar increases in their chances of making decisions alone.
- But the gender gap for decisions related to employment becomes larger (i.e., worse) over time.

Figure 3 illustrates reported engagement in decision-making among young men and women related to work, education and movement. It shows that a slightly higher proportion (32%) of young women from 2017 (MUVA wave 1) were excluded from decision-making about their work, compared with 28% of young men. Many more men (62%) reported being able to take their decisions about work alone, compared to less than half of young women (49%). Patterns of decision-making in education are similar to those for employment, with men less likely to be excluded and more likely to make decisions alone than women, but the gender differences are smaller than those observed for employment-related decisions.

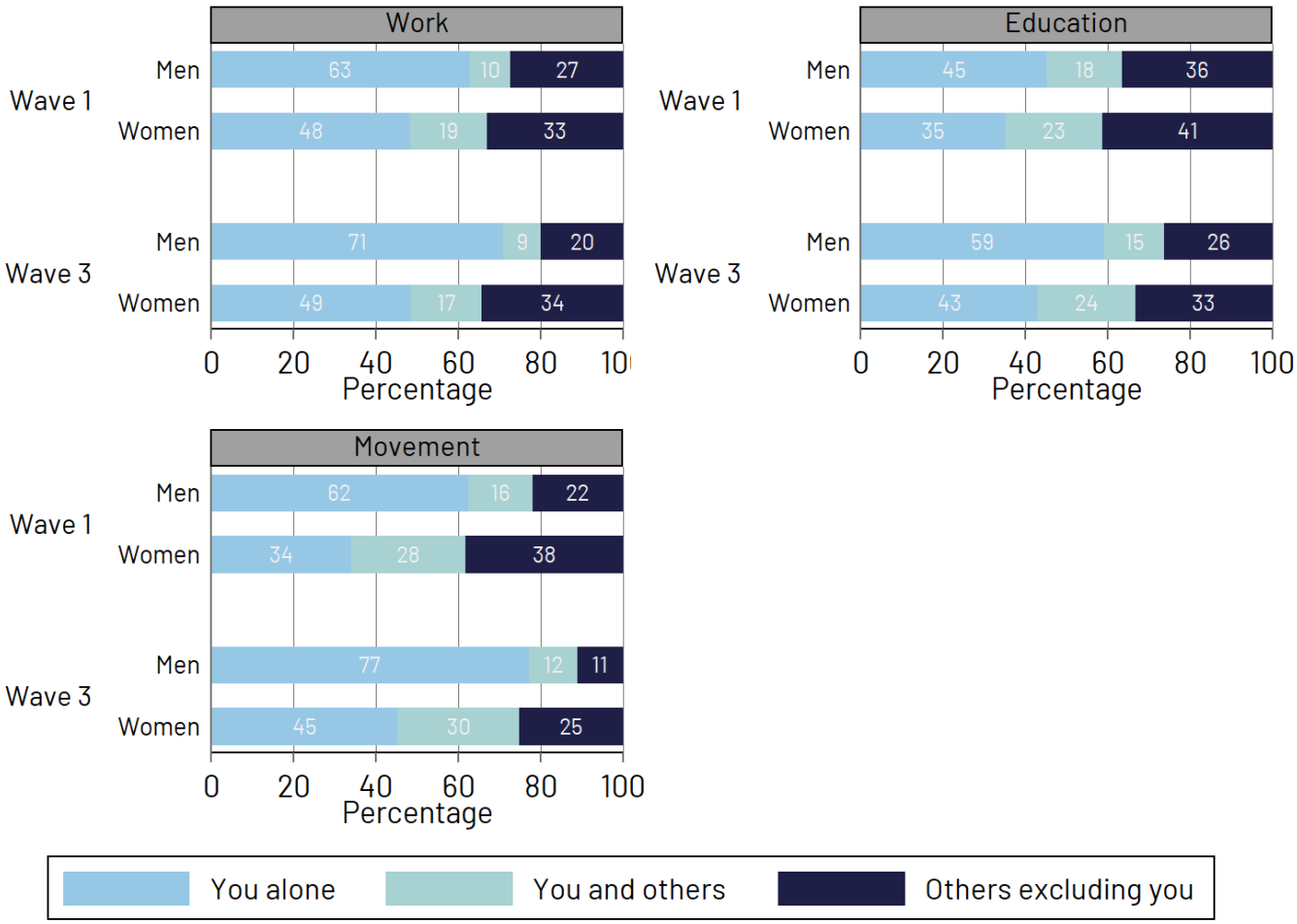
As for patterns of decision-making in movement, these exhibit the largest gender gap, which may be explained by the norms that restrict women's independent movement in Mozambique (R. I. Adam et al., 2020; MUVA, 2020). While 63% of young men make decisions alone about their movement, only 34% of young women do so, indicating that young women were almost half as likely as young men to make any decision on their own related to their mobility.

These same patterns of decision-making hold for the 2020 round of MUVA (wave 3), indicating that young men are far more likely than young women to make decisions alone, and less likely to be excluded from decision-making.

For education and movement, however, the percentages of men and women who can take decisions alone have increased, and the percentage of men and women excluded from decision-making has decreased, but without any change in the gender gap. This suggests that both young men and young women became more empowered between waves 1 and 3. This is expected as individuals may take more decisions alone as they get older, but the gender gap in decision-making remained unchanged over time.

In contrast, employment-related decisions did not follow the same pattern. While men gained much more power in decision-making related to work between wave 1 and wave 3 (with a 10 percentage point increase), women's decision-making did not change much over time (and even decreased by one percentage point). As a result, the gender gap in employment-decision making increased by 8 percentage points between waves 1 and 3. The reasons for this increased gender gap in control over employment decisions require further research.

Figure 3: Who makes decisions about work, education and movements (percentage)

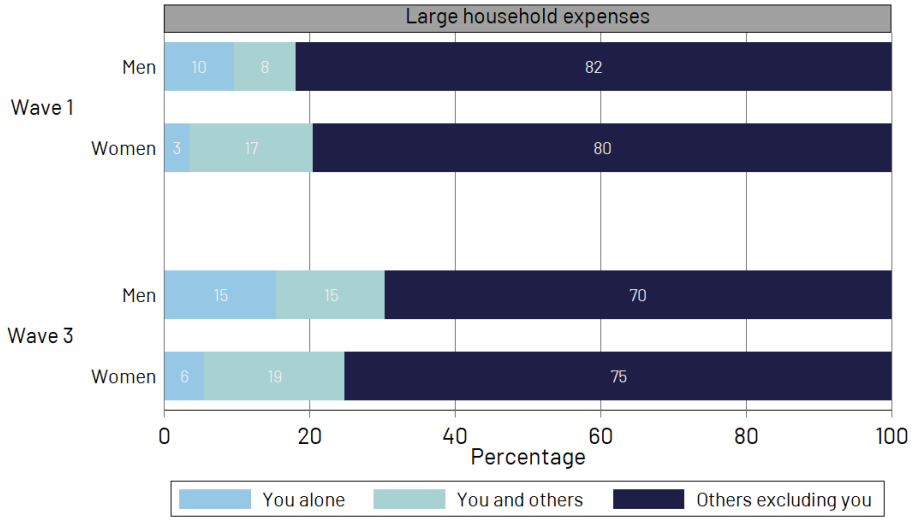


Source: Authors based on MUVA 2017 (wave 1) and 2020 (wave 3) rounds.

Young women are very unlikely to take decisions alone around large household expenses. However, they are more likely to be involved in decision-making with others and, as a result, their overall decision-making power exceeds that of men.

Figure 4 shows that only 3% of young women reported making decisions related to large household expenses alone in 2017 (wave 1), compared with 10% of young men. However, young women were twice as likely (17%) to report being involved in decision-making on large household expenses than young men (9%). This could be because more young women (32%) than men (7%) were already married in the first wave and more likely to be involved in decision-making with their spouses/partners than they were when living with their parents (see Appendix Table 5 for summary statistics).

Figure 4: Who takes decisions on household expenses decisions by gender (percentage)

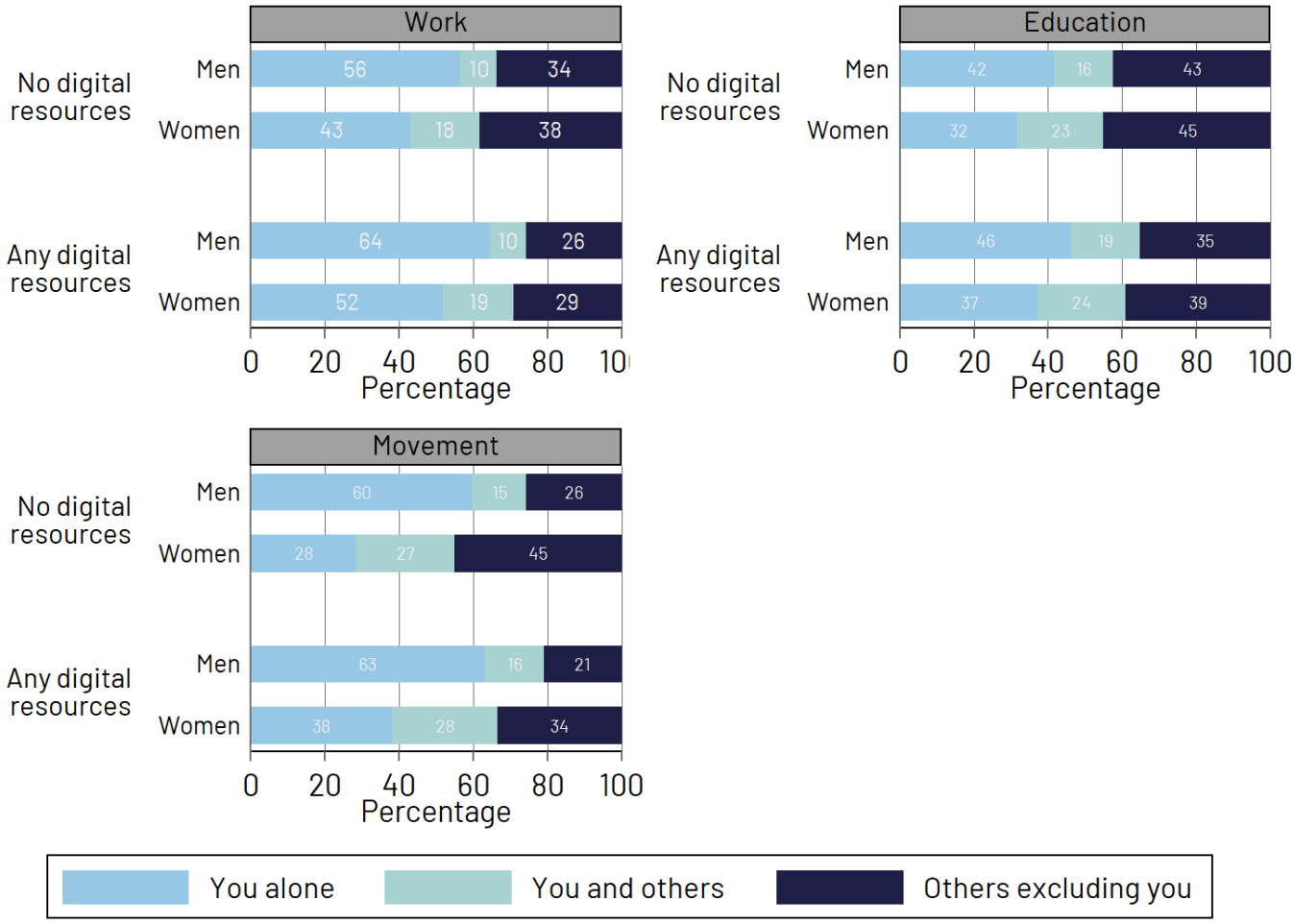


Source: Authors based on MUVA 2017 (wave 1) and 2020 (wave 3).

This situation, however, did not hold in 2020 (wave 3). Young men became more likely to both make decisions alone (15%) and to be involved in decision-making (15%) than young women, with little increase in the proportions for young women. This means that young women had become more excluded from decision-making by wave 3 than young men, even though the total proportion of young women involved in decision-making on household expenses increased from 20% to 25%. This could be because more young men in the sample had also got married by 2020 (13%) and were building their own households, in which they would take these decisions themselves.

As for the association of digital technology with decision-making patterns and attitudes around women's leadership, Figure 5 shows that decision-making in work, education and movement varies with access to digital resources (either owning a smart phone, having a social media account, or frequent computer use), but not uniformly. Young women who have access to digital resources have the largest increase in decision-making power related to their freedom of mobility, followed by their work-related decisions, as compared to those with no access to digital resources.

Figure 5: Who makes decisions about employment, education and movement among young men and young women, by whether they have access to digital resources (percentage)



Source: Author based on MUVA 2017 (wave 1). Notes: A corresponding figure based on MUVA 2020 (wave 3) is shown in the Appendix. Wave 3 did not collect data on having a social media account.

Multivariate analysis

Key findings

- The multivariate analysis is consistent with our descriptive analysis and supports our first hypothesis H1.a (that women are, on average, significantly less likely to take decisions alone or to be involved in decision-making).
- Results on the role of digital technology show partial support for our second hypothesis H2.a (that digital technology is associated with increased decision-making among both men and women).
- Digital technology relates to decision-making patterns in different ways between young men and women. This verifies our third hypothesis H3 (that the effect of digital technology on gender norms differs between men and women).
- Education, age and city of residence appear to exert more influence on gender norms than access to digital technology.

Figure 6 presents the OLS regression coefficients for decision-making patterns (see Box 2 for a user-friendly interpretation of the OLS regression analysis). We have two main outcome variables. The first is taking decisions alone, and the second is involvement in decision-making. These outcomes are constructed as scores based on factor analysis and are measured in standard deviation. The higher this decision-making score is, the more power the individual has in making decisions (see technical appendix for more details on the methods).

In this section, we discuss results from the 2017 round (wave 1) for simplification because results for the 2020 round (wave 3) are similar and we opt to include them in the Appendix.

Box 2: How to understand and interpret an OLS regression

Ordinary Least Squares (OLS) regression is a type of multivariate analysis. It aims to estimate a relationship between an outcome variable (in our case a decision-making score), and some variables usually known as explanatory variables. This relationship between the outcome variable and each explanatory variable is measured through a coefficient, which is what the results of the OLS regression model show (Figure 6). A positive coefficient between the decision-making score and an explanatory variable means that if the explanatory variable increases by one unit, the decision-making score increases by the value of the coefficient – which in this case is measured in standard deviation units.

Main predictors of decision-making

The main explanatory variables that reflect access to digital technology are owning a smart phone or frequently using a computer, and the intensity of social media exposure. As already noted, young people in Mozambique may access social media without necessarily owning smartphones because phones are often shared and borrowed. Therefore, we control separately for owning a smart phone/making frequent use of a computer, and the `intensity' of social media exposure.

We capture the `intensity' of social media exposure in two ways:

- The first is by controlling the number of social media accounts held by each respondent has (none, one, two, or three or more). We label this first way as first specification (spec. 1).
- The second is by controlling for the frequency of usage of any social media (no usage/social media account, rarely/occasionally, frequently, every day), instead of the number of social media accounts. We label this second way as second specification (spec. 2).

Both approaches lead to similar results, ensuring the robustness of our findings.

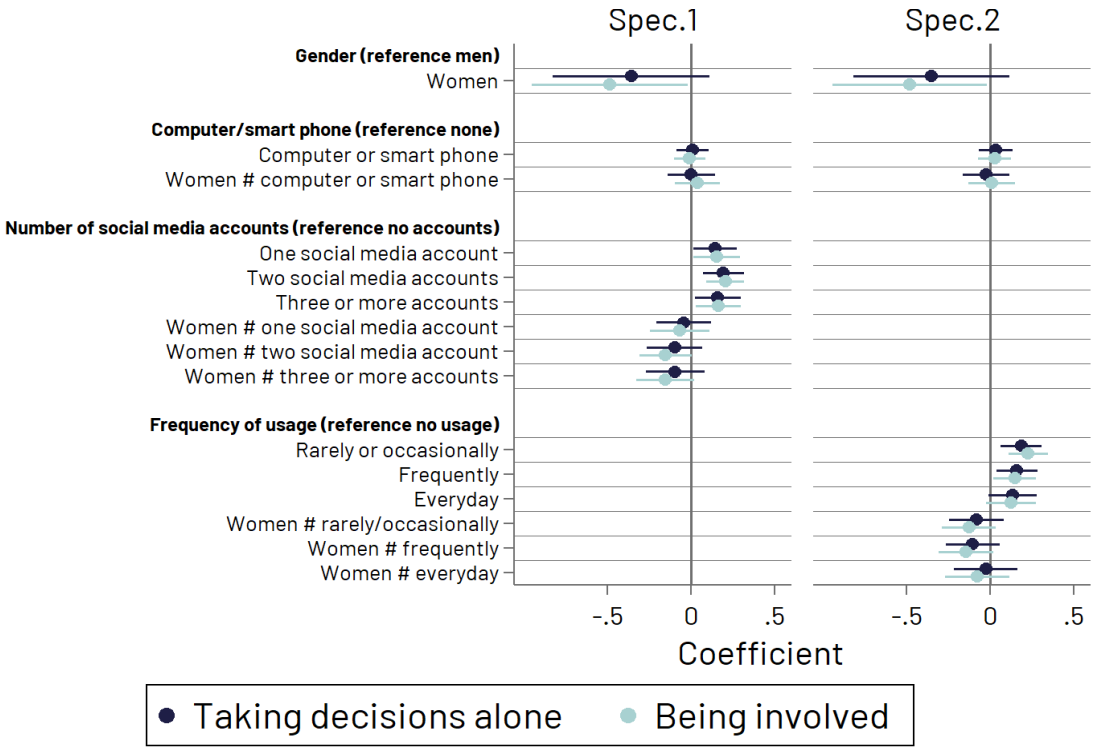
Information on having a social media account and frequency of usage only exists in the MUVA 2017 round (wave 1). While questions on social media were not administered in the MUVA 2020 round (wave 3), we can assume that if an individual had a social media account in wave one, they would keep it. Yet, we have no information on the change in numbers (whether individuals obtained more social media accounts), or the change in their usage patterns. For wave 3, we used information on the number of social media accounts and frequency of usage of social media based on available information from wave 1.

Other individual-level and household-level predictors

Among the explanatory variables in our OLS regression we also control for individual-level and household-level characteristics including education level, age of the respondent, marital status, city of residence, employment status, financial autonomy, and household wealth quintile, and education level of the head of household (see the Technical Appendix for more details on covariates).

Full results can be found in Appendix Table 6 and Appendix Table 7 for independent decision-making, and Appendix Table 8 and Appendix Table 9 for involvement in decision-making.

Figure 6: Associations (OLS regression coefficients) between decision-making and gender, and digital technology, MUVA 2017 (wave 1)



Source: Coefficients extracted from Appendix Table 6, Appendix Table 7, Appendix Table 8, and Appendix Table 9.

Notes: (1) Dots indicate point estimates for the coefficients and the horizontal lines indicate 95% confidence intervals. (2) Full model includes individual-level and household-level covariates. (3) Results for the 2020 (wave 3) can be found in tables in the Appendix.

Support for our hypotheses

The multivariate analysis supports our first hypothesis H1.a (that women are significantly less likely to take decisions alone or to be involved in decision-making). This is consistent with our descriptive analysis and holds across waves 1 and 3.

Second, the findings on the role of digital technology show a partial support for our second hypothesis H2.a (digital technology is associated with increased decision-making among both men and women).

Firstly, not all types of digital technology correlate significantly with increased decision-making. In particular, it is having a social media account (and the intensity of exposure) that seems to have significant association with decision-making patterns, rather than owning a smart phone or making frequent use of a computer. More specifically, we find no significant association between owning a smart phone or the frequent use of computer. In contrast, exposure to social media (whether by having one social media account or more as in spec.1 or by increased usage of social media as in spec.2) has a significant association with increased decision-making, on average (i.e., among the whole sample, and not limited to a certain gender). Young people with one social media account or more are far more likely to take their decisions alone or be involved in decision-making (spec.1) than those with no social media accounts. In addition, those who use social media with any level of frequency are far more likely to make decisions alone than those who do not use social media (spec.2).

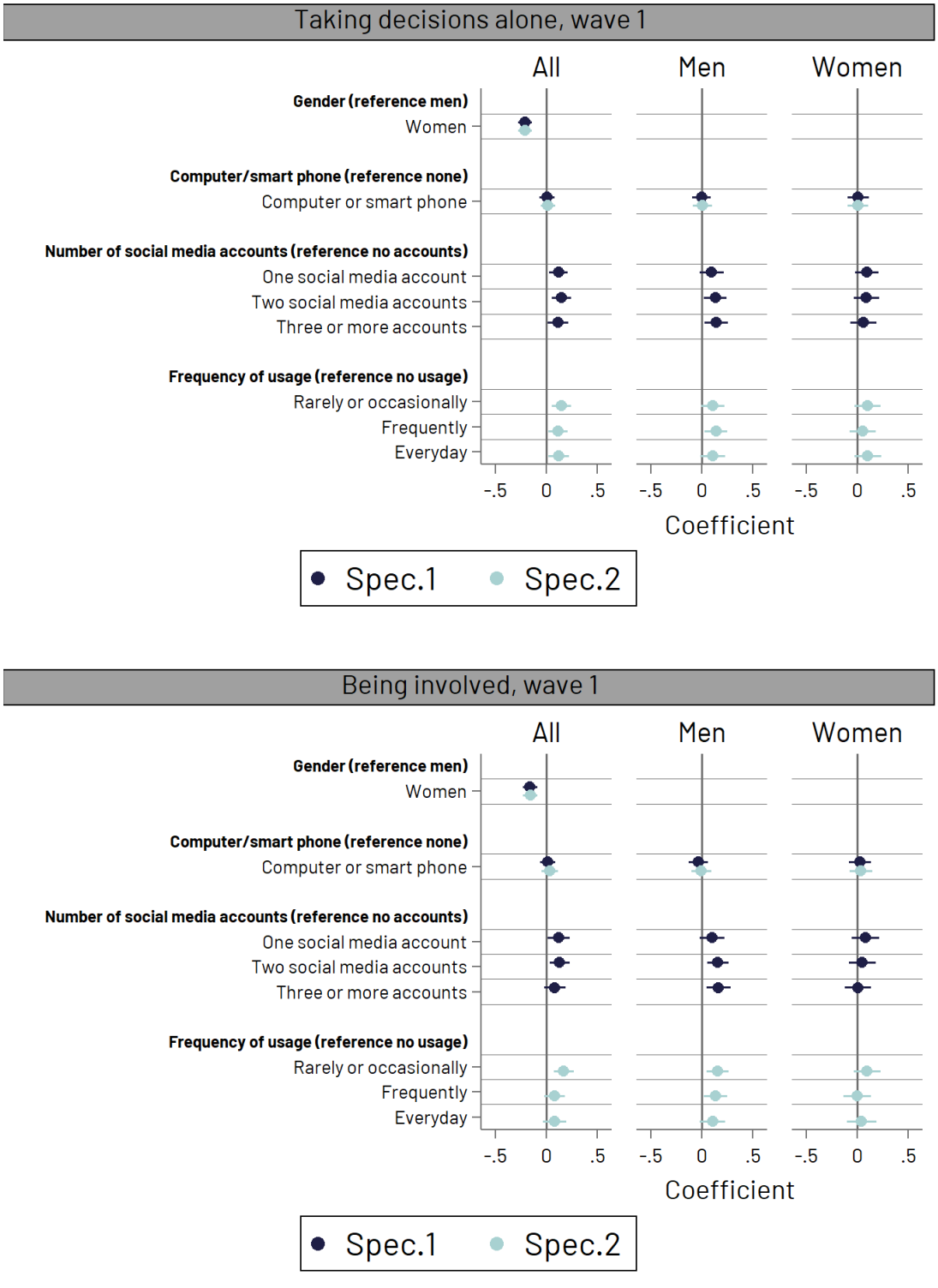
Secondly, using the whole sample, when we interact the variable gender (being a young woman) with variables of access to digital technology, the relationship between digital technology and decision-making patterns shows no significant differences between young men and young women (Figure 6).

But, because access to digital technology and patterns of usage differ for young men and women, we ran regressions models separately for the sample of men and women to estimate the relationship between independent decision-making or being involved in it and digital technology for each of them (Figure 7).

Figure 7, showing separate estimations on the samples for men and women, confirms that the association of digital technology and decision-making is significant for men but not for women, lending support to our third hypothesis (H3). The more social media accounts that young men have (spec. 1), the more they take decisions alone or are involved (significantly so). This is not the case, however, for women: their exposure to and number of social media accounts do not matter significantly for their decision-making patterns. Therefore, the more the merrier for young men but not for young women.

This could be because gaining decision-making power is not a one-way street. A young woman may decide that she wants to have more agency because of social media influence, but she may not be given the space in which to exercise this agency, as this space is often restricted by her family, husband, etc. Her social media exposure might not change the attitude of her family and its willingness to give her the space to be involved in or make her own decisions. A young man, however, might have greater permission to take that space when they claim it. This could explain why we found no significant link between digital technology and decision-making among young women, but a clear link among young men.

Figure 7: Associations (OLS regression coefficients) between decision-making and gender, and digital technology, MUVA 2017 (wave 1) for men and women separately



Source: Coefficients extracted from Appendix Table 6, Appendix Table 7, Appendix Table 8, and Appendix Table 9.

Notes: (1) Dots indicate point estimates for the coefficients, and the horizontal lines indicate 95% confidence intervals. (2) Full model includes individual-level and household-level covariates. (3) Results for the 2020 (wave 3) can be found in tables in the Appendix.

The importance of digital technology relative to other socio-economic factors in influencing decision-making

Our multivariate analysis shows that age, education, employment status, financial autonomy, and the city of residence are among the most significant factors in decision-making patterns. This holds true, on average, for both young men and women together and separately (to some extent). Whether these factors have a negative or positive association with decision-making, their effects are greater than those triggered by digital technology.

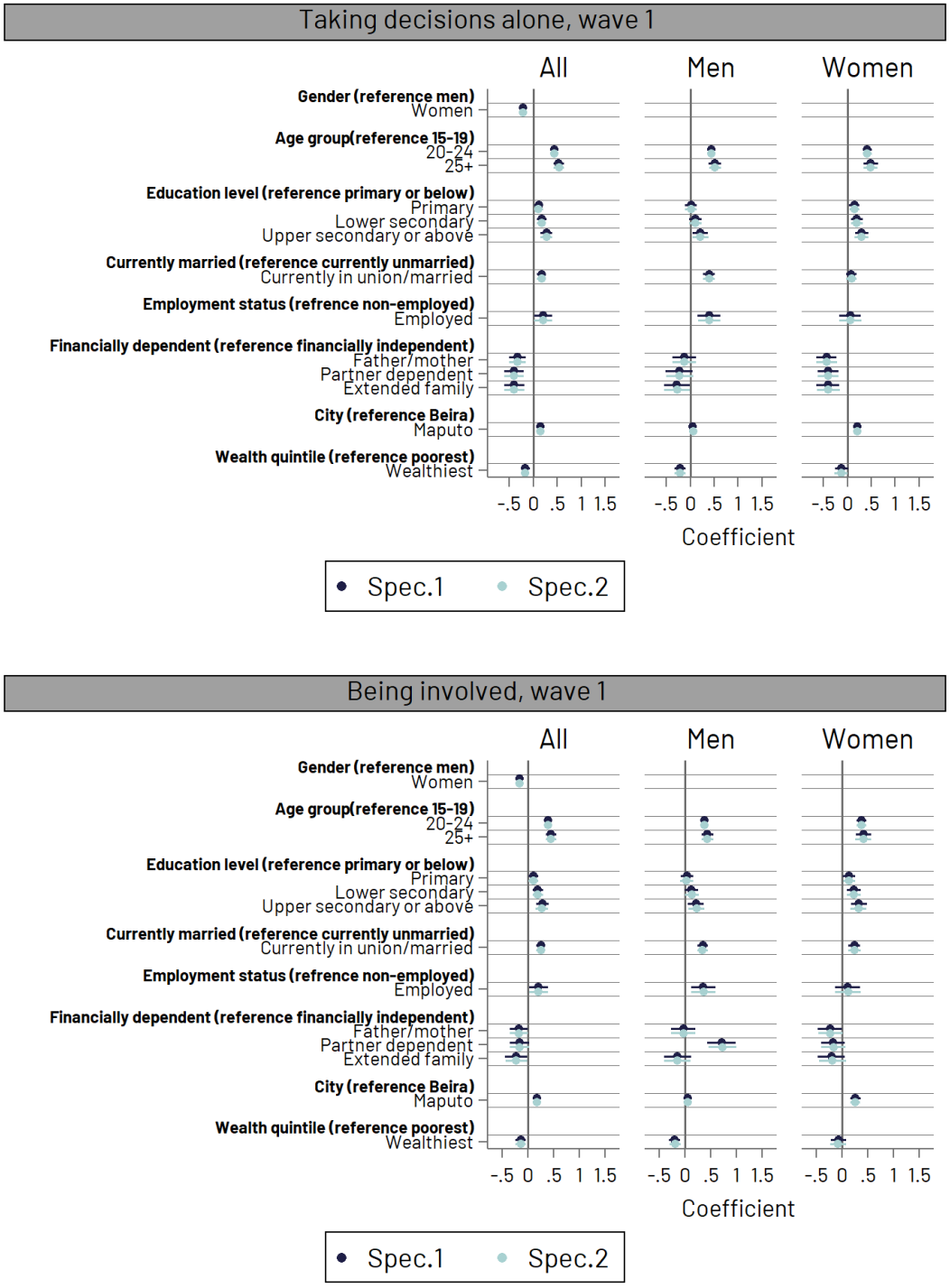
Figure 8 illustrates a selection of factors that have a significant association with decision-making for the 2017 round (wave 1). In some cases, we show insignificant results for some categories of variables to highlight the variation in magnitude and significance across these different categories (full models can be found in Appendix Tables 6 to 9).

Age and education are among the most consistent factors that have a positive and significant relationship with decision-making power among urban youth living in low-income areas. Again, this result holds for the whole sample together, and for young men and young women separately. There are, however, differences between the results for young men and women: while primary education for young men has no significant association with increases in decision-making power, it plays a significant and positive role in decision-making among young women. This reinforces the case for the importance of education in shaping women's agency.

For both men and women, higher levels of education (lower secondary and above) lead to a significant increase in decision-making. We also find that young people aged 20-24 or 25+ have far more independence in decision-making than those aged 15-19 years. There is an expectation globally – and not specific to Mozambique – that age brings greater autonomy.

As expected, on average, young people who are financially dependent on their parents, partners or extended family have far less decision-making power than their peers who are financially independent. Critically, when distinguishing between men and women, the negative and significant association between financial dependency and decision-making only holds for women, not for men. This implies that young men who are financially dependent still have the same decision-making power as peers who are financially independent. However, women who are financially dependent have far less decision-making power than those who are financially independent.

Figure 8: Relative importance of different factors in decision-making power (OLS regression coefficients), MUVA 2017 (wave 1)



Coefficients extracted from Appendix Table 6, Appendix Table 7, Appendix Table 8, and Appendix Table 9.

Notes: (1) Dots indicate point estimates for the coefficients, and the horizontal lines indicate 95% confidence intervals. (2) Full model includes individual-level and household-level covariates. (3) Results for the 2020 (wave 3) can be found in tables in the Appendix.

The literature suggests that employment is often associated with more decision-making power, but our results show that it does not contribute to decision-making in the same way for men and women. Employed young men have significantly greater decision-making power compared to their non-employed peers. But – again – this is not the case for women: young women have similar decision-making patterns whether they are employed or not. This could be because of the types of employment in which these young women in low-income settings work. Low-quality jobs based on necessity, or unpaid family work[24] might not increase the agency of young women.[25] These topics need to be explored in further detail in future research.

On average, urban youth from Maputo city, particularly young women, have greater decision-making power than their peers living in Beira city. This probably reflects the cultural differences in these two urban areas, as well as the differences in the overall socio-economic environment. There may, for example, be more opportunities in Maputo, the national capital, than in Beira.

Overall, our analysis suggests that access to digital technology is not particularly influential compared to the identified socio-economic factors for decision-making power. We will now consider its relative importance in attitudes to leadership.

Attitudes to women's engagement in leadership positions

Overview:

- Both our descriptive and multivariate analyses show that young women adopt much more egalitarian attitudes around women's engagement in leadership positions than young men, supporting our first hypothesis (H1.b).
- There is no significant association between digital technology and attitudes towards women's engagement in leadership, so our second hypothesis (H2.b) is not verified.
- Education has a significant association with more support for women's leadership, both among young men and women, but to a varying extent.

Descriptive analysis

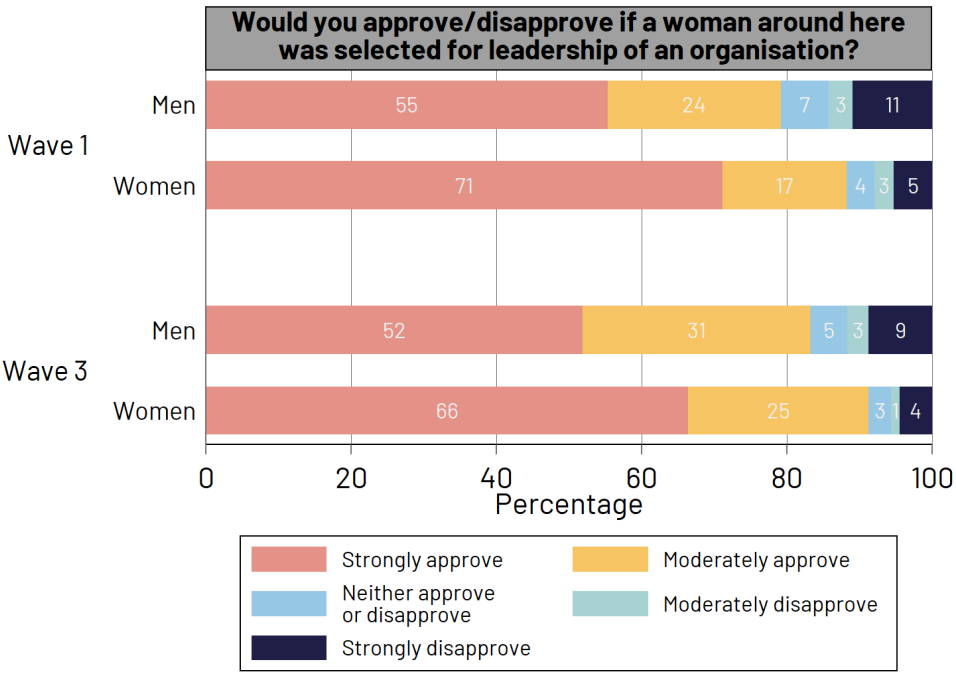
Young women adopt much more egalitarian attitudes around women's engagement in leadership positions, as shown in Figure 9. This is the case even though young women reported lower interest in leadership positions than men (see Box 3).

While 71% of young women strongly supported women's engagement in leadership positions in 2017 (wave 1), only 55% of young men did so. Young men were more likely (24%) than young women to report only moderate approval (17%). As expected, more young men (11%) than young women (5%) disagreed with the idea of women's engagement in leadership positions. In both 2017 and 2020, young women were more supportive of women's leadership than young men, with the gender gap staying constant.

24 The MUVA survey detects the different types of employment, including working for a wage, as an employer or self-employed and in unpaid family work.

25 We control for the degree of control that young men and women have over their financial resources when they are employed. As a result, the employment effect we find is not influenced by the degree of control women have over their earnings.

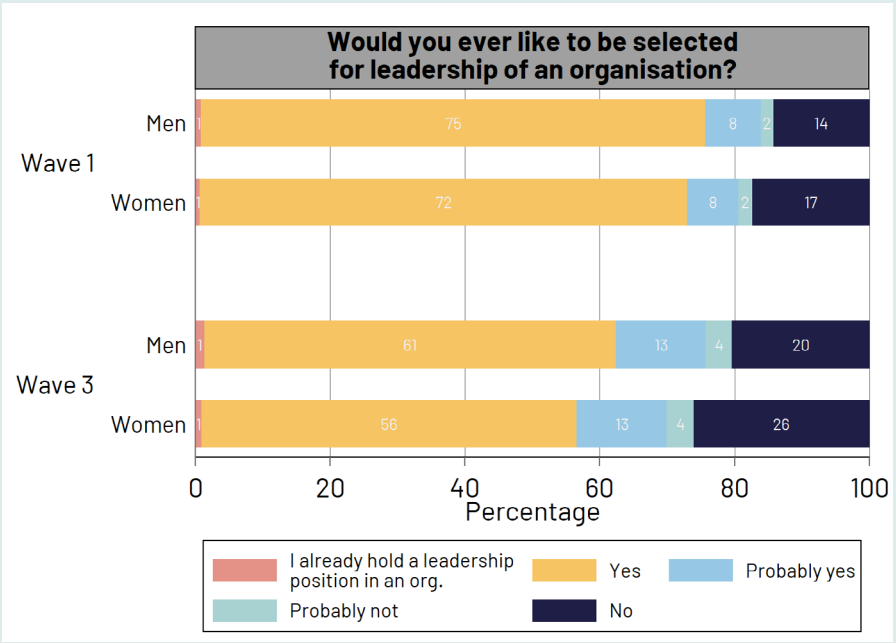
Figure 9: Distribution of responses on individual views and attitudes around self and women engagement in leadership position (percentage)



Source: Authors based on MUVA 2017 (wave 1) and 2020 (wave 3).

Box 3: The aspirations for women's leadership among young women and young men

There are gender differences in the willingness – or aspirations – of young people in urban areas of Mozambique to be selected for leadership positions. Young women have slightly lower aspirations to engage in leadership positions than their male peers. In 2018, almost three-quarters of young men (75%) expressed their interest in being selected for a leadership position, as did slighter lower proportions of young women (72%). The proportion of women not wanting to engage in leadership positions was slightly greater (17%) than that for young men (14%). The aspirations of both young men and young women for leadership positions fell between 2017 and 2020, with fewer youth wanting (and more youth not wanting) to be selected for leadership positions, with the same gender differences in responses.



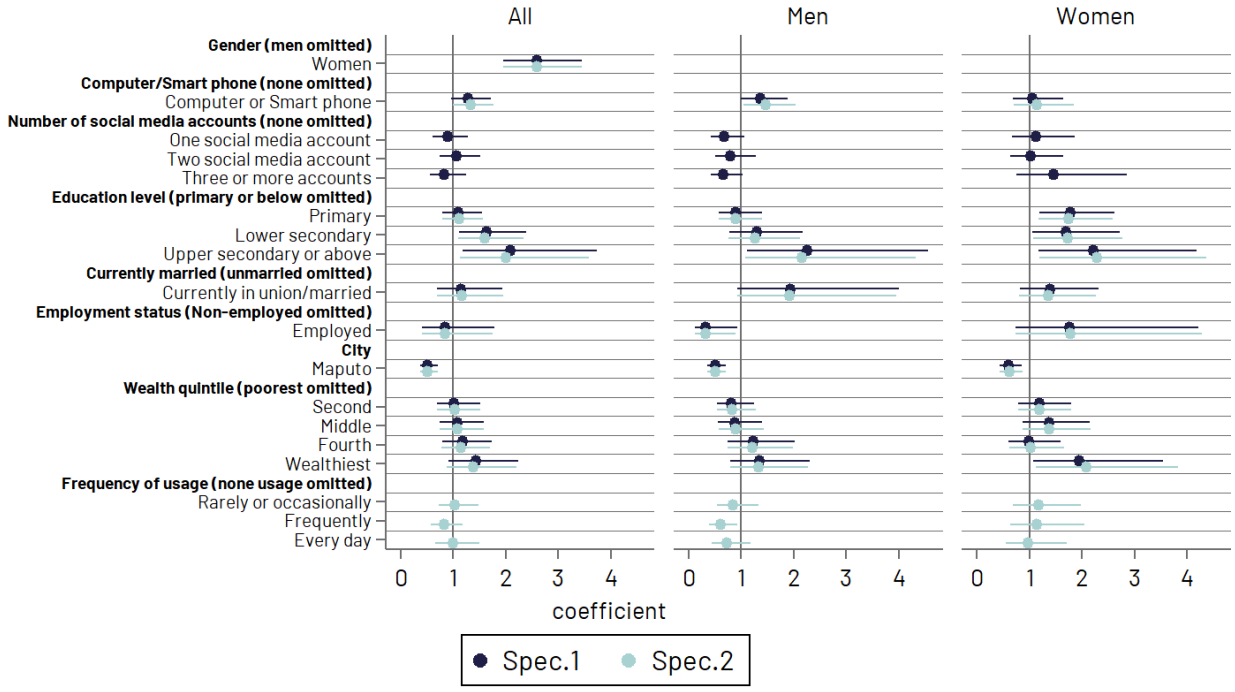
Source: Authors based on MUVA 2017 (wave 1) and 2020 (wave 3).

Multivariate analysis

Figure 10 shows the estimates for the probability of approval for women's engagement in leadership positions. The main outcome is a binary variable taking the value of one if the individual approves (moderately or strongly) of women's engagement in leadership positions and zero otherwise. We present logit coefficients as odds ratio. Odds ratio that are higher than one indicate a positive effect/association whereas odds ratio that are lower than one show a negative effect/association. As above, the main explanatory variables that reflect access to digital technology are owning a smart phone or the frequent use of a computer, and the intensity of social media exposure.

We also run two specifications: one using the intensity of social media as the number of social media accounts; and the second controlling for the frequency of usage instead of the number of social media accounts. The results are robust under both specifications. We also control for individual-level and household-level characteristics (see the Technical Appendix for more details on the model). We also discuss results from the 2017 round (wave 1) for simplification since results for the 2020 round (wave 3) are similar (and included in the Appendix: see Appendix Table 10).

Figure 10: Logit estimates of the probability of approving moderately or strongly of women's engagement in leadership positions, MUVA 2017 (wave 1)



Source: Authors based on MUVA 2017 (wave 1).

Figure 10 also shows that the probability of approving women's engagement in leadership positions is significantly higher among women than among men, with women being more than twice as likely to approve of women's engagement than men (panel showing all sample). This supports our first hypothesis H1.b (young women have more equitable attitudes towards leadership than young men). However, the probability of approving women's engagement does not change significantly with any of the digital technology variables. Owning a smart phone or having social media accounts makes no significant difference in attitudes towards women's leadership among women or men and our second hypothesis (H2.b) is not verified. In addition, when we interact the variable indicating gender (being a woman) with variables of access to digital technology, we also find that the effect of digital technology on women's leadership between men and women does not vary between young men and young women (see Appendix Figure 7).

Our results show that one of the most influential factors is household wealth, although this is significant only for women. Women from the wealthiest quintile (compared to those from the poorest households) tend to show far more support for women's engagement in leadership positions, while there is little difference in the level of support for such engagement from men, whether they are from the wealthiest or poorest households.

Education is a strong and positive mediator. On average, those with secondary (whether lower or upper secondary levels) are far more likely to support women's leadership than those with primary education or below. Again, when distinguishing between men and women, any level of education, including primary education matters for women's attitudes. For men, however, only lower and upper secondary education levels are associated with any increased chances of support for women's leadership. Young men who have a primary education do not display views that differ from those with an education below the primary level.

Youth from Maputo were far less likely than those living in Beira to support women's engagement in leadership positions. This is interesting, given that – as noted earlier – youth in Maputo had more decision-making autonomy than those in Beira. An understanding of this finding would require more qualitative research.

Employed men were considerably less likely to agree with women's engagement in leadership positions, even though employment leads to increased decision-making power among men. These two results combined may mean that young men who are employed have more bargaining power and tend to have less support for women's leadership. Again, understanding the reasons for these patterns would require qualitative research to explore the different work opportunities for young men and young women and how these may interact with gender norms.

5. Conclusion

Given the rise of access to and use of digital technology among youth, this report has aimed to understand how digital technology relates to gender norms. In particular, it has explored the influence of digital technology on decision-making ability and views on women's engagement in leadership positions among young people in low-income urban areas of two cities in Mozambique. This report has also examined the socio-economic factors that shape and shift those gender norms, and their relative importance compared to digital technology.

Our research bridges an important gap in the literature by focusing on:

- Youth living in low-income urban settings in Mozambique
- Their patterns of decision-making in areas of work, education, mobility and household expenses, as well as attitudes towards women's leadership
- A multivariate approach using recent nationally representative data of urban youth living in Maputo and Beira.

Using recent data from urban low-income areas in Maputo and Beira, we found that young women in these areas were less likely than young men to have access to or use digital technology – whether by owning a smart phone, making frequent use of a computer, or having a social media account. In 2017, 42% of young women owned a smart phone compared to 51% of young men. We also found that young people were more likely to have a social media account than own a smart phone. Slightly more than half of young women in our sample (55%) had a social media account in 2017, compared to more than three-quarters of young men (76%). It is not possible to assess any change in access to social media between 2017 and 2020, as the 2020 round did not collect data on access and usage of social media accounts.

On average, young women have less decision-making power than young men and more egalitarian attitudes towards women's leadership, even though they were less interested in leadership positions than men. In term of the association between digital technology and decision-making patterns, our multivariate analysis shows that having a social media account (and the intensity of exposure) seems to be associated with higher decision-making power, rather than owning a smart phone or the frequent use of a computer.

Our findings also indicate that the association between digital technology and decision-making patterns differs for young men and women, where exposure to social media has a significant correlation with increased decision-making among young men. In addition, the more social media accounts young men have, the higher their decision-making ability.

This is not the case, however, for young women. Having any number of social media accounts shows no significant relationship to their increased decision-making power. Our findings also show that digital technology, whatever the type, has no significant association with attitudes to women's leadership among young women or young men.

Having more social media accounts is associated with more decision-making power among young men, but has no influence on decision-making patterns for young women. One explanation could be that women's use of mobile phones is limited by gender norms and controlling behaviours from their parents, husbands and partners, as shown in other qualitative studies from Mozambique (MUVA, 2020), and similar countries (Masika and Bailur, 2015; Svensson and Wamala Larsson, 2016). The exposure of young women to social media might not change the attitudes of their families and their willingness to give these young women space to make their own decisions, while young men might have greater permission to take that space when they claim it.

In other words, young women also have to be allowed greater engagement in decision-making. Even if they discover ways to increase their agency through the use of digital technology, they may not be able to act on this if those around them are not exposed to similar content or if that content does not resonate with them.

The insignificant association between attitudes to women's leadership and digital technology could be because personal attitudes towards women's engagement in leadership positions were relatively more egalitarian, with more than 75% of men supportive. As a result, the incremental association between digital technology and the approval of women's leadership would be expected to be more limited.

While having more social media accounts has no significant link to increased decision-making among young women and more egalitarian attitudes on women's leadership, being more educated does matter. Decision-making ability among women increases significantly with every education level. This is not the case for men whose decision-making only increases among those with secondary and above. Support for women's leadership also increases with every education level among the sample of women, while only lower and upper secondary education levels are associated with increased chances of support for women's leadership among men. This makes the case for the importance of education in shaping women's agency. Again, when distinguishing between men and women and level of education (including primary) matters for women's attitudes, while only lower and upper secondary education levels are associated with increased chances of support for women's leadership among men.

Greater investment in education can, therefore, provide opportunities to support adolescent girls and young women. It can also lead to the enhanced use of digital technology in ways that are beneficial to youth wellbeing, including access to services and opportunities (educational, medical, economic, etc.) and learning new skills.

Being employed increases decision-making power for young men but not for young women, raising questions around their working conditions and the type of jobs they do. It is also plausible that women's work makes little impact if the norms that expect them to defer to husbands/ parents remain very strong. This result calls for further research on youth labour market opportunities and how they interact with gender norms in Mozambique and similar contexts. Critically, employed men were less likely to agree with women's engagement in leadership – a finding that merits further research to understand labour market conditions for women and men and the interaction of that market with existing gender norms.

The report has also highlighted the need for future research on the patterns of Internet usage, and to what extent they are gendered. In addition, research is needed on the types of digital technology that are available for youth, the platforms they use, the content that is being shared on these platforms, and the purposes for which they use it. What content are young people actually consuming? And what messages are they receiving about gender in general and leadership in particular? This could help to explain any associations between social media use and attitudes to leadership.

The results of this research show that the hypothesis and hope that access to digital technology has a positive impact on gender norms and that the spread of technology can shape more equitable gender relations are, to some extent, borne out. However, other factors, such as education, appear to have a stronger correlation. Our findings point to the continued importance of action across multiple areas to enhance women's agency and promote gender equality (Harper et al., 2020; Jayachandran, 2021; UNDP, 2020).

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Technical appendix: data and methods

1.1. Sample

We use two waves of the MUVA urban youth panel surveys in 2017 and 2020. These waves are representative of target areas in Maputo and Beira. The first wave consists of a sample of 3,300 young men and women aged 15-25 years old. The second wave of the panel was fielded two years later in 2020, for a sub-sample of youth interviewed in 2017 that consists of 1,222 individuals. The data provides information on individual characteristics such as education, employment and economic activities, financial inclusion, fertility and family planning, time use, social norms, social capital, and digital inclusion. The data also includes household-level information, including the characteristics of the dwelling, education, and gender of the head of household (and spouse if relevant), and number and age of household members.

We aim to use the cross-sectional dimensions of the two waves, as well as the panel nature of the data to answer the key questions of interest.

1.2. Key covariates/factors

The key covariates and factors that mediating the relationship between digital technology and gender norms, and changes in gender norms are:

Individual characteristics:

- City: Maputo versus Beira (the reference group))
- Gender: female respondent versus male respondent (the reference group)).
- Age group: a three-categorical variable as 15-19 (the reference group), 20-24, and 25 and above.
- Completed education level: a categorical variable as primary or below (reference group), lower secondary (both general and vocational), upper secondary (both general and vocational), and tertiary (including the teacher degree).
- Employment status: this is binary variable that takes one if the respondent is employed in the labour market and 0 if he/she is non-employed (the reference group).
- Current marital status: this is a binary variable as 1 if currently married or living with a partner, 0 otherwise including non-married, and widows.
- Degree of financial control: this is a four-categorical variable as financially independent (reference group), dependent on father/mother, dependent on partner, and dependent on other family (extended) and/or others.
- Owning a smart phone or frequently using a computer.
- Number of social media accounts to capture the 'intensity' of social media engagement. This is coded as no account (reference group), one account, two accounts, three accounts of more.
- Frequency of using social media account: no social media account (reference group), rarely/ occasionally, frequently, every day.

It is to note that information on having a social media account and frequency of usage only exists in the MUVA 2017 round (wave 1). Questions on social media were not administered in the MUVA 2020 round (wave 2). However, we can assume that if an individual has a social media account in wave one, he/she

would keep his/her social media account for the future. Yet, we have no information on the change in numbers (whether individuals got more social media accounts), or the change in their usage patterns.

Household characteristics (and how the household structure plays alongside the gender and individual characteristics in (1) having access to digital resources, (2) gender norms):

- Asset-based wealth quintiles of the household (based on Martel (2021) methodology in constructing asset-based wealth quintiles, based on polychoric distribution). This is categorical variable of five categories: Poorest (reference group), second, third, fourth, and wealthiest quintiles.
- Household size: this is a continuous variable indicating the number of members in the household.
- Share of female household members in the household. This is a continuous variable that indicates the ratio of the number of female household members to the total number of household members. A ratio of 1 means all household members are girls and women, whereas a ratio 0 means that there are no female household members in this household.
- Education of head of household: a four categorical variable as primary or below (reference group), lower secondary (both general and vocational), upper secondary or above, and don't know if this variable is missing or don't know.
- Number of children below 6 years old (under school age) living in the household (including own children, or siblings/relatives).

Further controls to test various gendered effects:

- We control for **interactions between gender and individual characteristics**, to examine whether there is a gendered effect of individual characteristics like education, employment status, enrolment, marriage, age, and city of residence on gender norms.
- We control for **interactions between gender and household characteristics**, to examine whether there is a gendered effect of household characteristics like wealth quintile, education and sex of head of household, number of working adults and young children in the household on gender norms?
- We control for **interactions between access to digital resources**, gender, and key socio-economic factors. How does the different effect of digital resources between men and women are influenced with other characteristics such as education, age, and wealth?

1.3. Methods

To examine the determinants of gender norms, we estimate an **OLS regression model for decision-making where our main dependant variables are**:

1. Specification 1: the ability to take decisions alone. This is measured as a continuous factor where higher scores reflect greater ability to take decisions alone.
2. Specification 2: Involvement in decision-making. This is measured as a continuous factor where higher scores reflect greater involvement in decision-making. (See next sub-section for description of factor analyses)

For attitudes on women's leadership, **we estimate a logit model for the probability of approval to women's engagement in leadership**. The main outcome is a binary variable taking the value of one if the individual approves (moderately or strongly) women's engagement in leadership positions and zero otherwise.

Models are estimated for all the sample and separately for men and women. We present odds ratios from our logit models in our tables throughout. Standard errors are clustered on the enumeration areas level and weights are used throughout.

We also estimate random-effect OLS regression models for independent and joint decision-making as well as random effect logit model for the probability of agreeing on women's leadership, leveraging the panel data.

1.4. Factor analysis of decision-making

We used exploratory factor analysis to combine the questions on different areas of decision-making (work, education, mobility, and household expenses) into a single factor representing the construct of decision-making. Since responses to these questions are ordinal, we performed exploratory factor analysis reliant on inter-item polychoric correlations, rather than Pearson correlation coefficients (Kolenikov, 2004). This method has been previously used on measures of women's empowerment, gender role attitudes, and gender equity (Amankwah, 2015; Amaral et al., 2018; Asaolu et al., 2018; Batool et al., 2020; Salem et al., 2020). We used the user-written polychoric package in STATA (Kolenikov, 2004, version 1).

Appendix Table 1 shows results of the factor analyses for our four decision-making questions: scoring coefficients, factor loadings, and uniqueness. For our first specification, each question on decision-making loaded onto one factor with acceptable loading (greater than 0.3), and all our decision-making items loaded positively into the first factor with an eigenvalue of 1.54. We refer to this factor as independent decision-making.

In the second specification, each question loaded onto one factor with acceptable loading, and they loaded positively into this first factor with an eigenvalue of 1.77. We refer to this latent factor as being involved in decision-making. Appendix Table 4 also shows that the interitem correlations between our decision-making questions (for our two specifications) are positive, but not very highly correlated.

Appendix Table 1: Decision-making scoring coefficients, factor loadings, and uniqueness, wave 1

Spec. 1 Decision-making (alone)			
	Scoring coefficient	**Factor loading**	**Uniqueness**
Economic participation	0.280	0.636	0.596
Education	0.353	0.699	0.512
Movement	0.276	0.632	0.600
Large household expenses	0.186	0.503	0.747
Eigenvalue	1.545		
Spec. 2 Decision-making (being involved)			
	Scoring coefficient	**Factor loading**	**Uniqueness**
Economic participation	0.280	0.693	0.520
Education	0.353	0.765	0.415
Movement	0.276	0.680	0.538
Large household expenses	0.186	0.492	0.758
Eigenvalue	1.770		

Source: Authors' calculations based on first round of MUVA

Appendix Table 2: Decision-making interim correlations, wave 1

	Economic participation	Education	Movement	Large household expenses
Economic participation	1.000	0.493	0.449	0.313
Education	0.493	1.000	0.484	0.401
Movement	0.449	0.484	1.000	0.320
Large household expenses	0.313	0.401	0.320	1.000
	Economic participation	**Education**	**Movement**	**Large household expenses**
Economic participation	1.000	0.577	0.503	0.353
Education	0.577	1.000	0.576	0.412
Movement	0.503	0.576	1.000	0.317
Large household expenses	0.353	0.412	0.317	1.000

Source: Authors' calculations based on first round of MUVA

For the third wave, decision-making questions also loaded positively onto one first factor, which we refer to as independent decision-making (for the first specification) and being involved in decision-making (for the second specification) (Appendix Table 3). The questions of decision-making were also positively correlated as shown in Appendix Table 4.

Appendix Table 3: Decision-making scoring coefficients, factor loadings, and uniqueness, wave 3

Spec. 1 Decision-making (alone)			
	Scoring coefficient	**Factor loading**	**Uniqueness**
Economic participation	0.302	0.652	0.575
Education	0.320	0.668	0.554
Mobility	0.266	0.613	0.624
Large household expenses	0.211	0.537	0.712
Eigenvalue	1.535		
Spec. 2 Decision-making (being involved)			
	Scoring coefficient	**Factor loading**	**Uniqueness**
Economic participation	0.261	0.642	0.588
Education	0.353	0.724	0.476
Mobility	0.304	0.688	0.527
Large household expenses	0.176	0.514	0.736
Eigenvalue	1.673		

Source: Authors' calculations based on third round of MUVA

Appendix Table 4: Decision-making interim correlations, wave 3

Spec. 1 Decision-making (alone)				
	Economic participation	**Education**	**Mobility**	**Large household expenses**
Economic participation	1.000	0.486	0.464	0.333
Education	0.486	1.000	0.421	0.419
Mobility	0.464	0.421	1.000	0.342
Large household expenses	0.333	0.419	0.342	1.000
Spec. 2 Decision-making (involvement)				
	Economic participation	**Education**	**Movement**	**Large household expenses**
Economic participation	1.000	0.495	0.462	0.375
Education	0.495	1.000	0.575	0.384
Mobility	0.462	0.575	1.000	0.343
Large household expenses	0.375	0.384	0.343	1.000

Source: Authors' calculations based on third round of MUVA.

Figures and tables appendix

Appendix Table 5: Summary statistics for control variables

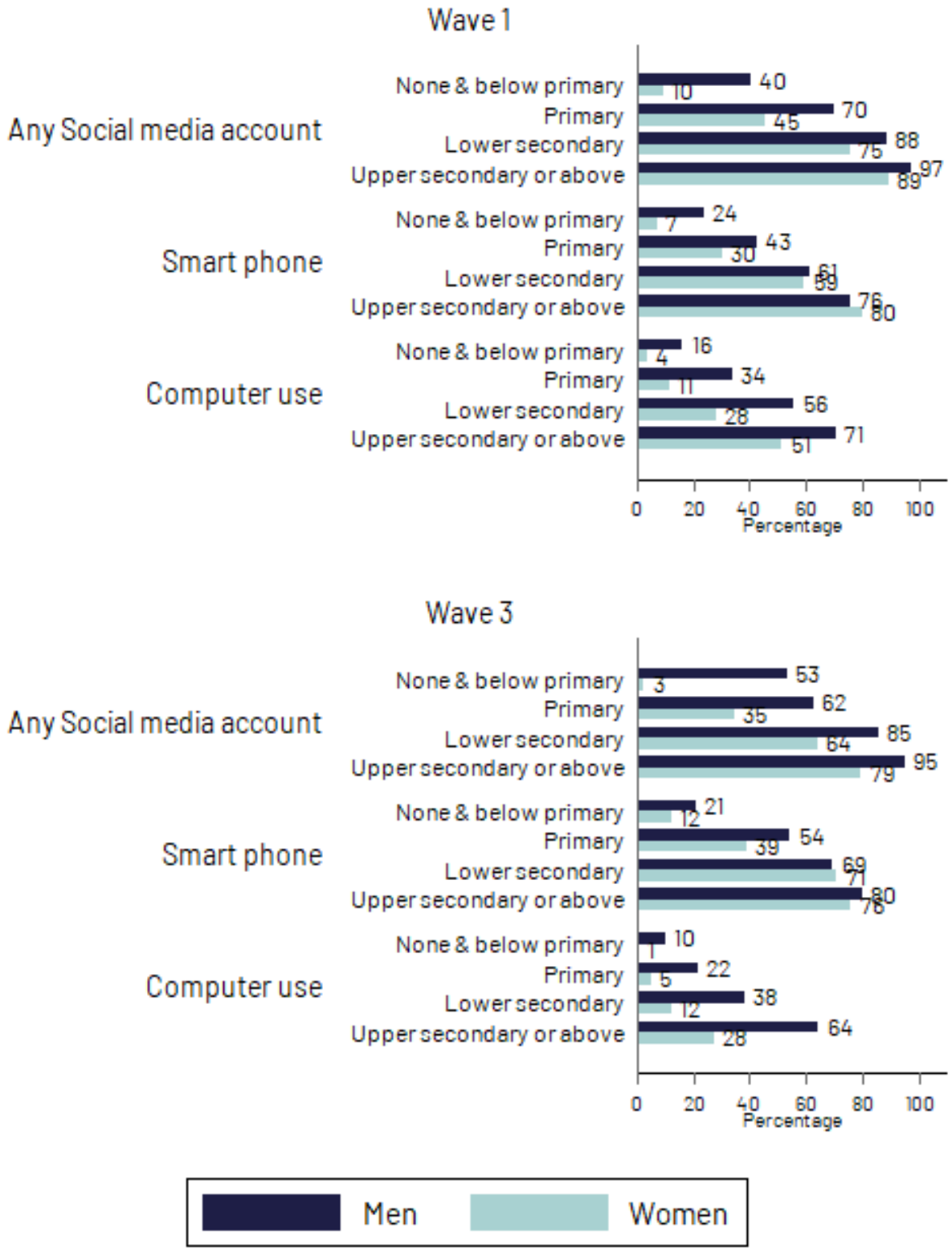
	Wave 1			Wave 3		
	Men	Women	Total	Men	Women	Total
	Mean (%)	Mean (%)	Mean (%)	Mean (%)	Mean (%)	Mean (%)
Gender						
Men			43.6			46.4
Women			56.4			53.6
Main covariates: Access to digital technology						
Frequently using a computer	43.5	20.9	30.8	41.4	13.9	26.6
Owning a smartphone	50.7	42.1	45.9	67.1	57.7	62.1
Owning Smart phone or frequently using a computer	66.3	47.5	55.7	73.7	59.8	66.2
Intensity: Number of social media accounts						
No social media account	24.3	45.2	36.1	18.9	45.2	33
One account	15.9	11.3	13.3	14.9	11.2	12.9
Two accounts	33.3	26.2	29.3	35.1	27.1	30.8
Three or more accounts	26.5	17.3	21.3	31.1	16.5	23.3
Frequency: Social media usage						
Rarely or never	11	13.3	12.1	8.6	12.5	10.3
Occasionally (few times/ month)	10.7	8.6	9.7	9.4	8.3	8.9
Frequently (few times/week)	34	30.2	32.1	36.8	32.9	35.1
Every day	44.4	47.9	46.1	45.2	46.3	45.7
City						
Beira	49.2	50.5	49.9	53.9	52.7	53.2
Maputo	50.8	49.5	50.1	46.1	47.3	46.8
Age groups						
15-19	51.4	46.9	48.9	19	21.4	20.3
20-24	40.9	45.3	43.4	56.7	48.4	52.2
25+	7.7	7.8	7.7	24.4	30.1	27.5
Education level completed						
None or below primary	10.9	14.6	13	3.5	9	6.5
Primary	47.3	43.6	45.2	27.6	29	28.4

Lower secondary	25.6	26.3	26	35	30.4	32.6
Upper secondary or above	16.2	15.4	15.8	33.8	31.5	32.6
Enrolment status in schooling						
Currently not enrolled	46.7	52.4	49.9	60	68.8	64.7
Currently enrolled	53.3	47.6	50.1	40	31.2	35.3
Marital status						
Currently unmarried	92.6	68.4	78.9	87	69.9	77.8
Currently in union/married	7.4	31.6	21.1	13	30.1	22.2
Employment status						
Non-employed	32.2	47	40.5	21.1	42.3	32.5
Employed	67.8	53	59.5	78.9	57.7	67.5
Financial autonomy						
Financially independent	28.1	11.4	18.7	32.5	12.3	21.7
Father/mother dependent	53.6	48.4	50.7	44.6	43	43.7
Partner dependent	0.3	27.7	15.7	0.8	32.3	17.7
Extended family dependent	17.9	12.5	14.8	22.1	12.3	16.9
Gender of head of household						
Male	69.8	65.3	67.2	65.8	60.7	63.1
Female	30.2	34.7	32.8	34.2	39.3	36.9
Education level of head of household						
Primary or below/DK	38.2	37.1	37.6	53.7	50.4	51.9
Lower secondary	22	25	23.7	16.7	20	18.5
Upper secondary	39.8	37.9	38.7	29.6	29.6	29.6
Asset-based wealth quintile						
Poorest	20.6	25.1	23.1	17.6	23.1	20.6
Second	19.7	20.3	20	17.6	21.7	19.8
Middle	19.4	19.8	19.6	21.1	19.5	20.2
Fourth	18.5	18.5	18.5	21.5	19	20.1
Wealthiest	21.8	16.4	18.7	22.3	16.7	19.3
Would you approve or disapprove if a woman around here was selected for leadership of an organization?						
No	14.9	17.4	16.3	21.1	27.5	24.5
Probably not	2	1.9	2	2.9	3.4	3.2

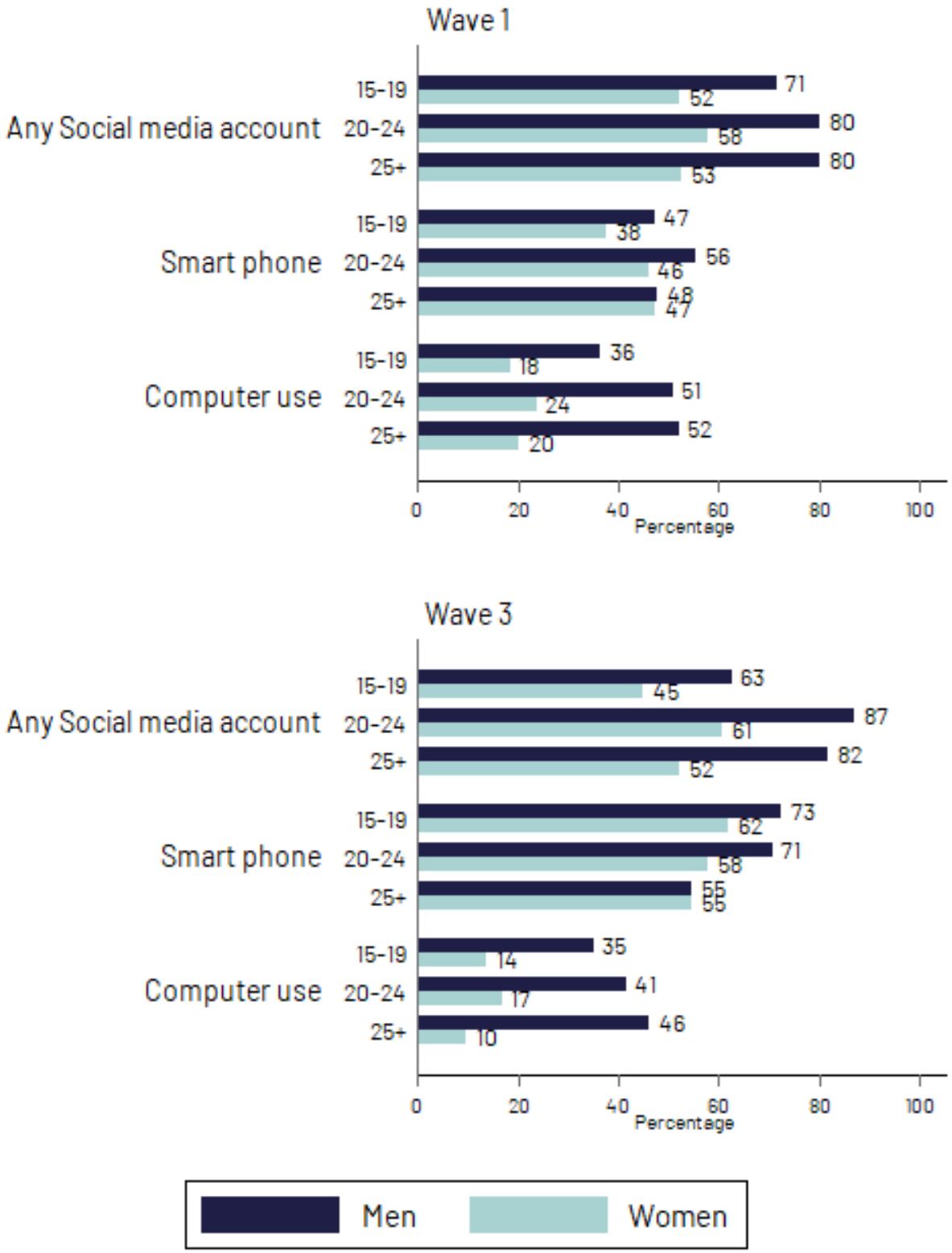
Probably yes	7.7	7.2	7.4	11.8	11.6	11.7
Yes	74.3	72.5	73.3	63.4	56.8	59.9
I already hold a leadership position for an organisation	1	0.9	1	0.8	0.7	0.7
How often are women selected for leadership positions in organizations?						
Never	13.5	11.5	12.4	12.4	16.4	14.6
Rarely	52.9	54.9	54.1	45	46.8	46
Sometimes	26.7	28.3	27.6	31	28.8	29.8
Often	6.9	5.3	6	11.6	8	9.7
Would you approve/disapprove if a woman around here was selected for leadership of an organization						
Strongly disapprove	12.3	5.3	8.3	9.5	4.5	6.8
Moderately disapprove	3	2.5	2.7	3.2	0.9	1.9
Neither approve nor disapprove	7.2	3.7	5.2	4.9	3.5	4.2
Moderately approve	23.1	16.8	19.5	34.1	24.5	28.9
Strongly approve	54.4	71.9	64.3	48.3	66.7	58.2
How many people around here approve of a woman being selected for the leadership of an organization?						
Very few or none	28.9	27.3	28	17.9	16.4	17.1
Less than half	32.5	30.5	31.4	31.3	33.4	32.5
About half	17.4	17.7	17.6	23.2	22.7	23
More than half	13.3	14.3	13.9	22.1	20.9	21.5
Almost everyone	7.9	10.1	9.2	5.4	6.5	6
Decision-making in work						
Others excl. you	27.6	31.6	29.8	19.6	33.8	27.1
You and others	10	19.8	15.4	8.8	18.1	13.7
You alone	62.4	48.6	54.8	71.5	48.1	59.2
Decision-making in education						
Others excl. you	35	40.7	38.2	25.8	32.4	29.2
You and others	18.8	23.7	21.6	14.3	22.9	18.8
You alone	46.2	35.6	40.3	59.8	44.7	52
Decision-making in movement						
Others excl. you	20.5	37.4	30.1	11.5	26	19.2
You and others	16.1	28.6	23.1	10.4	29.2	20.5
You alone	63.4	34	46.8	78.1	44.8	60.2
Decision-making in choice of partner						
Others excl. you	0.9	2.4	1.7	0.5	1.5	1
You and others	3.9	3.6	3.7	1.4	0.8	1.1

You alone	95.2	94	94.5	98.1	97.7	97.9
Decision-making in choice of spouse						
Others excl. you	2	3.8	3	1.5	1.8	1.6
You and others	8.4	7.2	7.7	0.8	1.2	1
You alone	89.6	89	89.3	97.7	97.1	97.4
Decision-making in large households purchases						
Others excl. you	81.1	80.4	80.7	69.5	75.4	72.7
You and others	9.3	16.5	13.3	15.2	19.3	17.4
You alone	9.6	3.2	6	15.3	5.3	10
Decision-making in small households purchases						
Others excl. you	78	60.8	68.3	73.2	56.7	64.3
You and others	13.4	20.2	17.3	13.4	23.6	18.9
You alone	8.6	19	14.5	13.4	19.6	16.7
Sample (N)	1393	1907	3300	524	652	1176

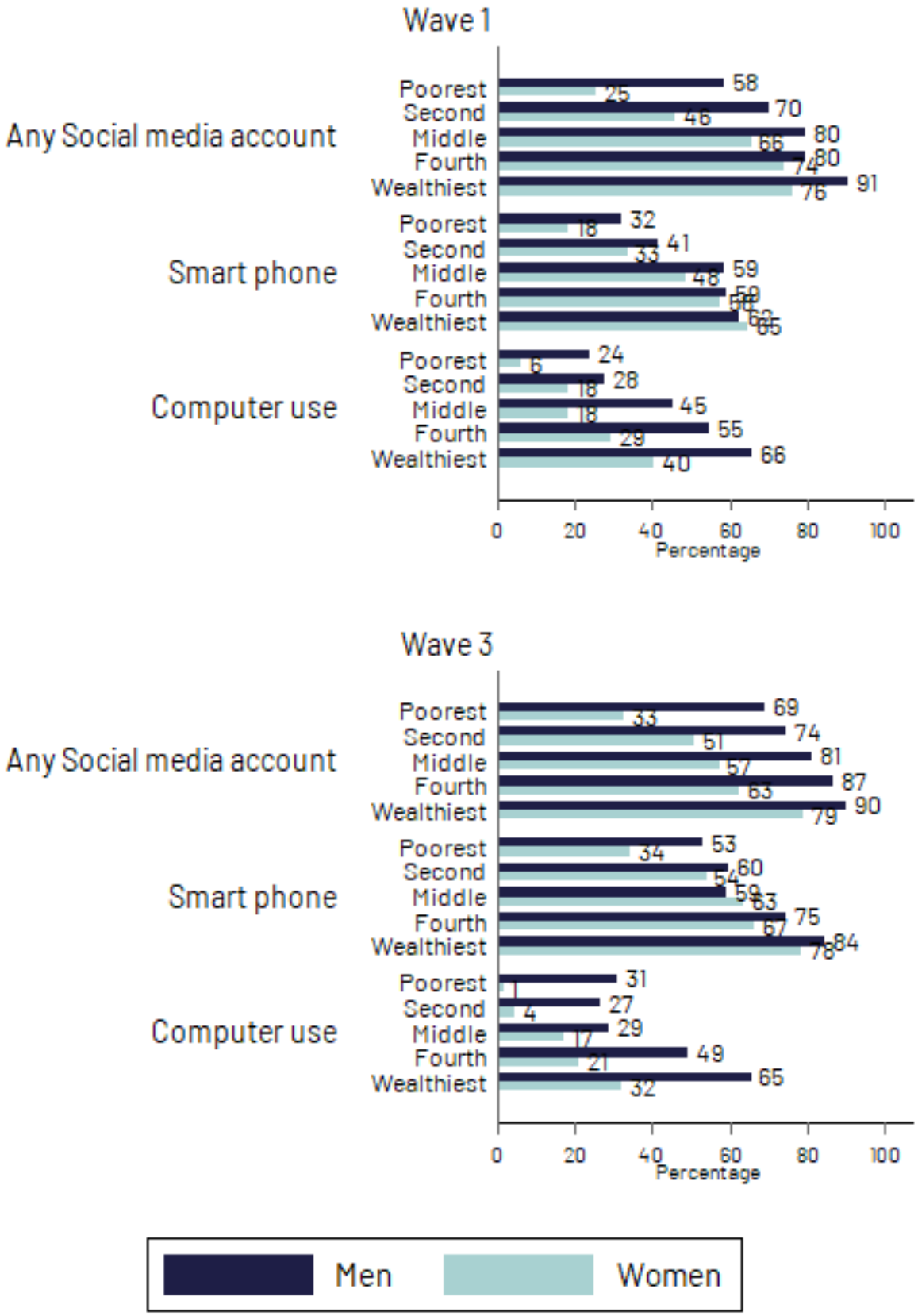
Appendix Figure 1: Access to different forms of digital technology by gender and education (percentage). Source: Authors' based on MUVA 2017 (Wave 1) and 2020 (wave 3) rounds



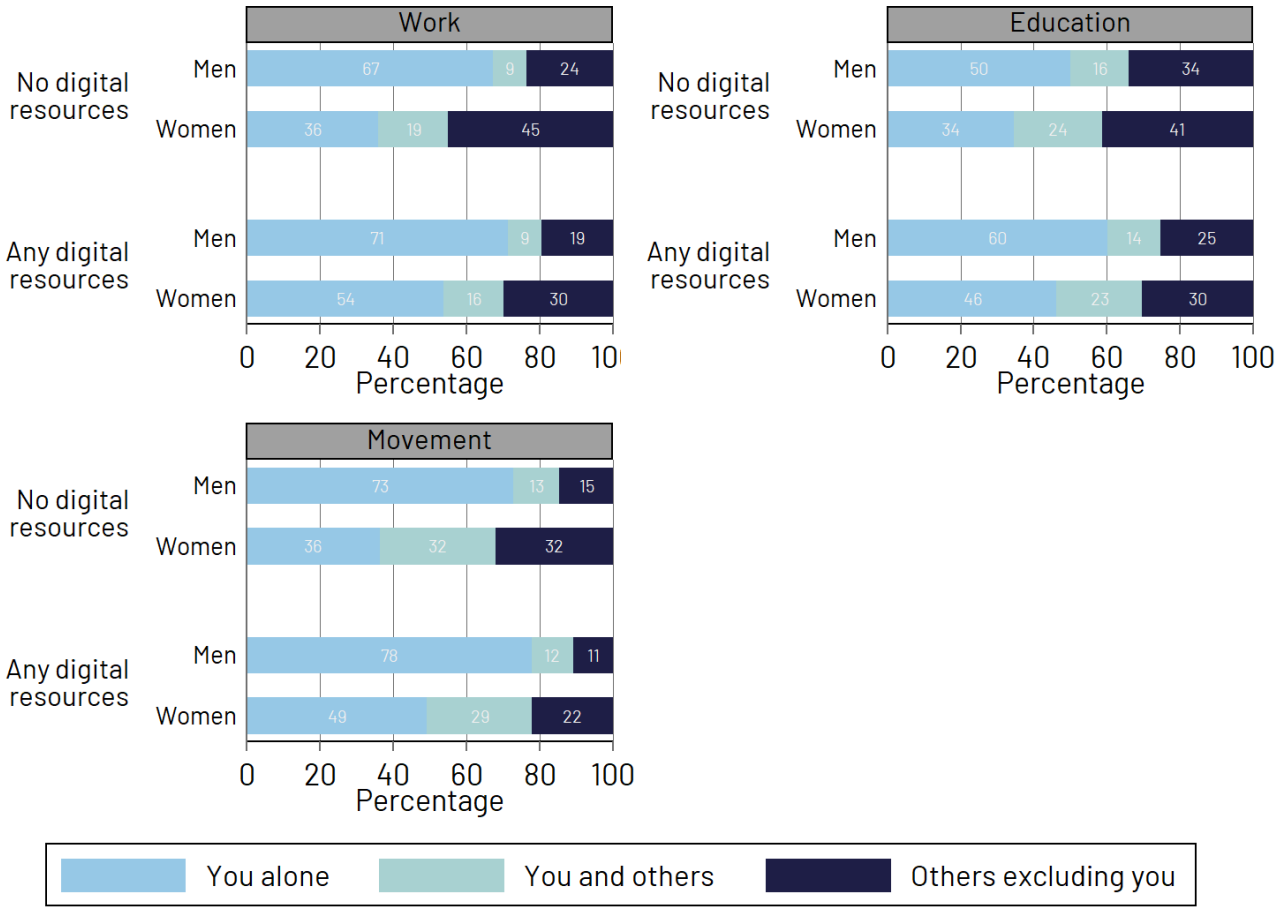
Appendix Figure 2: Access to different forms of digital technology by gender and age groups (percentage). Source: Authors' based on MUVA 2017 (Wave 1) and 2020 (wave 3) rounds



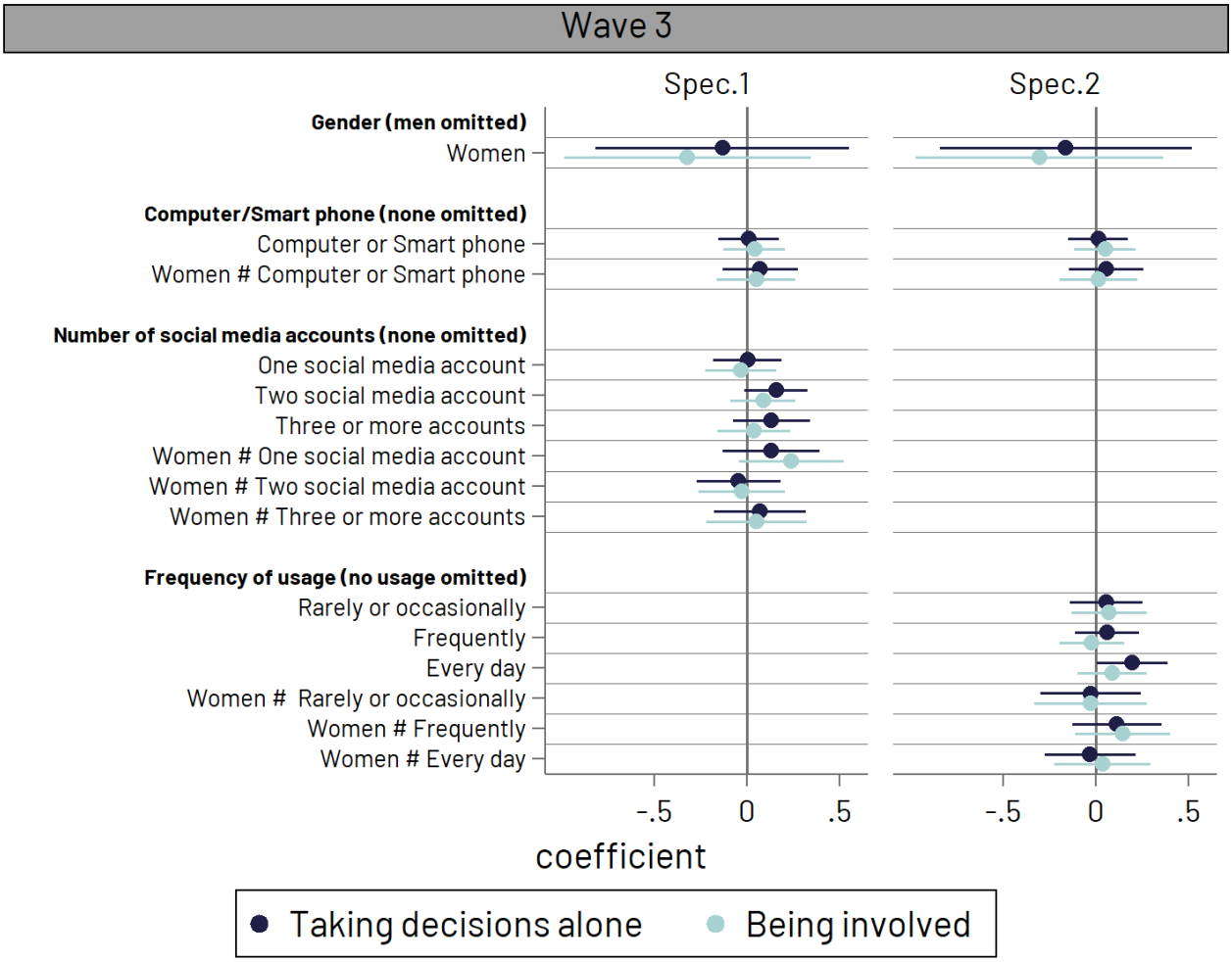
Appendix Figure 3: Access to different forms of digital technology by gender and household asset-based wealth quintiles. Source: Authors' based on MUVA 2018 (Wave 1) and 2020 (wave 3) rounds.



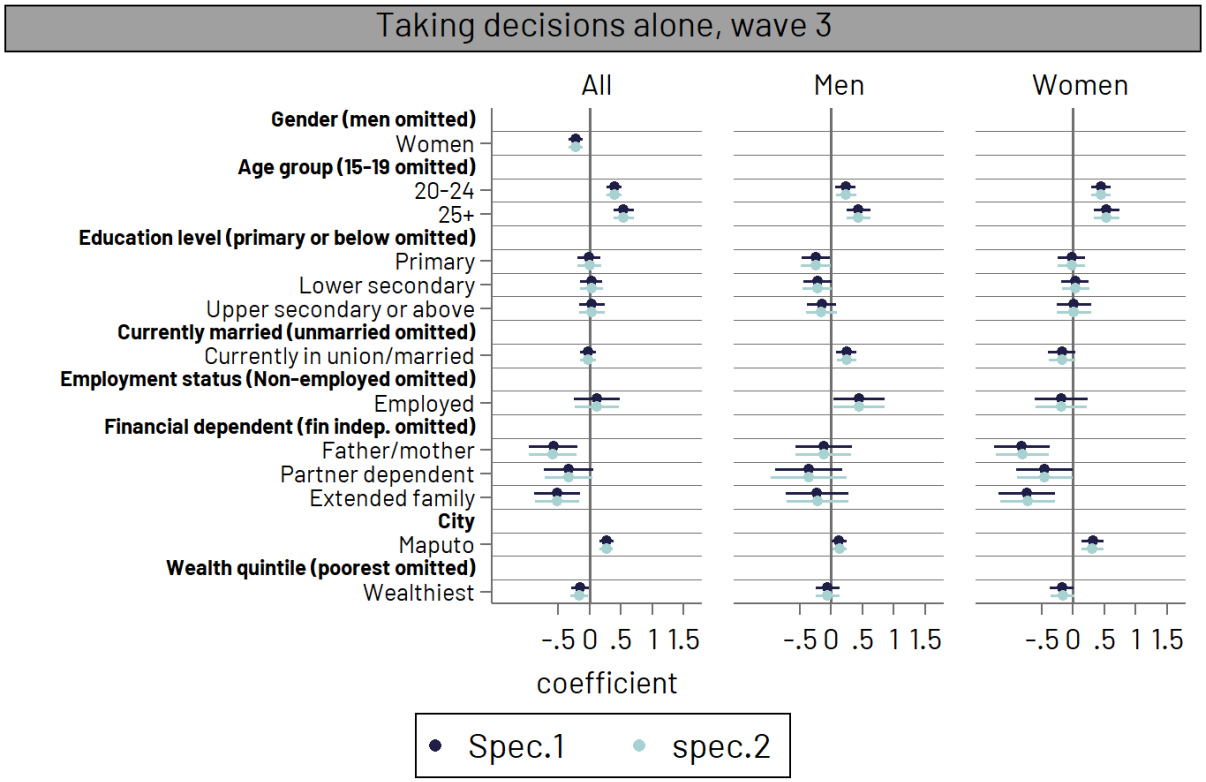
Appendix Figure 4: Who makes decisions about employment, education and movement among young men and young women by whether they have access to digital resources or not (percentage). Source: Author based on MUVA 2020 (wave 3).

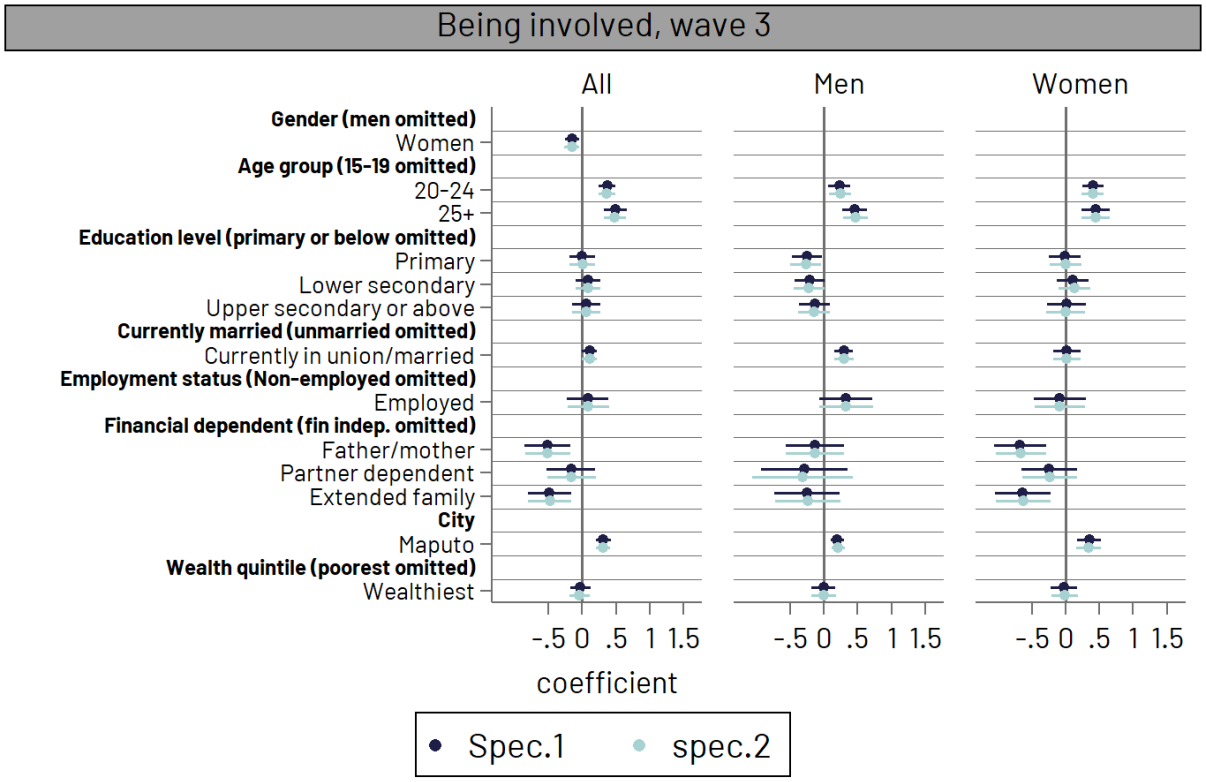


Appendix Figure 5: Associations (OLS regression coefficients) between decision-making and gender, and digital technology, MUVA 2020 round (wave 3). Notes: Model includes individual-level and household-level covariates.

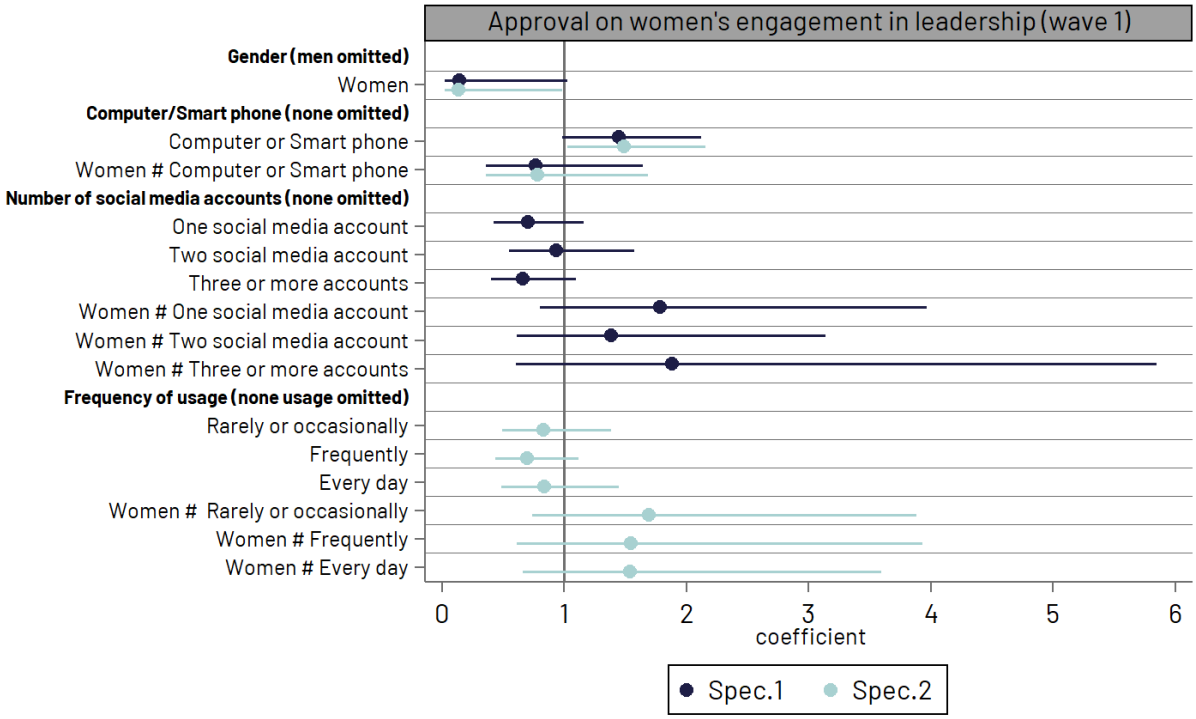


Appendix Figure 6: Relative importance of different factors in decision-making power, MUVA 2020 round (wave 3). Note: Based on OLS regression results. Model includes individual-level and household-level covariates.

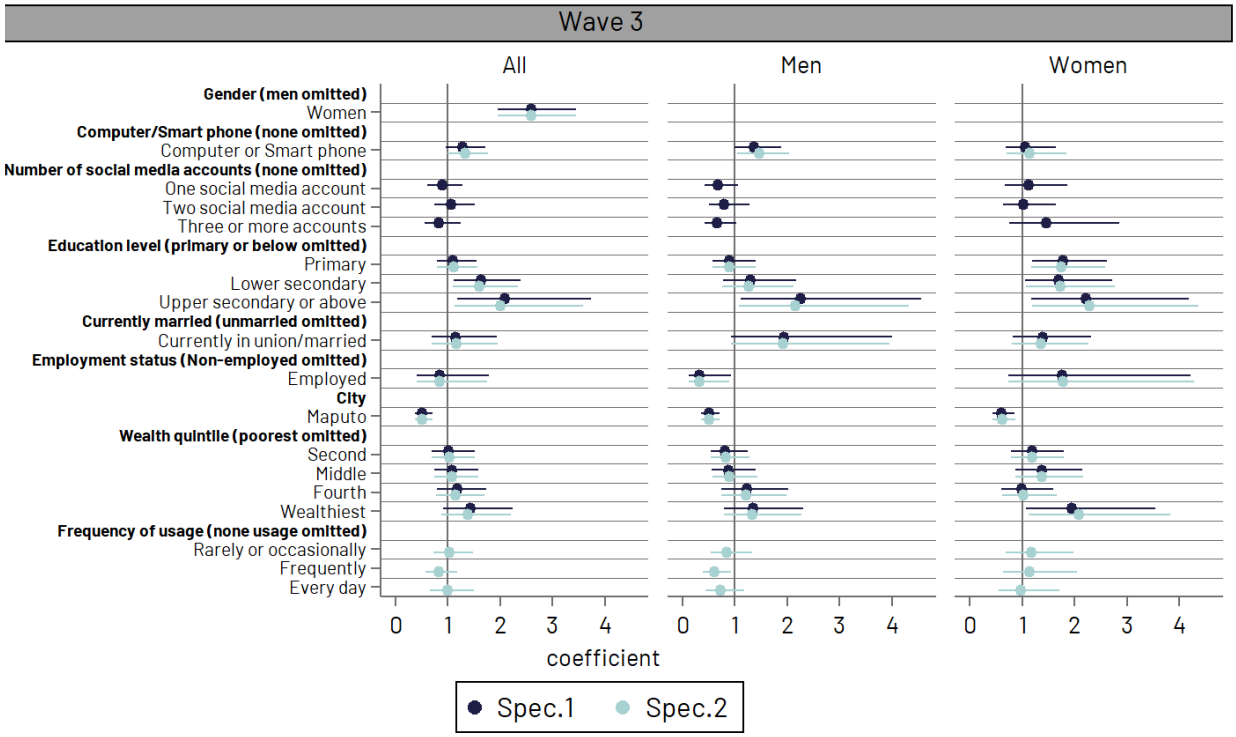




Appendix Figure 7: Logit estimates of the probability of moderately or strongly approving of women's engagement in leadership positions (with gender interactions), MUVA 2017 round (wave 3).



Appendix Figure 8: Logit estimates of the probability of moderately or strongly approving of women's engagement in leadership positions, MUVA 2020 round (wave 3).



Appendix Table 6: OLS regression estimates of decision-making (specification 1 with number of asocial media accounts as main dependant variable on intensity of social media exposure), MUVA datasets.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	All, wave 1 (with no interac-tions)	**All, wave 3 (with no interac-tions)**	**All, wave 1 (with gender interac-tions)**	**All, wave 3 (with gender interac-tions)**	**Men, wave 1**	**Men, wave 3**	**Women, wave 1**	**Women, wave 3**
Gender (Men omit.)								
Women	-0.212***	-0.215***	-0.358	-0.134				
	(0.034)	(0.057)	(0.238)	(0.347)				
Own a smart phone/use of computer (neither omit.)								
Computer or Smart phone	0.006	0.048	0.010	0.008	-0.002	-0.010	0.010	0.078
	(0.037)	(0.053)	(0.049)	(0.083)	(0.045)	(0.069)	(0.053)	(0.066)
Number of social media accounts (no account omit.)								
One social media account	0.121*	0.094	0.141*	0.001	0.099	0.047	0.096	0.132
	(0.047)	(0.064)	(0.066)	(0.093)	(0.060)	(0.091)	(0.057)	(0.096)
Two social media account	0.147**	0.171**	0.192**	0.157	0.134*	0.193*	0.093	0.111
	(0.048)	(0.058)	(0.062)	(0.087)	(0.056)	(0.083)	(0.064)	(0.078)
Three or more accounts	0.114*	0.172*	0.159*	0.132	0.144*	0.169	0.063	0.199*
	(0.051)	(0.070)	(0.070)	(0.105)	(0.059)	(0.091)	(0.065)	(0.087)
Age group (15-19 omit.)								
20-24	0.440***	0.395***	0.452***	0.310***	0.447***	0.228**	0.418***	0.447***
	(0.033)	(0.059)	(0.043)	(0.091)	(0.040)	(0.081)	(0.046)	(0.078)
25+	0.535***	0.541***	0.533***	0.516***	0.521***	0.432***	0.489***	0.540***
	(0.057)	(0.082)	(0.076)	(0.126)	(0.066)	(0.097)	(0.076)	(0.104)
Education level (none or below primary omit.)								
Primary	0.113*	-0.005	0.049	-0.135	0.015	-0.243*	0.149**	-0.020
	(0.045)	(0.093)	(0.072)	(0.127)	(0.062)	(0.116)	(0.054)	(0.111)
Lower secondary	0.177***	0.029	0.130	-0.116	0.104	-0.218	0.202**	0.037
	(0.049)	(0.091)	(0.074)	(0.127)	(0.068)	(0.115)	(0.062)	(0.110)
Upper secondary or above	0.277***	0.039	0.214*	-0.061	0.206*	-0.150	0.303***	0.015
	(0.062)	(0.105)	(0.107)	(0.143)	(0.083)	(0.120)	(0.072)	(0.140)
Marital status (currently unmarried omit.)								
Currently in union/married	0.172***	-0.021	0.435***	0.307***	0.395***	0.243**	0.086	-0.173
	(0.046)	(0.064)	(0.076)	(0.081)	(0.063)	(0.079)	(0.054)	(0.110)
Employment (Non-employed omit.)								

Employed	0.209*	0.119	0.277	0.577**	0.394**	0.442*	0.061	-0.190
	(0.095)	(0.183)	(0.169)	(0.202)	(0.122)	(0.208)	(0.113)	(0.213)
Financial autonomy (financially independent omit.)								
Father/mother	-0.328***	-0.577**	-0.237	-0.082	-0.130	-0.120	-0.434***	-0.814***
	(0.090)	(0.197)	(0.173)	(0.235)	(0.124)	(0.227)	(0.109)	(0.224)
Partner dependent	-0.408***	-0.336	-0.397*	-0.199	-0.234	-0.355	-0.405***	-0.455*
	(0.102)	(0.198)	(0.199)	(0.247)	(0.144)	(0.273)	(0.110)	(0.229)
Extended family	-0.400***	-0.517**	-0.443*	-0.083	-0.282*	-0.227	-0.407**	-0.735**
	(0.109)	(0.183)	(0.199)	(0.255)	(0.135)	(0.251)	(0.124)	(0.227)
Employment and financial autonomy int.								
Employed X Father/mother	-0.110	0.172	-0.145	-0.329	-0.251	-0.295	-0.010	0.475*
	(0.097)	(0.197)	(0.177)	(0.237)	(0.128)	(0.232)	(0.120)	(0.237)
Employed X Partner dependent	-0.031	0.077	-0.682	-0.426	-0.383	0.054	0.106	0.379
	(0.118)	(0.217)	(0.548)	(0.464)	(0.397)	(0.405)	(0.123)	(0.244)
Employed X Extended family	0.027	0.164	0.033	-0.247	-0.106	-0.114	0.132	0.370
	(0.125)	(0.201)	(0.206)	(0.280)	(0.143)	(0.266)	(0.155)	(0.249)
Number of children under 6	0.050**	-0.043	0.058	-0.047	0.077**	-0.011	0.054*	-0.040
	(0.017)	(0.031)	(0.030)	(0.044)	(0.028)	(0.038)	(0.022)	(0.044)
City (Beira omit.)								
Maputo	0.147***	0.270***	0.079	0.164**	0.056	0.126*	0.212***	0.317***
	(0.031)	(0.056)	(0.042)	(0.062)	(0.041)	(0.060)	(0.044)	(0.087)
Household wealth index (poorest omit.)								
Second	-0.051	-0.053	-0.033	0.027	-0.106	0.021	-0.057	-0.107
	(0.041)	(0.078)	(0.061)	(0.115)	(0.055)	(0.091)	(0.051)	(0.093)
Middle	-0.046	-0.097	-0.024	-0.117	-0.097	-0.108	-0.033	-0.085
	(0.042)	(0.077)	(0.061)	(0.104)	(0.053)	(0.091)	(0.053)	(0.101)
Fourth	-0.121**	-0.057	-0.130	-0.045	-0.177**	-0.008	-0.077	-0.046
	(0.044)	(0.083)	(0.073)	(0.118)	(0.062)	(0.102)	(0.056)	(0.115)
Wealthiest	-0.169***	-0.154*	-0.201***	-0.098	-0.214***	-0.055	-0.118	-0.175
	(0.047)	(0.071)	(0.058)	(0.107)	(0.058)	(0.096)	(0.068)	(0.098)
Head of household education level (primary or below omit.)								
Lower secondary	0.007	0.031	-0.023	0.132	-0.034	0.187*	0.021	-0.005
	(0.037)	(0.058)	(0.052)	(0.075)	(0.042)	(0.073)	(0.049)	(0.075)
Upper secondary	-0.012	0.104	-0.029	0.005	-0.059	0.011	0.017	0.195*
	(0.032)	(0.056)	(0.046)	(0.072)	(0.041)	(0.066)	(0.043)	(0.080)
Size of household	-0.032***	-0.018*	-0.039***	-0.028**	-0.040***	-0.035***	-0.026**	-0.006

	(0.006)	(0.009)	(0.011)	(0.011)	(0.009)	(0.009)	(0.009)	(0.014)
Ratio of women to men in the HH	-0.081	-0.203	-0.263*	-0.442*	-0.266**	-0.374*	0.071	-0.024
	(0.065)	(0.120)	(0.102)	(0.185)	(0.088)	(0.156)	(0.102)	(0.147)
Gender and own a smart phone/use of computer int.								
Women X Computer or Smart phone			0.001	0.070				
			(0.072)	(0.104)				
Gender and social media account int.								
Women X One social media account			-0.045	0.131				
			(0.082)	(0.133)				
Women X Two social media account			-0.099	-0.046				
			(0.085)	(0.115)				
Women X Three or more accounts			-0.096	0.067				
			(0.089)	(0.126)				
Gender and age group int.								
Women X 20-24			-0.033	0.137				
			(0.066)	(0.121)				
Women X 25+			-0.044	0.025				
			(0.110)	(0.162)				
Gender and education level int.								
Women X Primary			0.100	0.115				
			(0.085)	(0.165)				
Women X Lower secondary			0.072	0.153				
			(0.092)	(0.166)				
Women X Upper secondary or above			0.090	0.076				
			(0.126)	(0.202)				
Gender and marital status int.								
Women X Currently in union/married			-0.349***	-0.481**				
			(0.092)	(0.144)				
Women X number of children under 6			-0.004	0.007				
			(0.039)	(0.065)				
Gender and employment status int.								

Women X Employed			-0.216	-0.767**				
			(0.199)	(0.283)				
Gender and financial dep. int.								
Women X Father/mother			-0.196	-0.733*				
			(0.211)	(0.320)				
Women X Partner dependent			-0.009	-0.255				
			(0.226)	(0.348)				
Women X Extended family			0.035	-0.651				
			(0.239)	(0.358)				
Gender and employment and financial dep. int.								
Women X Employed X Father/mother			0.136	0.804*				
			(0.214)	(0.323)				
Women X Employed X Partner dependent			0.787	0.804				
			(0.559)	(0.527)				
Women X Employed X Extended family			0.099	0.617				
			(0.245)	(0.376)				
Gender and city int.								
Women X Maputo			0.133*	0.153				
			(0.059)	(0.102)				
Gender and wealth quintile int.								
Women X Second			-0.024	-0.134				
			(0.080)	(0.142)				
Women X Middle			-0.009	0.032				
			(0.079)	(0.145)				
Women X Fourth			0.053	-0.002				
			(0.096)	(0.169)				
Women X Wealthiest			0.083	-0.077				
			(0.087)	(0.152)				
Gender and household head education int.								
Women X Lower secondary			0.044	-0.137				
			(0.068)	(0.101)				

Women X Upper secondary			0.046	0.190				
			(0.061)	(0.107)				
Household size								
Women X Size of household			0.013	0.022				
			(0.015)	(0.019)				
Ratio								
Women X Ratio of women to men in the HH			0.334*	0.418				
			(0.153)	(0.231)				
Constant	0.006	0.010	0.077	-0.055	0.069	0.183	-0.281*	-0.189
	(0.109)	(0.210)	(0.192)	(0.212)	(0.147)	(0.218)	(0.140)	(0.260)
N	3300	1171	3300	1171	1393	524	1907	647.
R-squared	.3203036	.3244771	.3339301	.3581347	.3587423	.3220469	.2536937	.2781024

*Notes: *p<0.05; **p<0.01; *p<0.001. Standard errors (clustered by enumeration areas) in parentheses*

Appendix Table 7: OLS regression estimates of taking decisions alone (specification 2: with frequency of usage as main dependant variable on intensity of social media exposure), MUVA datasets

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	All, wave 1 (with no interactions)	**All, wave 3 (with no interactions)**	**All, wave 1 (with gender interactions)**	**All, wave 3 (with gender interactions)**	**Men, wave 1**	**Men, wave 3**	**Women, wave 1**	**Women, wave 3**
Gender (Men omit.)								
Women	-0.211***	-0.216***	-0.352	-0.160				
	(0.034)	(0.058)	(0.236)	(0.345)				
Own a smart phone/use of computer (neither omit.)								
Computer or Smart phone	0.016	0.049	0.033	0.014	0.007	0.004	0.008	0.071
	(0.036)	(0.052)	(0.050)	(0.082)	(0.047)	(0.067)	(0.050)	(0.065)
Frequency of social media usage (no usage omit.)								
Rarely or occasionally	0.148**	0.068	0.186**	0.057	0.107	0.117	0.103	0.030
	(0.048)	(0.074)	(0.062)	(0.100)	(0.058)	(0.098)	(0.064)	(0.103)
Frequently	0.117*	0.143*	0.160*	0.063	0.142*	0.113	0.056	0.178*
	(0.048)	(0.059)	(0.062)	(0.088)	(0.057)	(0.086)	(0.064)	(0.087)
Every day	0.120*	0.214**	0.133	0.199*	0.112	0.193*	0.106	0.169
	(0.051)	(0.065)	(0.073)	(0.098)	(0.062)	(0.087)	(0.066)	(0.087)
Age group (15-19 omit.)								
20-24	0.440***	0.394***	0.454***	0.310***	0.447***	0.240**	0.419***	0.449***
	(0.033)	(0.058)	(0.044)	(0.090)	(0.040)	(0.082)	(0.046)	(0.078)
25+	0.537***	0.541***	0.536***	0.509***	0.521***	0.437***	0.488***	0.540***

	(0.057)	(0.082)	(0.075)	(0.126)	(0.066)	(0.097)	(0.077)	(0.104)
Education level (none or below primary omit.)								
Primary	0.113*	-0.001	0.048	-0.137	0.014	-0.249*	0.151**	-0.020
	(0.045)	(0.094)	(0.072)	(0.134)	(0.062)	(0.120)	(0.054)	(0.110)
Lower secondary	0.176***	0.033	0.129	-0.122	0.108	-0.220	0.201**	0.047
	(0.049)	(0.091)	(0.073)	(0.135)	(0.068)	(0.119)	(0.062)	(0.110)
Upper secondary or above	0.275***	0.040	0.217*	-0.074	0.215*	-0.154	0.298***	0.015
	(0.063)	(0.104)	(0.107)	(0.146)	(0.084)	(0.123)	(0.073)	(0.139)
Marital status (currently unmarried omit.)								
Currently in union/ married	0.173***	-0.020	0.433***	0.316***	0.395***	0.251**	0.089	-0.170
	(0.046)	(0.063)	(0.075)	(0.081)	(0.062)	(0.080)	(0.053)	(0.109)
Employment (non-employed omit.)								
Employed	0.208*	0.116	0.278	0.570**	0.397**	0.446*	0.065	-0.185
	(0.095)	(0.178)	(0.166)	(0.206)	(0.122)	(0.207)	(0.115)	(0.204)
Financial autonomy (financially independent omit.)								
Father/ mother	-0.330***	-0.588**	-0.236	-0.088	-0.125	-0.122	-0.432***	-0.805***
	(0.090)	(0.191)	(0.171)	(0.233)	(0.124)	(0.226)	(0.110)	(0.216)
Partner dependent	-0.407***	-0.336	-0.356	-0.157	-0.221	-0.358	-0.402***	-0.446*
	(0.102)	(0.192)	(0.189)	(0.273)	(0.144)	(0.303)	(0.110)	(0.222)
Extended family	-0.397***	-0.520**	-0.437*	-0.076	-0.277*	-0.216	-0.395**	-0.723**
	(0.108)	(0.177)	(0.195)	(0.260)	(0.134)	(0.248)	(0.124)	(0.220)
Employment and financial autonomy int.								
Employed X Father/ mother	-0.108	0.181	-0.147	-0.326	-0.255*	-0.298	-0.015	0.484*
	(0.097)	(0.191)	(0.174)	(0.236)	(0.128)	(0.229)	(0.122)	(0.229)
Employed X Partner dependent	-0.031	0.076	-0.710	-0.478	-0.380	0.054	0.101	0.368
	(0.117)	(0.213)	(0.547)	(0.460)	(0.395)	(0.419)	(0.125)	(0.236)
Employed X Extended family	0.022	0.159	0.023	-0.265	-0.110	-0.131	0.122	0.374
	(0.124)	(0.196)	(0.202)	(0.285)	(0.143)	(0.262)	(0.156)	(0.241)
Number of children under 6	0.049**	-0.043	0.055	-0.043	0.076**	-0.011	0.053*	-0.037
	(0.017)	(0.031)	(0.030)	(0.042)	(0.028)	(0.038)	(0.023)	(0.044)
City (Beira omit.)								
Maputo	0.146***	0.267***	0.079	0.165**	0.057	0.134*	0.210***	0.315***

	(0.031)	(0.056)	(0.042)	(0.061)	(0.041)	(0.059)	(0.045)	(0.087)
Household wealth index (poorest omit.)								
Second	-0.050	-0.058	-0.032	0.013	-0.105	0.012	-0.058	-0.113
	(0.041)	(0.078)	(0.061)	(0.115)	(0.055)	(0.092)	(0.051)	(0.094)
Middle	-0.045	-0.102	-0.020	-0.120	-0.093	-0.111	-0.033	-0.083
	(0.042)	(0.077)	(0.060)	(0.104)	(0.053)	(0.091)	(0.054)	(0.099)
Fourth	-0.123**	-0.067	-0.130	-0.064	-0.174**	-0.020	-0.083	-0.040
	(0.045)	(0.084)	(0.073)	(0.119)	(0.062)	(0.102)	(0.057)	(0.113)
Wealthiest	-0.171***	-0.166*	-0.198***	-0.103	-0.210***	-0.057	-0.128	-0.161
	(0.047)	(0.069)	(0.058)	(0.107)	(0.058)	(0.097)	(0.069)	(0.096)
Head of household education level (primary or below omit.)								
Lower secondary	0.008	0.022	-0.021	0.122	-0.033	0.186*	0.018	0.001
	(0.037)	(0.058)	(0.053)	(0.077)	(0.042)	(0.074)	(0.049)	(0.075)
Upper secondary	-0.011	0.095	-0.027	-0.003	-0.058	0.007	0.015	0.182*
	(0.032)	(0.054)	(0.047)	(0.070)	(0.040)	(0.066)	(0.044)	(0.081)
Size of household	-0.032***	-0.018*	-0.038***	-0.029**	-0.040***	-0.035***	-0.025**	-0.007
	(0.006)	(0.009)	(0.011)	(0.011)	(0.009)	(0.009)	(0.009)	(0.014)
Ratio of women to men in the HH	-0.078	-0.198	-0.254*	-0.427*	-0.269**	-0.361*	0.069	-0.026
	(0.065)	(0.118)	(0.102)	(0.189)	(0.088)	(0.159)	(0.102)	(0.147)
Gender and own a smart phone/use of computer int.								
Women X Computer or Smart phone			-0.025	0.057				
			(0.071)	(0.102)				
Gender and frequency of usage int.								
Women X Rarely or occasionally			-0.083	-0.026				
			(0.082)	(0.138)				
Women X Frequently			-0.104	0.114				
			(0.082)	(0.122)				
Women X Every day			-0.027	-0.030				
			(0.097)	(0.125)				
Gender and age group int.								
Women X 20-24			-0.035	0.138				
			(0.066)	(0.120)				
Women X 25+			-0.048	0.031				

			(0.109)	(0.160)				
Gender and education level int.								
Women X Primary			0.103	0.117				
			(0.085)	(0.169)				
Women X Lower secondary			0.072	0.168				
			(0.092)	(0.173)				
Women X Upper secondary or above			0.081	0.089				
			(0.128)	(0.203)				
Gender and marital status int.								
Women X Currently in union/ married			-0.344***	-0.486***				
			(0.092)	(0.145)				
Women X number of children under 6			-0.002	0.006				
			(0.039)	(0.063)				
Gender and employment status int.								
Women X Employed			-0.213	-0.754**				
			(0.198)	(0.278)				
Gender and financial dep. int.								
Women X Father/ mother			-0.196	-0.717*				
			(0.209)	(0.311)				
Women X Partner dependent			-0.045	-0.289				
			(0.219)	(0.364)				
Women X Extended family			0.042	-0.648				
			(0.235)	(0.358)				
Gender and employment and financial dep. int.								
Women X Employed X Father/ mother			0.132	0.810*				
			(0.212)	(0.317)				
Women X Employed X Partner dependent			0.811	0.846				

			(0.559)	(0.521)				
Women X Employed X Extended family			0.099	0.639				
			(0.242)	(0.376)				
Gender and city int.								
Women X Maputo			0.131*	0.150				
			(0.059)	(0.101)				
Gender and wealth quintile int.								
Women X Second			-0.026	-0.126				
			(0.080)	(0.143)				
Women X Middle			-0.013	0.037				
			(0.079)	(0.145)				
Women X Fourth			0.047	0.024				
			(0.097)	(0.169)				
Women X Wealthiest			0.071	-0.058				
			(0.088)	(0.151)				
Gender and household head education int.								
Women X Lower secondary			0.039	-0.120				
			(0.069)	(0.102)				
Women X Upper secondary			0.042	0.186				
			(0.062)	(0.105)				
Household size								
Women X Size of household			0.013	0.022				
			(0.015)	(0.019)				
Ratio								
Women X Ratio of women to men in the HH			0.323*	0.401				
			(0.153)	(0.236)				
Constant	0.002	0.017	0.067	-0.037	0.060	0.170	-0.285*	-0.197
	(0.108)	(0.208)	(0.190)	(0.218)	(0.148)	(0.221)	(0.140)	(0.255)
N	3300	1171	3300	1171	1393	524	1907	647
R-squared	.3202017	.3268633	.3340744	.3598618	.3587314	.3201295	.2540214	.2797779

*Notes: *p<0.05; **p<0.01; *p<0.001. Standard errors (clustered by enumeration areas) in parentheses*

Appendix Table 8 OLS regression estimations of being involved in decision-making (specification 1), MUVA datasets

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	All, wave 1 (with no interactions)	**All, wave 3 (with no interactions)**	**All, wave 1 (with gender interactions)**	**All, wave 3 (with gender interactions)**	**Men, wave 1**	**Men, wave 3**	**Women, wave 1**	**Women, wave 3**
Gender (men omit.)								
Women	-0.159***	-0.149**	-0.489*	-0.322				
	(0.037)	(0.056)	(0.237)	(0.338)				
Own a smart phone/use of computer (neither omit.)								
Computer or Smart phone	0.014	0.063	-0.009	0.039	-0.031	0.018	0.028	0.088
	(0.039)	(0.053)	(0.047)	(0.085)	(0.047)	(0.066)	(0.055)	(0.069)
Number of social media accounts (no account omit.)								
One social media account	0.122*	0.101	0.153*	-0.035	0.103	0.005	0.083	0.204*
	(0.053)	(0.066)	(0.070)	(0.096)	(0.061)	(0.089)	(0.069)	(0.103)
Two social media account	0.130**	0.096	0.204***	0.085	0.159**	0.130	0.051	0.055
	(0.050)	(0.064)	(0.057)	(0.088)	(0.054)	(0.076)	(0.067)	(0.088)
Three or more accounts	0.084	0.070	0.162*	0.038	0.166**	0.099	0.008	0.088
	(0.053)	(0.071)	(0.069)	(0.100)	(0.060)	(0.080)	(0.067)	(0.104)
Age group (15-19 omit.)								
20-24	0.387***	0.370***	0.382***	0.311**	0.376***	0.226**	0.385***	0.401***
	(0.034)	(0.063)	(0.045)	(0.099)	(0.042)	(0.083)	(0.048)	(0.080)
25+	0.449***	0.487***	0.462***	0.513***	0.440***	0.452***	0.417***	0.448***
	(0.052)	(0.085)	(0.063)	(0.127)	(0.061)	(0.091)	(0.075)	(0.107)
Education level (none or below primary omit.)								
Primary	0.108*	0.001	0.052	-0.171	0.037	-0.254*	0.141*	-0.009
	(0.046)	(0.096)	(0.070)	(0.129)	(0.062)	(0.113)	(0.061)	(0.119)
Lower secondary	0.195***	0.084	0.130	-0.104	0.129	-0.212	0.236***	0.109
	(0.051)	(0.094)	(0.073)	(0.129)	(0.067)	(0.111)	(0.068)	(0.118)
Upper secondary or above	0.280***	0.063	0.192	-0.053	0.213**	-0.139	0.333***	0.013
	(0.062)	(0.107)	(0.098)	(0.144)	(0.080)	(0.117)	(0.078)	(0.146)
Marital status (currently unmarried omit.)								
Currently in union/ married	0.253***	0.109	0.364***	0.344***	0.347***	0.294***	0.244***	0.017

	(0.043)	(0.056)	(0.058)	(0.075)	(0.052)	(0.071)	(0.059)	(0.104)
Employment (Non-employed omit.)								
Employed	0.206*	0.082	0.260	0.380	0.359**	0.321	0.111	-0.087
	(0.094)	(0.157)	(0.162)	(0.217)	(0.120)	(0.200)	(0.122)	(0.196)
Financial autonomy (financially independent omit.)								
Father/ mother	-0.176	-0.516**	-0.117	-0.181	-0.030	-0.136	-0.231	-0.676***
	(0.091)	(0.170)	(0.168)	(0.246)	(0.122)	(0.219)	(0.119)	(0.194)
Partner dependent	-0.162	-0.168	0.587**	-0.107	0.713***	-0.289	-0.172	-0.243
	(0.098)	(0.183)	(0.190)	(0.298)	(0.141)	(0.327)	(0.118)	(0.210)
Extended family	-0.230*	-0.487**	-0.275	-0.210	-0.146	-0.252	-0.202	-0.634**
	(0.110)	(0.163)	(0.195)	(0.268)	(0.134)	(0.247)	(0.133)	(0.208)
Employment and financial autonomy int.								
Employed X Father/ mother	-0.129	0.236	-0.145	-0.076	-0.225	-0.106	-0.081	0.377
	(0.097)	(0.174)	(0.173)	(0.249)	(0.126)	(0.223)	(0.130)	(0.221)
Employed X Partner dependent	-0.048	0.147	-1.314**	-0.108	-1.038**	0.218	0.039	0.304
	(0.116)	(0.195)	(0.465)	(0.379)	(0.341)	(0.368)	(0.133)	(0.231)
Employed X Extended family	-0.031	0.221	-0.020	-0.016	-0.124	0.018	0.014	0.287
	(0.122)	(0.179)	(0.204)	(0.288)	(0.144)	(0.259)	(0.160)	(0.234)
Number of children under 6	0.033	-0.066*	0.045	-0.059	0.065*	-0.030	0.033	-0.069
	(0.019)	(0.033)	(0.031)	(0.044)	(0.028)	(0.038)	(0.025)	(0.049)
City (Beira omit.)								
Maputo	0.174***	0.314***	0.073	0.231***	0.059	0.200***	0.265***	0.348***
	(0.034)	(0.054)	(0.044)	(0.055)	(0.042)	(0.051)	(0.050)	(0.091)
Household wealth index (poorest omit.)								
Second	-0.029	-0.049	-0.059	0.050	-0.115*	0.032	-0.009	-0.117
	(0.044)	(0.079)	(0.066)	(0.107)	(0.055)	(0.082)	(0.056)	(0.097)
Middle	-0.036	-0.023	-0.019	-0.034	-0.084	-0.042	-0.032	-0.007
	(0.042)	(0.076)	(0.062)	(0.100)	(0.053)	(0.083)	(0.057)	(0.103)
Fourth	-0.117*	0.002	-0.117	-0.002	-0.143*	0.024	-0.082	0.021
	(0.046)	(0.087)	(0.074)	(0.108)	(0.062)	(0.094)	(0.059)	(0.128)
Wealthiest	-0.139**	-0.031	-0.202***	-0.009	-0.200***	-0.006	-0.063	-0.024
	(0.049)	(0.077)	(0.059)	(0.104)	(0.056)	(0.090)	(0.078)	(0.099)
Head of household education level (primary or below omit.)								

Lower secondary	-0.014	0.047	-0.054	0.116	-0.065	0.175*	0.014	0.040
	(0.043)	(0.062)	(0.056)	(0.078)	(0.044)	(0.069)	(0.059)	(0.085)
Upper secondary	-0.034	0.083	-0.069	-0.032	-0.089*	-0.029	0.006	0.196*
	(0.033)	(0.055)	(0.047)	(0.067)	(0.041)	(0.060)	(0.044)	(0.082)
Household size								
Size of household	-0.024***	-0.010	-0.034**	-0.020	-0.033***	-0.025**	-0.014	0.004
	(0.007)	(0.009)	(0.011)	(0.011)	(0.009)	(0.009)	(0.011)	(0.014)
Ratio								
Ratio of women to men in the HH	-0.042	-0.126	-0.160	-0.382*	-0.173	-0.295*	0.116	0.086
	(0.070)	(0.115)	(0.101)	(0.166)	(0.089)	(0.143)	(0.111)	(0.158)
Gender and own a smart phone use of computer int.								
Women X Computer or Smart phone			0.037	0.049				
			(0.069)	(0.107)				
Gender and Social media account int.								
Women X One social media account			-0.070	0.239				
			(0.090)	(0.144)				
Women X Two social media account			-0.153	-0.030				
			(0.080)	(0.118)				
Women X Three or more accounts			-0.155	0.050				
			(0.088)	(0.139)				
Gender and Age group int.								
Women X 20-24			0.003	0.090				
			(0.067)	(0.127)				
Women X 25+			-0.045	-0.065				
			(0.102)	(0.165)				
Gender and education level int.								
Women X Primary			0.089	0.161				
			(0.092)	(0.175)				

Women X Lower secondary			0.106	0.212				
			(0.096)	(0.175)				
Women X Upper secondary or above			0.140	0.065				
			(0.123)	(0.209)				
Gender and marital status int.								
Women X Currently in union/ married			-0.120	-0.327*				
			(0.085)	(0.135)				
Women X number of children under 6			-0.012	-0.010				
			(0.039)	(0.069)				
Gender and employment status int.								
Women X Employed			-0.148	-0.468				
			(0.200)	(0.287)				
Gender and financial dep. int.								
Women X Father/ mother			-0.114	-0.494				
			(0.211)	(0.315)				
Women X Partner dependent			-0.759***	-0.135				
			(0.226)	(0.368)				
Women X Extended family			0.074	-0.424				
			(0.237)	(0.349)				
Gender and employment and financial dep. int.								
Women X Employed X Father/ mother			0.064	0.453				
			(0.219)	(0.326)				
Women X Employed X Partner dependent			1.354**	0.412				
			(0.484)	(0.448)				
Women X Employed X Extended family			0.034	0.302				
			(0.258)	(0.381)				

Gender and city int.								
Women X Maputo			0.192**	0.117				
			(0.065)	(0.104)				
Gender and wealth quintile int.								
Women X Second			0.050	-0.167				
			(0.088)	(0.136)				
Women X Middle			-0.013	0.027				
			(0.087)	(0.142)				
Women X Fourth			0.036	0.023				
			(0.098)	(0.171)				
Women X Wealthiest			0.139	-0.016				
			(0.099)	(0.142)				
Gender and household head education int.								
Women X Lower secondary			0.068	-0.076				
			(0.078)	(0.109)				
Women X Upper secondary			0.075	0.228*				
			(0.063)	(0.101)				
Household size								
Women X Size of household			0.019	0.024				
			(0.016)	(0.019)				
Ratio								
Women X Ratio of women to men in the HH			0.277	0.469*				
			(0.154)	(0.230)				
Constant	-0.202	-0.221	-0.055	-0.136	-0.101	0.014	-0.544***	-0.458
	(0.115)	(0.186)	(0.185)	(0.232)	(0.143)	(0.221)	(0.157)	(0.236)
N	3300	1171	3300	1171	1393	524	1907	647
R-squared	.2423829	.2683562	.2538186	.2988904	.267591	.2940627	.2214848	.2560888

*Notes: *p<0.05; **p<0.01; *p<0.001. Standard errors (clustered by enumeration areas) in parentheses*

Appendix Table 9 OLS regression estimations of being involved in decision-making (specification 2), MUVA datasets

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	All, wave 1 (with no interactions)	**All, wave 3 (with no interactions)**	**All, wave 1 (with gender interactions)**	**All, wave 3 (with gender interactions)**	**Men, wave 1**	**Men, wave 3**	**Women, wave 1**	**Women, wave 3**
Gender (men omit.)								
Women	-0.158***	-0.150**	-0.482*	-0.304				
	(0.037)	(0.056)	(0.234)	(0.339)				
Own a smart phone/use of computer (neither omit.)								
Computer or Smart phone	0.034	0.057	0.027	0.051	-0.003	0.039	0.037	0.065
	(0.040)	(0.052)	(0.049)	(0.083)	(0.050)	(0.064)	(0.056)	(0.069)
Frequency of social media usage (no usage omit.)								
Rarely or occasionally	0.170***	0.078	0.228***	0.072	0.155**	0.125	0.100	0.045
	(0.050)	(0.080)	(0.059)	(0.103)	(0.055)	(0.096)	(0.067)	(0.119)
Frequently	0.082	0.062	0.147*	-0.020	0.133*	0.041	0.001	0.126
	(0.053)	(0.063)	(0.064)	(0.089)	(0.058)	(0.078)	(0.069)	(0.094)
Every day	0.085	0.131	0.125	0.088	0.106	0.098	0.046	0.126
	(0.058)	(0.068)	(0.075)	(0.095)	(0.062)	(0.079)	(0.075)	(0.101)
Age group (15-19 omit.)								
20-24	0.388***	0.366***	0.386***	0.315**	0.377***	0.241**	0.386***	0.401***
	(0.034)	(0.063)	(0.046)	(0.098)	(0.042)	(0.084)	(0.048)	(0.081)
25+	0.452***	0.483***	0.465***	0.514***	0.439***	0.469***	0.416***	0.443***
	(0.053)	(0.086)	(0.063)	(0.128)	(0.060)	(0.092)	(0.076)	(0.107)
Education level (none or below primary omit.)								
Primary	0.108*	0.004	0.050	-0.184	0.035	-0.268*	0.143*	-0.002
	(0.046)	(0.096)	(0.070)	(0.136)	(0.062)	(0.117)	(0.061)	(0.118)
Lower secondary	0.193***	0.085	0.126	-0.116	0.135*	-0.220	0.235***	0.125
	(0.051)	(0.095)	(0.072)	(0.137)	(0.067)	(0.115)	(0.069)	(0.119)
Upper secondary or above	0.277***	0.055	0.195*	-0.078	0.226**	-0.147	0.325***	0.005
	(0.062)	(0.107)	(0.098)	(0.148)	(0.081)	(0.121)	(0.079)	(0.146)
Marital status (currently unmarried omit.)								
Currently in union/ married	0.253***	0.109	0.363***	0.355***	0.346***	0.303***	0.247***	0.020
	(0.043)	(0.057)	(0.059)	(0.077)	(0.052)	(0.073)	(0.059)	(0.103)
Employment (non-employed omit.)								
Employed	0.208*	0.087	0.262	0.392	0.361**	0.329	0.119	-0.087

	(0.094)	(0.156)	(0.158)	(0.222)	(0.119)	(0.201)	(0.125)	(0.189)
Financial autonomy (financially independent omit.)								
Father/ mother	-0.176	-0.509**	-0.115	-0.163	-0.027	-0.133	-0.226	-0.660***
	(0.091)	(0.168)	(0.163)	(0.246)	(0.121)	(0.220)	(0.120)	(0.190)
Partner dependent	-0.159	-0.160	0.636***	-0.056	0.733***	-0.312	-0.164	-0.238
	(0.098)	(0.182)	(0.176)	(0.340)	(0.139)	(0.378)	(0.118)	(0.206)
Extended family	-0.223*	-0.479**	-0.269	-0.178	-0.146	-0.242	-0.183	-0.623**
	(0.109)	(0.161)	(0.188)	(0.274)	(0.131)	(0.246)	(0.133)	(0.205)
Employment and financial autonomy int.								
Employed X Father/ mother	-0.132	0.227	-0.149	-0.090	-0.230	-0.111	-0.091	0.375
	(0.097)	(0.172)	(0.168)	(0.248)	(0.126)	(0.222)	(0.133)	(0.216)
Employed X Partner dependent	-0.051	0.144	-1.349**	-0.176	-1.031**	0.231	0.031	0.304
	(0.115)	(0.194)	(0.464)	(0.401)	(0.341)	(0.411)	(0.135)	(0.225)
Employed X Extended family	-0.042	0.210	-0.032	-0.047	-0.130	0.003	-0.005	0.297
	(0.121)	(0.178)	(0.198)	(0.294)	(0.143)	(0.257)	(0.161)	(0.233)
Number of children under 6	0.032	-0.066*	0.041	-0.053	0.064*	-0.027	0.032	-0.070
	(0.019)	(0.033)	(0.031)	(0.042)	(0.028)	(0.037)	(0.025)	(0.048)
City (Beira omit.)								
Maputo	0.172***	0.311***	0.073	0.235***	0.060	0.209***	0.261***	0.337***
	(0.034)	(0.054)	(0.044)	(0.056)	(0.042)	(0.051)	(0.050)	(0.093)
Household wealth index (poorest omit.)								
Second	-0.028	-0.049	-0.056	0.045	-0.111*	0.031	-0.009	-0.124
	(0.044)	(0.079)	(0.066)	(0.106)	(0.055)	(0.083)	(0.056)	(0.098)
Middle	-0.034	-0.025	-0.014	-0.030	-0.076	-0.039	-0.029	-0.007
	(0.042)	(0.076)	(0.061)	(0.100)	(0.052)	(0.085)	(0.057)	(0.103)
Fourth	-0.119*	-0.006	-0.118	-0.009	-0.139*	0.023	-0.087	0.026
	(0.047)	(0.088)	(0.075)	(0.110)	(0.063)	(0.093)	(0.061)	(0.127)
Wealthiest	-0.141**	-0.040	-0.196**	-0.003	-0.190***	0.001	-0.072	-0.017
	(0.049)	(0.076)	(0.059)	(0.106)	(0.056)	(0.091)	(0.077)	(0.099)
Head of household education level (primary or below omit.)								
Lower secondary	-0.012	0.043	-0.049	0.117	-0.062	0.177*	0.010	0.046
	(0.043)	(0.063)	(0.055)	(0.081)	(0.044)	(0.069)	(0.059)	(0.086)
Upper secondary	-0.034	0.082	-0.064	-0.033	-0.087*	-0.031	0.003	0.188*
	(0.033)	(0.053)	(0.047)	(0.066)	(0.041)	(0.060)	(0.044)	(0.082)

Size of household	-0.023**	-0.010	-0.034**	-0.022	-0.033***	-0.026**	-0.014	0.003
	(0.007)	(0.009)	(0.011)	(0.011)	(0.009)	(0.009)	(0.011)	(0.014)
Ratio of women to men in the HH	-0.035	-0.120	-0.149	-0.368*	-0.176	-0.283	0.116	0.080
	(0.070)	(0.114)	(0.101)	(0.171)	(0.089)	(0.147)	(0.111)	(0.160)
Gender and own a smart phone/use of computer int.								
Women X Computer or Smart phone			0.010	0.015				
			(0.071)	(0.106)				
Gender and frequency of usage int.								
Women X Rarely or occasionally			-0.128	-0.027				
			(0.081)	(0.155)				
Women X Frequently			-0.146	0.146				
			(0.083)	(0.130)				
Women X Every day			-0.079	0.038				
			(0.098)	(0.132)				
Gender and Age group int.								
Women X 20-24			0.001	0.086				
			(0.067)	(0.127)				
Women X 25+			-0.049	-0.072				
			(0.101)	(0.163)				
Gender and education level int.								
Women X Primary			0.093	0.182				
			(0.091)	(0.180)				
Women X Lower secondary			0.108	0.241				
			(0.098)	(0.181)				
Women X Upper secondary or above			0.131	0.082				
			(0.127)	(0.210)				
Gender and marital status int.								
Women X Currently in union/ married			-0.116	-0.335*				
			(0.086)	(0.135)				

Women X number of children under 6			-0.010	-0.017				
			(0.040)	(0.066)				
Gender and employment status int.								
Women X Employed			-0.143	-0.479				
			(0.197)	(0.286)				
Gender and financial dep. Int.								
Women X Father/ mother			-0.111	-0.497				
			(0.206)	(0.311)				
Women X Partner dependent			-0.801***	-0.182				
			(0.215)	(0.401)				
Women X Extended family			0.086	-0.445				
			(0.230)	(0.354)				
Gender and employment and financial dep. Int.								
Women X Employed X Father/ mother			0.058	0.464				
			(0.215)	(0.323)				
Women X Employed X Partner dependent			1.380**	0.480				
			(0.484)	(0.463)				
Women X Employed X Extended family			0.028	0.345				
			(0.252)	(0.388)				
Gender and city int.								
Women X Maputo			0.188**	0.102				
			(0.064)	(0.105)				
Gender and wealth quintile int.								
Women X Second			0.047	-0.169				
			(0.088)	(0.136)				
Women X Middle			-0.015	0.023				
			(0.086)	(0.143)				
Women X Fourth			0.030	0.034				

			(0.099)	(0.172)				
Women X Wealthiest			0.124	-0.015				
			(0.100)	(0.145)				
Gender and household head education int.								
Women X Lower secondary			0.059	-0.071				
			(0.078)	(0.112)				
Women X Upper secondary			0.067	0.220*				
			(0.063)	(0.100)				
Household size								
Women X Size of household			0.020	0.025				
			(0.016)	(0.019)				
Ratio								
Women X Ratio of women to men in the HH			0.265	0.448				
			(0.154)	(0.236)				
Constant	-0.210	-0.221	-0.070	-0.147	-0.112	-0.010	-0.552***	-0.451
	(0.114)	(0.186)	(0.182)	(0.238)	(0.143)	(0.226)	(0.157)	(0.233)
N	3300	1171	3300	1171	1393	524	1907	647
R-squared	.2431402	.2693673	.2545576	.2982139	.2673454	.2924945	.2219334	.254296

Appendix Table 10 Logit estimates (odds ratio) of the probability of accepting women's engagement in leadership position (specification 1), MUVA datasets.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	All, wave 1 (with no interactions)	**All, wave 3 (with no interactions)**	**All, wave 1 (with gender interactions)**	**All, wave 3 (with gender interactions)**	**Men, wave 1**	**Men, wave 3**	**Women, wave 1**	**Women, wave 3**
Gender (Men omit.)								
Women	2.594***	3.299***	0.138	4.108				
	(0.378)	(1.085)	(0.141)	(6.955)				
Own a smart phone/use of computer (neither omit.)								
Computer or Smart phone	1.288	1.607*	1.447	2.116*	1.363	1.401	1.061	1.162
	(0.187)	(0.381)	(0.283)	(0.659)	(0.227)	(0.408)	(0.240)	(0.413)
Number of social media accounts (no account omit.)								

One social media account	0.887	0.893	0.700	0.731	0.671	0.846	1.120	1.679
	(0.165)	(0.355)	(0.181)	(0.389)	(0.158)	(0.343)	(0.292)	(0.939)
Two social media account	1.058	2.061*	0.931	1.734	0.799	1.805	1.028	1.344
	(0.194)	(0.742)	(0.249)	(0.857)	(0.190)	(0.686)	(0.245)	(0.626)
Three or more accounts	0.834	1.159	0.663	0.896	0.659	1.264	1.468	1.142
	(0.173)	(0.494)	(0.170)	(0.541)	(0.150)	(0.563)	(0.497)	(0.642)
Age group (15-19 omit.)								
20-24	1.060	0.683	1.132	1.173	0.966	0.933	1.100	0.415*
	(0.137)	(0.225)	(0.228)	(0.548)	(0.169)	(0.362)	(0.205)	(0.179)
25+	1.016	0.862	0.756	0.940	0.898	0.992	1.767	0.927
	(0.256)	(0.329)	(0.275)	(0.495)	(0.287)	(0.423)	(0.579)	(0.476)
Education level (none or below primary omit.)								
Primary	1.103	1.567	0.768	1.012	0.889	1.909	1.775**	1.628
	(0.191)	(0.702)	(0.201)	(0.647)	(0.202)	(1.010)	(0.354)	(0.793)
Lower secondary	1.632*	1.496	1.185	0.680	1.299	1.130	1.695*	3.743*
	(0.315)	(0.721)	(0.367)	(0.466)	(0.342)	(0.680)	(0.409)	(2.226)
Upper secondary or above	2.094*	2.339	1.903	0.827	2.251*	1.658	2.217*	4.956*
	(0.616)	(1.280)	(0.789)	(0.615)	(0.809)	(1.048)	(0.717)	(3.428)
Marital status (currently unmarried omit.)								
Currently in union/ married	1.151	2.319*	1.345	2.754	1.931	1.704	1.389	1.349
	(0.305)	(0.849)	(0.638)	(1.690)	(0.719)	(0.881)	(0.365)	(0.747)
Employment (Non-employed omit.)								
Employed	0.850	1.029	0.431	0.881	0.324*	0.919	1.763	5.884
	(0.323)	(0.713)	(0.291)	(0.742)	(0.174)	(0.783)	(0.784)	(7.556)
Financial autonomy (financially independent omit.)								
Father/ mother	0.822	0.831	0.383	0.895	0.315*	1.245	1.416	1.195
	(0.333)	(0.623)	(0.271)	(0.876)	(0.172)	(1.178)	(0.624)	(1.041)
Partner dependent	0.707	0.417	5.423	1.435	0.790	0.256	0.945	0.911
	(0.354)	(0.337)	(9.855)	(2.738)	(0.981)	(0.215)	(0.452)	(0.811)
Extended family	0.984	3.058	0.561	9.205	0.362	2.401	1.586	1.225
	(0.456)	(2.620)	(0.437)	(10.977)	(0.207)	(2.750)	(0.791)	(1.223)
Employment and financial autonomy int.								

Employed X Father/ mother	1.415	0.928	3.157	1.226	4.540*	0.813	0.572	0.152
	(0.608)	(0.748)	(2.325)	(1.263)	(2.701)	(0.824)	(0.297)	(0.208)
Employed X Partner dependent	1.260	0.945	0.679	0.083			0.548	0.165
	(0.646)	(0.858)	(0.391)	(0.134)			(0.267)	(0.229)
Employed X Extended family	1.535	0.202	2.875	0.065*	3.321	0.210	0.665	0.238
	(0.773)	(0.187)	(2.371)	(0.082)	(2.098)	(0.257)	(0.415)	(0.369)
Number of children under 6	1.037	0.985	1.127	0.954	1.004	0.900	1.008	1.126
	(0.088)	(0.143)	(0.142)	(0.238)	(0.105)	(0.197)	(0.092)	(0.173)
City (Beira omit.)								
Maputo	0.512***	0.432**	0.469***	0.305***	0.505***	0.413**	0.608**	0.554
	(0.085)	(0.112)	(0.105)	(0.106)	(0.087)	(0.126)	(0.105)	(0.177)
Household wealth index (poorest omit.)								
Second	1.018	1.385	0.811	1.716	0.815	0.976	1.197	0.911
	(0.206)	(0.418)	(0.223)	(0.642)	(0.178)	(0.348)	(0.250)	(0.481)
Middle	1.084	0.866	0.838	2.050	0.882	1.299	1.373	0.424
	(0.210)	(0.270)	(0.231)	(0.800)	(0.207)	(0.449)	(0.316)	(0.214)
Fourth	1.175	1.760	1.280	3.942**	1.223	1.780	0.989	0.686
	(0.235)	(0.656)	(0.399)	(1.865)	(0.312)	(0.736)	(0.243)	(0.374)
Wealthiest	1.428	1.585	1.236	4.496**	1.352	2.643*	1.956*	0.564
	(0.329)	(0.672)	(0.405)	(2.488)	(0.367)	(1.268)	(0.596)	(0.325)
Head of household education level (primary or below omit.)								
Lower secondary	0.717	1.826	0.543*	1.516	0.581**	1.175	0.880	2.066
	(0.124)	(0.635)	(0.133)	(0.707)	(0.107)	(0.436)	(0.165)	(1.052)
Upper secondary	0.783	1.244	0.710	1.538	0.783	1.165	0.913	1.216
	(0.110)	(0.348)	(0.138)	(0.543)	(0.129)	(0.350)	(0.160)	(0.425)
Size of household	0.993	1.027	0.965	1.056	0.987	1.065	1.043	0.983
	(0.028)	(0.039)	(0.040)	(0.067)	(0.034)	(0.058)	(0.041)	(0.056)
Ratio of women to men in the HH	0.817	0.861	0.717	0.477	0.795	0.405	1.176	1.519
	(0.257)	(0.467)	(0.307)	(0.404)	(0.289)	(0.282)	(0.500)	(1.228)
Gender and own a smart phone/use of computer int.								
Women X Computer or Smart phone			0.769	0.538				
			(0.297)	(0.269)				

Gender and social media account int.								
Women X One social media account			1.783	1.471				
			(0.728)	(1.126)				
Women X Two social media account			1.383	1.213				
			(0.579)	(0.835)				
Women X Three or more accounts			1.882	1.785				
			(1.089)	(1.541)				
Gender and age group int.								
Women X 20-24			0.843	0.234*				
			(0.259)	(0.157)				
Women X 25+			1.955	1.047				
			(1.106)	(0.718)				
Gender and education level int.								
Women X Primary			1.919	2.557				
			(0.653)	(2.243)				
Women X Lower secondary			1.629	6.276*				
			(0.700)	(5.679)				
Women X Upper secondary or above			1.003	11.744*				
			(0.544)	(11.973)				
Gender and marital status int.								
Women X Currently in union/ married			0.965	1.133				
			(0.551)	(1.062)				
Women X number of children under 6			0.845	1.134				
			(0.143)	(0.393)				
Gender and employment status int.								
Women X Employed			3.452	13.705				
			(2.960)	(23.878)				
Gender and financial dep. Int.								

Women X Father/ mother			4.576	0.925				
			(3.819)	(1.380)				
Women X Partner dependent			0.249	0.292				
			(0.438)	(0.459)				
Women X Extended family			2.624	0.169				
			(2.513)	(0.292)				
Gender and employment and Financial dep. Int.								
Women X Employed X Father/ mother			0.210	0.055				
			(0.193)	(0.104)				
Women X Employed X Extended family			0.360	0.920				
			(0.414)	(2.027)				
Gender and city int.								
Women X Maputo			1.064	1.957				
			(0.313)	(1.000)				
Gender and wealth quintile int.								
Women X Second			1.650	0.774				
			(0.539)	(0.569)				
Women X Middle			1.715	0.146**				
			(0.668)	(0.106)				
Women X Fourth			0.815	0.159*				
			(0.359)	(0.126)				
Women X Wealthiest			1.454	0.086**				
			(0.689)	(0.073)				
Gender and household head education int.								
Women X Lower secondary			1.747	1.088				
			(0.550)	(0.842)				
Women X Upper secondary			1.184	0.646				
			(0.332)	(0.353)				
Household size								

Women X Size of household			1.084	0.926				
			(0.070)	(0.088)				
Ration								
Women X Ratio of women to men in the HH			1.685	3.333				
			(1.199)	(4.289)				
N	3300	1174	3299	1172	1392	522	1907	650

*Notes: *p<0.05; **p<0.01; *p<0.001. Standard errors (clustered by enumeration areas) in parentheses*

Appendix Table 11: Logit estimates (odds ratio) of the probability of accepting women's engagement in leadership position (specification 2), MUVA datasets.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	All, wave 1 (with no interactions)	**All, wave 3 (with no interactions)**	**All, wave 1 (with gender interactions)**	**All, wave 3 (with gender interactions)**	**Men, wave 1**	**Men, wave 3**	**Women, wave 1**	**Women, wave 3**
Gender (Men omit.)								
Women	2.589***	3.316***	0.135*	4.513				
	(0.377)	(1.086)	(0.136)	(7.641)				
Own a smart phone/use of computer (neither omit.)								
Computer or Smart phone	1.324	1.643*	1.488*	2.200*	1.459*	1.459	1.142	1.125
	(0.193)	(0.379)	(0.281)	(0.681)	(0.250)	(0.419)	(0.280)	(0.392)
Frequency of social media usage (no usage omit.)								
Rarely or occasionally	1.034	0.996	0.828	0.962	0.843	0.914	1.173	1.486
	(0.190)	(0.411)	(0.217)	(0.502)	(0.197)	(0.383)	(0.312)	(0.857)
Frequently	0.832	1.675	0.698	1.283	0.599*	1.325	1.142	1.346
	(0.151)	(0.634)	(0.167)	(0.694)	(0.132)	(0.556)	(0.341)	(0.669)
Every day	0.990	1.408	0.838	1.023	0.723	1.599	0.977	1.379
	(0.207)	(0.581)	(0.234)	(0.607)	(0.180)	(0.677)	(0.280)	(0.635)
Age group (15-19 omit.)								
20-24	1.060	0.699	1.140	1.254	0.971	0.969	1.101	0.409*
	(0.138)	(0.228)	(0.230)	(0.588)	(0.170)	(0.375)	(0.205)	(0.173)
25+	1.026	0.893	0.778	1.006	0.900	0.986	1.753	0.909
	(0.259)	(0.335)	(0.289)	(0.515)	(0.288)	(0.411)	(0.574)	(0.465)
Education level (none or below primary omit.)								
Primary	1.110	1.666	0.777	1.135	0.890	1.982	1.748**	1.664
	(0.193)	(0.737)	(0.204)	(0.744)	(0.203)	(1.061)	(0.348)	(0.811)

Lower secondary	1.604*	1.607	1.144	0.764	1.268	1.163	1.726*	3.832*
	(0.310)	(0.761)	(0.353)	(0.536)	(0.331)	(0.704)	(0.417)	(2.285)
Upper secondary or above	2.010*	2.535	1.746	0.969	2.155*	1.689	2.285*	4.860*
	(0.591)	(1.343)	(0.725)	(0.725)	(0.763)	(1.063)	(0.754)	(3.332)
Marital status (currently unmarried omit.)								
Currently in union/ married	1.165	2.319*	1.367	2.763	1.915	1.708	1.356	1.379
	(0.308)	(0.870)	(0.646)	(1.713)	(0.708)	(0.874)	(0.355)	(0.775)
Employment (non-employed omit.)								
Employed	0.837	0.973	0.417	0.873	0.314*	0.888	1.783	5.692
	(0.314)	(0.659)	(0.280)	(0.762)	(0.166)	(0.764)	(0.799)	(7.279)
Financial autonomy (financially independent omit.)								
Father/ mother	0.805	0.779	0.371	0.880	0.299*	1.164	1.447	1.177
	(0.323)	(0.564)	(0.262)	(0.876)	(0.162)	(1.110)	(0.641)	(1.027)
Partner dependent	0.696	0.415	5.248	1.556	0.785	0.259	0.967	0.882
	(0.344)	(0.330)	(9.401)	(2.976)	(0.957)	(0.223)	(0.463)	(0.784)
Extended family	0.987	2.932	0.548	9.242	0.341	2.436	1.547	1.199
	(0.451)	(2.494)	(0.426)	(11.221)	(0.194)	(2.830)	(0.779)	(1.191)
Employment and financial autonomy int.								
Employed X Father/ mother	1.445	1.030	3.312	1.277	4.700**	0.868	0.566	0.154
	(0.616)	(0.803)	(2.422)	(1.343)	(2.761)	(0.888)	(0.295)	(0.210)
Employed X Partner dependent	1.276	0.943	0.661	0.077			0.533	0.174
	(0.652)	(0.844)	(0.381)	(0.123)			(0.262)	(0.240)
Employed X Extended family	1.537	0.212	2.955	0.065*	3.419*	0.202	0.666	0.245
	(0.768)	(0.198)	(2.414)	(0.084)	(2.142)	(0.251)	(0.417)	(0.379)
Number of children under 6	1.033	1.003	1.121	0.970	1.002	0.896	1.012	1.125
	(0.087)	(0.145)	(0.140)	(0.246)	(0.104)	(0.202)	(0.092)	(0.174)
City (Beira omit.)								
Maputo	0.510***	0.432**	0.470***	0.316**	0.503***	0.421**	0.615**	0.547
	(0.085)	(0.110)	(0.107)	(0.111)	(0.087)	(0.128)	(0.107)	(0.171)
Household wealth index (poorest omit.)								
Second	1.024	1.302	0.820	1.579	0.829	0.920	1.191	0.907
	(0.207)	(0.395)	(0.227)	(0.607)	(0.181)	(0.328)	(0.249)	(0.479)

Middle	1.086	0.835	0.846	1.941	0.900	1.203	1.375	0.418
	(0.210)	(0.256)	(0.233)	(0.749)	(0.210)	(0.406)	(0.318)	(0.209)
Fourth	1.154	1.660	1.257	3.659**	1.213	1.619	1.023	0.674
	(0.231)	(0.608)	(0.392)	(1.754)	(0.306)	(0.664)	(0.255)	(0.371)
Wealthiest	1.383	1.447	1.189	4.122*	1.335	2.440	2.080*	0.551
	(0.328)	(0.621)	(0.395)	(2.299)	(0.361)	(1.159)	(0.649)	(0.313)
Head of household education level (primary or below omit.)								
Lower secondary	0.715	1.682	0.540*	1.397	0.582**	1.130	0.889	2.027
	(0.123)	(0.589)	(0.132)	(0.633)	(0.108)	(0.420)	(0.168)	(1.013)
Upper secondary	0.782	1.163	0.710	1.383	0.785	1.110	0.923	1.220
	(0.110)	(0.326)	(0.138)	(0.507)	(0.129)	(0.337)	(0.161)	(0.420)
Size of household	0.994	1.021	0.961	1.049	0.984	1.065	1.038	0.983
	(0.028)	(0.038)	(0.039)	(0.067)	(0.034)	(0.059)	(0.040)	(0.056)
Ratio of women to men in the HH	0.832	0.909	0.763	0.506	0.805	0.440	1.191	1.533
	(0.261)	(0.491)	(0.330)	(0.419)	(0.290)	(0.308)	(0.506)	(1.233)
Gender and own a smart phone/use of computer int.								
Women X Computer or Smart phone			0.779	0.519				
			(0.306)	(0.262)				
Gender and frequency of usage int.								
Women X Rarely or occasionally			1.693	0.945				
			(0.717)	(0.730)				
Women X Frequently			1.548	1.485				
			(0.737)	(1.113)				
Women X Every day			1.538	2.062				
			(0.666)	(1.551)				
Gender and age group int.								
Women X 20-24			0.839	0.223*				
			(0.257)	(0.149)				
Women X 25+			1.896	1.058				
			(1.082)	(0.720)				
Gender and education level int.								
Women X Primary			1.897	2.279				
			(0.646)	(1.999)				

Women X Lower secondary			1.697	5.893				
			(0.731)	(5.385)				
Women X Upper secondary or above			1.085	9.568*				
			(0.585)	(9.632)				
Gender and marital status int.								
Women X Currently in union/ married			0.954	1.098				
			(0.540)	(1.061)				
Women X number of children under 6			0.850	1.145				
			(0.143)	(0.411)				
Gender and employment status int.								
Women X Employed			3.639	14.547				
			(3.092)	(25.464)				
Gender and financial dep. int.								
Women X Father/ mother			4.740	0.933				
			(3.970)	(1.391)				
Women X Partner dependent			0.259	0.269				
			(0.451)	(0.426)				
Women X Extended family			2.772	0.175				
			(2.662)	(0.302)				
Gender and employment and financial dep. int.								
Women X Employed X Father/ mother			0.196	0.054				
			(0.178)	(0.102)				
Women X Employed X Extended family			0.336	0.868				
			(0.383)	(1.913)				
Gender and city int.								
Women X Maputo			1.060	1.834				
			(0.317)	(0.928)				

Gender and wealth quintile int.								
Women X Second			1.628	0.836				
			(0.535)	(0.617)				
Women X Middle			1.705	0.150**				
			(0.670)	(0.107)				
Women X Fourth			0.820	0.174*				
			(0.371)	(0.143)				
Women X Wealthiest			1.485	0.088**				
			(0.722)	(0.074)				
Gender and household head education int.								
Women X Lower secondary			1.742	1.108				
			(0.550)	(0.845)				
Women X Upper secondary			1.179	0.683				
			(0.332)	(0.376)				
Household size								
Women X Size of household			1.089	0.928				
			(0.069)	(0.087)				
Women X Ratio of women to men in the HH			1.574	3.311				
			(1.118)	(4.262)				
N	3300	1174	3299	1172	1392	522	1907	650

Appendix Table 12: Random effects estimates for independent and joint decision-making, and attitudes towards women's engagement in leadership, MUVA panel data (2018 and 2020 waves).

	(1)	(2)	(3)
	Decision-making (alone) (OLS coefficients)	**Decision-making (involved) (OLS coefficients)**	**Probability of agreeing on women's leadership (odds ratio)**
Gender (Men omit.)			
Women	-0.189	-0.183	0.399
	(0.219)	(0.230)	0.399
Own a smart phone/use of computer (neither omit.)			
Computer or Smart phone	0.035	0.009	1.047

	(0.052)	(0.055)	(0.228)
Women X Computer or Smart phone	0.008	0.070	1.115
	(0.069)	(0.073)	(0.369)
Number of social media accounts (no account omit.)			
One account	-0.010	-0.000	0.627
	(0.074)	(0.078)	(0.185)
Two accounts	0.104	0.104	0.839
	(0.067)	(0.070)	(0.233)
Three or more accounts	0.081	0.077	0.649
	(0.072)	(0.075)	(0.191)
Women X One account	0.129	0.099	2.137
	(0.098)	(0.103)	(0.992)
Women X Two accounts	-0.010	-0.060	1.078
	(0.089)	(0.093)	(0.447)
Women X Three or more accounts	0.060	-0.033	1.749
	(0.100)	(0.104)	(0.851)
Age group (15-19 omit.)			
20-24	0.336***	0.306***	1.252
	(0.050)	(0.053)	(0.266)
25+	0.548***	0.521***	0.981
	(0.074)	(0.078)	(0.303)
Women X 20-24	0.061	0.062	0.542
	(0.067)	(0.071)	(0.174)
Women X 25+	0.002	-0.043	1.283
	(0.094)	(0.098)	(0.596)
Education level (none or below primary omit.)			
Primary	-0.014	0.002	1.044
	(0.089)	(0.093)	(0.362)
Lower secondary	0.005	0.019	1.232
	(0.096)	(0.101)	(0.466)
Upper secondary or above	0.054	0.061	1.529
	(0.104)	(0.109)	(0.647)
Women X Primary	-0.020	-0.047	1.729
	(0.110)	(0.116)	(0.803)
Women X Lower secondary	0.034	0.021	2.301
	(0.121)	(0.127)	(1.217)
Women X Upper secondary or above	-0.018	-0.024	2.525
	(0.131)	(0.138)	(1.528)
Marital status (currently unmarried omit.)			

Currently in union/married	0.277***	0.292***	1.675
	(0.078)	(0.082)	(0.599)
Women X Currently in union/ married	-0.423***	-0.276**	1.185
	(0.101)	(0.106)	(0.592)
Number of children under 6	0.021	0.010	0.841
	(0.030)	(0.031)	(0.103)
Women X Number of children under 6	-0.022	-0.012	1.267
	(0.037)	(0.039)	(0.220)
Employed	0.358**	0.324*	0.726
	(0.126)	(0.133)	(0.428)
Women X Employed	-0.283	-0.223	3.572
	(0.175)	(0.184)	(3.349)
Financial autonomy (financially independent omit.)			
Father/mother	-0.101	0.000	0.611
	(0.131)	(0.138)	(0.369)
Partner dependent	-0.793	-0.783	2.157
	(0.659)	(0.695)	(3.146)
Extended family	-0.210	-0.123	3.127
	(0.147)	(0.156)	(2.598)
Women X Father/mother	-0.354*	-0.304	1.790
	(0.173)	(0.182)	(1.534)
Women X Partner dependent	0.546	0.788	0.324
	(0.670)	(0.706)	(0.433)
Women X Extended family	-0.253	-0.164	0.328
	(0.197)	(0.208)	(0.356)
Employment and financial autonomy int.			
Employed X Father/mother	-0.309*	-0.250	1.664
	(0.139)	(0.147)	(1.062)
Employed X Partner dependent	0.504	0.788	0.289
	(0.726)	(0.765)	(0.233)
Employed X Extended family	-0.153	-0.140	0.184
	(0.161)	(0.170)	(0.160)
Women X Employed X Father/ mother	0.330	0.252	0.222
	(0.191)	(0.202)	(0.224)
Women X Employed X Partner dependent	-0.447	-0.793	
	(0.739)	(0.779)	
Women X Employed X Extended family	0.243	0.171	2.648
	(0.227)	(0.240)	(3.382)

City (Beira omit.)			
Maputo	0.057	0.088	0.555**
	(0.045)	(0.047)	(0.104)
Women X Maputo	0.132*	0.164*	1.063
	(0.062)	(0.065)	(0.313)
Household wealth index (poorest omit.)			
Second	-0.056	-0.045	0.732
	(0.068)	(0.072)	(0.202)
Middle	-0.112	-0.050	1.041
	(0.068)	(0.071)	(0.293)
Fourth	-0.066	-0.023	1.350
	(0.068)	(0.072)	(0.400)
Wealthiest	-0.101	-0.054	1.654
	(0.069)	(0.073)	(0.495)
Women X Second	-0.051	-0.050	1.877
	(0.088)	(0.093)	(0.792)
Women X Middle	0.010	-0.013	0.770
	(0.089)	(0.093)	(0.318)
Women X Fourth	0.063	0.040	0.727
	(0.091)	(0.096)	(0.319)
Women X Wealthiest	-0.052	-0.037	0.586
	(0.095)	(0.100)	(0.275)
Head of household education level (primary or below omit.)			
Lower secondary	0.026	0.008	0.795
	(0.055)	(0.058)	(0.178)
Upper secondary	0.007	-0.019	1.179
	(0.048)	(0.050)	(0.245)
Women X Lower secondary	-0.024	0.007	1.891
	(0.073)	(0.077)	(0.670)
Women X Upper secondary	0.082	0.101	0.944
	(0.064)	(0.068)	(0.292)
Size of household			
	-0.029**	-0.025*	1.025
	(0.009)	(0.010)	(0.039)
Women X Size of household	0.011	0.010	1.012
	(0.012)	(0.013)	(0.060)
Ratio of women to men			
Ratio of women to men in the HH	-0.397***	-0.253*	0.708
	(0.119)	(0.125)	(0.353)
Women X Ratio of women to men in the HH	0.311*	0.215	1.790
	(0.157)	(0.165)	(1.324)

Wave 3			
	-0.155***	-0.146***	1.069
	(0.030)	(0.032)	(0.159)
Constant	0.159	-0.058	
	(0.159)	(0.168)	
N	2369	2369	2372

*Notes: *p<0.05; **p<0.01; *p<0.001. Standard errors (clustered by enumeration areas) in parentheses.*

ALiGN **Advancing Learning and Innovation on Gender Norms**

About ALIGN

ALIGN is a digital platform and programme of work that is creating a global community of researchers and thought leaders, all committed to gender justice and equality. It provides new research, insights from practice, and grants for initiatives that increase our understanding of – and work to change – discriminatory gender norms. Through its vibrant and growing digital platform, and its events and activities, ALIGN aims to ensure that the best of available knowledge and resources have a growing impact on harmful gender norms.

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