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Master of Science in Applied Economics and Data Analysis

Master's Thesis in Economics

When Does Education Translate into Employment?

Gender Norms and the Labour Market Returns to Education in Sub-Saharan Africa

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Table of Content

Declaration on the use of Artificial Intelligence 3
Abstract 4
1. Introduction 5
2. Literature Review 7
2.1 Theory and Mechanism: Education, Gender Norms, and Women's Labour Market Outcomes 7
2.2 Education and Expected Labour Market Returns 8
2.3 Gender Inequality in Labour Markets 9
2.4 Gender norms as the central mechanism 11
3. Theoretical and Conceptual Framework 13
4. Data and Methodology 17
4.1 Data source and sample 17
4.2 Descriptive Statistics and Motivating Patterns 17
4.3 Variables and Measurements 20
4.4 Empirical strategy 21
5. Empirical Results 23
5.1 Results of Main Model 23
5.1.1 Education-Specific Marginal Effects of Gender Attitudes 25
5.1.2 Employment Marginal Effects 26
5.1.3 Higher-skilled occupation marginal effects 26
5.1.4 Interpretation of the moderation mechanism 27
5.2 Robustness checks 30
5.2.1 Logit and Probit Robustness Checks 31
5.2.2. Economic condition Control Robustness 32
5.2.3. Single-question Gender attitude robustness 32
5.2.4. Round-specific full-gender norm Robustness 33
5.3 Overall interpretation of the robustness checks 34
6. Discussion, Policy Relevance and Limitation 35
6.1 Discussion 35
6.2 Policy Relevance 39
6.3 Limitations 39
6.4 Conclusion and Further Research 40
Reference 42
Appendix 47
Appendix Table A1. Construction and use of gender attitude measures 47
Table A1.1 Main pooled gender attitude index used in the main and pooled robustness models 47
Appendix Table A1.2 Coding of gender attitude items 47
Table A2: Variable definitions, coding and sample coverage 48
Appendix Table A3: Women's Gender attitude and Labour-market outcomes by Education level 49
Appendix Table A4: Main Pooled Women-only Model 50
Appendix Figure A.1. Education-Specific Marginal Effects of Gender Attitudes on Women's Employment: LPM 51
Appendix Figure A.2: Education-Specific Marginal Effects of Gender Attitudes on Higher-skilled Occupation 51
Appendix Table A5. Education-Specific Average Marginal Effect of Gender Attitudes: Logit Model: Robustness 52
Appendix Table 5.1: Average Marginal Effects of Separate Components: Logit and Probit Robustness Checks 52
Appendix Table A6: Robustness checks with Economic Conditions Controls 53
Appendix Table A7: Single-question Gender attitude Robustness model 55
Appendix Table A8: Round-specific Robustness Model 56
Appendix Table A9: Men_only supporting Comparison Model 56
Appendix Table A10: Predicted probability Labour Market Outcomes by Gender 57
Appendix A11.1: Correlation Diagnostics 58
Appendix Table A11.1. Pairwise correlations between education and gender attitude measures 58
Table A11.2. Spearman's Correlation Matrix: Women's Employment Sample 58
Table A11.3: Spearman correlation matrix: employed women occupation sample 59

Declaration on the use of Artificial Intelligence

Artificial intelligence tools, specifically ChatGPT by Open AI, was used as a writing and research- support tool during the preparation of this thesis. The tool was used to support language editing, clarification of academic wording, structuring of sections, formatting of tables, debugging of Python script, preparation of the replication package documentation and Python script.

All research decisions, including the choice of topic, data source, variable construction, empirical strategy, interpretation of results, and final thesis argument, remain the responsibility of the author. The empirical analysis was conducted using Afrobarometer Round 7 and Round 9 data, and the Python script used to generate the results as well as the output files are included in the replication package. AI was not used to fabricate data, generate false results, or create unsupported references.

Abstract

Education is widely seen as a pathway to better labour market opportunities, but it benefits may depend on the social conditions under which individuals use their skills. This thesis examines how education and gender attitudes are associated with women's labour market outcomes in Sub-Saharan Africa. The study focuses on two outcomes: employment and higher-skill occupation among employed women. It asks whether education is associated with these outcomes, whether more egalitarian gender attitudes are directly related to women's labour market outcomes, and whether gender attitudes condition the relationship between education and labour market outcomes.

The analysis Uses pooled Afrobarometer Round 7 and Round 9 survey data from 31 Sub-Saharan African countries. The main sample includes over 40,000 women in the employment model and over 10,000 employed women in the Higher-skilled occupation model. Education is measured using the Afrobarometer 0-9 education categories while gender attitudes are measured using a strict three-item individual attitude index, where higher values indicate more egalitarian attitudes. The empirical analysis uses linear probability models estimated by ordinary least squares. The models include age, rural residents, country fixed-effects and survey round-fixed effects. Country-cluster bootstrap standard errors are used, and robustness checks include round-specific models, added controls, logit/probit average marginal effect, single-question attitude models and a men-only supporting comparison.

The results show that education is strongly and consistently associated with women's labour market outcomes. Higher levels of education increase the probability of employment and are especially strongly associated with access to higher- skill occupations. Gender norms also matter, but mainly through a direct relationship with employment. Women with more egalitarian gender attitudes are more likely to be employed, suggesting that norms may influence labour market entry. However, the interaction between education and gender norms is weak and not robust across specifications. This means that the evidence does not strongly support the claim that egalitarian gender attitudes systematically strengthen the returns to education.

The thesis contributes by distinguishing between the direct role of gender norms and their possible moderating role in education- labour market relationship. It also separates labour-market entry from occupational attainment. The findings suggest that education remains central for women's labour market outcomes, but education policy alone may not be sufficient. Reducing social and practical barriers to women's paid work is also important if women are to fully use their education in the labour market.

1. Introduction

Education is usually presented as one of the clearest ways to improve economic opportunity. In standard economic theory, schooling increases skills, productivity and the ability to move into better jobs. This expected benefit helps explain why education is an important part of development policy. A large global literature still finds positive average returns to education, even though the size of those returns differs across countries, levels of schooling, and outcome measures (Becker, 1964; Card, 1999; Psacharopoulos & Patrinos, 2018).

Yet the relationship between schooling and labour-market outcomes is not always simple. In many low- and medium-income countries, education has expanded faster than the availability of stable jobs. This creates a situation in which more people complete school, but labour-markets do not necessarily create enough productive employment to absorb them. In Sub–Saharan Africa, this tension is especially visible. School participation has improved, but many labour markets remain dominated by informal work, low-productivity activities and weak formal job creation. As a result, education may improve skills without guaranteeing entry into formal or secure employment (Filmer & Fox, 2014; Fox & Thomas, 2016; International Labour Organization [ILO], 2023).

This thesis asks a straightforward but important question: when does education translate into labour market outcomes for women in Sub-Saharan Africa, and what role do gender norms play in that process? More specifically, the thesis addresses four research questions. First, is education associated with women's probability of employment? Second, is education associated with women probability of entering high-skill occupations among those who are employed? Third, are more egalitarian gender attitudes directly associated with women's labour market outcome? Forth, do gender norms condition the relationship between education and women's labour market outcome?

This question is important because the education- employment relationship is not gender-neutral. Women often face labour market barriers that men do not face to the same exact extent, even when they have similar levels of education. These barriers include discrimination, occupational segregation, unequal care responsibilities, and social expectations about what kinds of work are appropriate for women. In practise, this means that the economic value of schooling may depend not only on the amount of education a woman has, but also on whether the social environment allows that education to be translated into paid work and upward occupational mobility (Duflo, 2012; Goldin, 2014; Jayachandran 2021).

Gender norms are particularly important here. Gender norms are shared beliefs about the roles, responsibilities, and behaviour expected from men and women. In more restrictive settings, women may be expected to prioritise domestic work, childcare and family duties while men are seen as the main earners. These norms can shape labour market outcomes through several channels. They may affect how employers evaluate women, how households allocate time, the kinds of jobs women feel able to pursue, and the extent to which women themselves expect paid employment to be realistic or socially acceptable (Alesina et al., 2013; Jayachandran, 2021). Recent international reports also continue to emphasise that women's economic participation is shaped not only by education or formal legal rights, but also by unpaid care responsibilities, weak implementation of equality policies, safety concerns and social expectations around women's work (International Monetary Fund [IMF], 2024; United Nations Entity for Gender Equality and the Empowerment of Women [UN Women] & United Nations Department of Economic and Social Affairs [UN DESA], 2024; World Bank, 2024).

For this reason, gender norms are not treated in this thesis as a background issue. They are treated as a central part of the explanation for why education may or may not translate into labour market outcomes for women. The thesis considers two possible roles of gender norms. First, gender norms may have a direct relationship with women's employment and occupational outcomes. For example, women with egalitarian attitudes may be more likely to enter paid work because they view employment as acceptable, desirable, or compatible with their social role. Second, gender norms may shape the extent to which education translates into labour market outcomes. If education provides

skills but restrictive norms limit women's ability to use those skills, then the labour market value of education may be weaker.

This distinction matters for this thesis. If gender norms only work through the interaction with education, then the main issue is whether women receive different labour market returns from schooling depending on their attitudes. But if gender norms also have a direct relationship with employment, then norms may matter even before the return to education is observed. In that case, social attitudes may influence whether women work in the first place. This is especially relevant in Sub-Saharan Africa context, where employment itself is an important first stage of women's economic participation.

The empirical motivation for this women-focused analysis is further supported by the descriptive evidence from the pooled Afrobarometer sample used in this thesis. A simple background gender-gap regression shows that women have a lower predicted probability of employment than men even after controlling for education, age, rural residents, country fix effects and survey/round fixed effects. This result shows that women remain less likely to be employed after accounting for these observed characteristics. It does not identify the source of the gap, but it motivates the examination of additional social factors, including gender norms. This raises an important question for the thesis; if women remain less likely to be employed even after accounting for education, could gender norms be one of the social factors shaping this barrier? This thesis therefore uses the gender-employment gap as additional motivation while keeping the main empirical focus on women and on the role of gender norms in shaping the relationship between education and labour market outcomes. The descriptive patterns also show why the thesis examines two outcomes rather than only one. Employment captures whether women enter paid work at all. Higher-skill occupation captures the type of work reached among women who are already employed. The distinction is important because education may matter differently for labour market entry and occupational placement

This thesis studies these issues using Afrobarometer survey data from Rounds 7 and Round 9. (Afrobarometer, 2019, 2023). These rounds are useful because they contain comparable questions on education, employment, occupation, and gender attitudes across a broad set of African countries. The final sample focuses on 31 Sub-Saharan African countries observed in both rounds. Gender norms are measured using an index constructed from overlapping gender-attitude questions, where higher values indicate more egalitarian attitudes. Education is grouped into 0-9 categories from no formal education to postgraduate level. The analysis estimates the relationship between education, gender norms and women's labour market outcomes while controlling for age, rural residence, country and survey round fixed effects using linear probability models. The analysis is observational and is therefore interpreted as associational rather than causal.

The thesis is motivated by both academic and policy concerns. Academically, the thesis addresses a more specific question: whether social norms are associated with the conversion of education into employment and higher-skill work for women in African settings. Policy wise, this question matters because Expanding girls and women's education remains an important development priority. If restrictive norm continues to block access to jobs, then education policy alone may not be enough to deliver the expected economic gains. Understanding this link can therefore help explain why educational expansion does not always generate equal labour market opportunities. Evidence from Sub Saharan Africa shows that gains in women education have not always been accompanied by equivalent increase in labour force participation or access to better quality employment (Backhaus & Loichinger, 2022; Mariara et al., 2018). Recent policy discussions increasingly recognise that improving women's economic opportunities requires more than formal education or legal equality; it also requires attention to care responsibilities, social expectations, implementation gaps, and the broader conditions that shape whether women can participate in the economy (World Bank, 2024; UN Women & UN DESA, 2024).

And the contribution of this thesis is more specific than simply adding gender norms to a model of education. First, the thesis contributes to the literature on education and labour market outcomes by focusing on the conversion of education into employment and occupational attainment for women. This is important because education is not only

valuable because it is obtained; it becomes economically meaningful when it can be used in the labour market. By focusing on women, the thesis studies a group for whom this conversion may be especially shaped by social constraints.

Second, the thesis contributes by separating the direct role of gender norms from their moderating role. This distinction is central to the study. A direct relationship would mean that gender norms are associated with women's employment or occupation regardless of education level. A moderating relationship would mean that gender norms change how strongly education is associated with labour market outcomes. Distinguishing between these two channels makes the analysis more precise and avoids treating gender norms as a single general explanation

Third, the thesis contributes by examining two stages of women's labour market outcomes. Employment represents entry into paid work, while higher-skill occupation represents occupational attainment among those already employed. This separation is important because gender norms may matter more at one stage than the other. For example, restrictive norms may reduce women's probability of entering employment, while education may become more important for occupational placement once women are already employed. Studying both outcomes therefore gives a clearer picture of where gender norms appear to matter most.

Fourth, the thesis contributes empirically by using pooled Afrobarometer data from 31 Sub-Saharan African countries. This allows the study to examine individual-level education, gender attitudes, and labour market outcomes across a broad regional sample. The use of two survey rounds also makes it possible to construct a comparable gender norm measure across survey rounds, which strengthens the consistency of the analysis.

Taken together, the thesis argues that women's labour market outcomes in Sub-Saharan Africa cannot be understood by looking at education alone. Education provides skills and qualifications, but gender norms may influence whether women are able to use those skills in paid work and occupational advancement. The main aim of the thesis is therefore to provide a clearer understanding of how education and gender norms are associated with women's employment and higher-skill occupation, and whether gender norms operate mainly as a direct influence on women's labour market participation or as a factor that conditions the returns to education.

2. Literature Review

This chapter reviews the literature that motivates the empirical analysis. The main aim is not simply to show that education matters for labour market outcomes, because that relationship is already well established. Rather, the chapter explains why the labour market value of education may depend on gender norms, especially for women. The central idea is that education creates human capital, but social norms may shape whether women are able to use that human capital in employment and occupational advancement. The chapter is organised around four related arguments. First, education is expected to improve labour market outcomes through human capital and signalling mechanisms. Second, women may face gender specific labour market barriers that reduce their ability to translate education into paid work. Third, gender norms provide a key mechanism through which these barriers may operate. Fourth, the existing literatures leaves room for a study that directly link education, gender norms, employment, and higher skill occupation for women in sub–Saharan Africa.

2.1 Theory and Mechanism: Education, Gender Norms, and Women's Labour Market Outcomes

The theoretical starting point of this thesis is Human Capital Theory. Human capital theory argues that education increases individuals' productive capacity by improving skills, knowledge, and labour market ability (Becker, 1964; Mincer, 1974). Under this view, schooling should increase employment prospects because educated individuals are expected to be more productive, more adaptable, and more attractive to employers. Education may also improve occupational attainment because many higher-skilled occupations require formal qualifications, literacy, numeracy and specialised knowledge.

Mincer's (1974) work on schooling, experience, and earning remains one of the foundations of this literature. The Mincerian framework links education and labour market experience to earnings and has shaped much of the empirical literature on private returns to schooling. Later studies have continued to find positive returns to education across countries, although the size of these returns differs by country, gender, level of education and labour market conditions (Card, 1999; Psacharopoulos & Patrinos, 2018; Montenegro & Patrinos, 2014). Montenegro and Patrinos (2014), for example, provide comparable estimate of returns to schooling across many economies and show that education remains strongly linked to labour market rewards with particularly high returns to tertiary education and important gender differences in returns.

However, human capital theory does not fully explain why similarly educated women and men may experience different labour market outcomes. Education may raise skills, but skills do not automatically become employment or occupational advancement. The conversion of education into work depends on whether individuals are allowed, encouraged, and able to use their education in the labour market. This is especially important for women because their labour market decisions may be shaped by household expectations, unpaid care responsibilities, employer behaviour, Safety and social beliefs about appropriate female roles (Duflo, 2012; Goldin, 2014; Jayachandran, 2021).

This is where gender norms enter the theoretical mechanism. Gender norms are shared beliefs about the roles, responsibilities and behaviours considered appropriate for women and men. In the labour market, these norms may affect whether women work, what kinds of jobs they enter, how employers evaluate them and how households allocate domestic responsibilities (Alesina et al., 2013; Jayachandran, 2021). Therefore, gender norms may shape women's labour market outcomes in two ways; First, norms may have a direct relationship with women's employment or occupation. Second, norms may moderate the relationship between education and labour market outcomes by influencing whether education can be translated into work.

This distinction is central to this thesis. A direct norm effect means that more egalitarian gender attitudes are associated with women's employment or occupational attainment, regardless of education level. An interaction effect means that gender norms change the strength of the relationship between education and labour market outcomes. The thesis therefore does not assume that gender norms must operate only through one channel. Instead, it tests whether gender norms are directly associated with women's outcomes and whether they also condition the education labour market relationship.

2.2 Education and Expected Labour Market Returns

Education may also influence labour market outcomes through the way employers interpret educational qualifications. Signalling theory suggests that employers may use education as a signal of ability, motivation, discipline and trainability, especially when they cannot directly observe a worker's productivity before hiring (Spence, 1973). From this perspective, education may improve employment opportunities not only because it develops skills, but also because qualifications provide information that employers can use when making recruitment decisions.

However, education does not automatically lead to employment. The relationship also depends on whether the economy creates enough jobs for educated workers. In Sub-Saharan Africa, educational attainment has increased, but the growth of formal wage employment has remained limited. Fox, et al. (2016) explain that young people entering African labour markets are more educated than previous generations, but many economies have not created enough productive jobs to employ them. Fox and Thomas (2016) similarly show that many workers continue to depend on household farming, small household businesses and informal employment because the formal private sector remains relatively small. Therefore, education may improve worker's skills without guaranteeing access to jobs that make full use of those skills.

The structure of African economies is also important for understanding the returns to education. Structural transformation occurs when workers move from low-productive activities, especially agriculture, into more productive sectors such as manufacturing and modern services (Herrendorf et al., 2014: Lewis, 1954). Diao er al. (2017) find that

this movement has taken place in parts of Africa, but manufacturing employment has grown from a very low starting point. As a result, the number of educated workers may increase faster than the number of suitable jobs. This suggests that the labour- market returns to education depend not only on the education individuals receive, but also on the labour demand and the types of employment available in the economy.

Studies of young people's transition from school to work also show that progress in education does not always result in equal progress in employment. Using evidence from Burkina Faso, Ethiopia, Ghana, Kenya, Tanzania and Uganda, Mariara et al. (2018) find that educational attainment increased and gender gaps in education became smaller. However, access to better quality employment improved more slowly, while agriculture remained an important source of work. They also find that gender differences in access to better jobs continued in most of the countries studied. These findings show that educational progress alone may not be enough to improve labour-market opportunities, particularly for women.

This issue is especially important for women's employment. Backhaus and Loichinger (2022) find that improvements in women's education across thirteen Sub-Saharan African countries were not followed by equally large increases in female labour-force participation. Part of this pattern may be explained by younger women remaining in education for longer periods. However, the findings still show that higher educational attainment and employment participation do not always increase together. These patterns may reflect a combination of general economic barriers, such as limited productive employment and gender-specific barriers, including care responsibilities, family expectations and unequal access to work (Fox et al., 2016; Jayachandran, 2021). These combined barriers may limit women's ability to convert education into paid employment and higher skilled occupations.

These studies reviewed above provides the baseline expectation for the thesis; education should be positively associated with women's employment and higher-skill occupation. For the present study, however, the average relationship between education and labour-market outcomes is not the only question of interest. For women, the labour market value of education may depend on whether social and household conditions allow them to participate in paid work and move into higher-skill occupation. This is particularly important because employment and occupation represent different stages of labour market success. Employment captures whether a woman enters paid work at all, occupation captures the type of work reached among those already employed. Education may matter for both, but not through the same channel. It may increase women's employability and their ability to compete for work, but it may be even more important for occupational attainment because higher skilled jobs often require formal qualifications and credentials (Becker, 1964; Spence, 1973). This is why the thesis studies both employment and higher-skill occupation instead of treating labour market success as one single outcome.

2.3 Gender Inequality in Labour Markets

The literature on gender inequality further shows that labour-market outcomes are not shaped by education alone. Across many contexts, women remain less likely than men to participate in paid work, more likely to carry unpaid household responsibilities and more likely to be concentrated in lower status or less secure occupations. These inequalities affect women's income and economic independence. They may also limit economic development because they prevent economies from making full use of women's education and productive ability. (Klasen & Lamanna, 2009; Duflo, 2012; Goldin, 2014; Jayachandran, 2021)

Recent evidence from Sub-Saharan Africa also shows that gender inequality is also reflected in how women and men divide their time between paid and unpaid work. Using time-use data from the Greater Accra Region of Ghana, Carmichael et al. (2025) finds that women have longer total working days and are more likely than men to experience time poverty when paid work, unpaid household work and commuting are considered together. An important source of this difference is women's greater responsibility for unpaid household work. These findings show that women's labour market opportunities may be affected not only by their education and qualifications but also by the unequal amount of time they spend on responsibilities outside paid employment. Such inequalities may reduce the time, and flexibility

women have available for labour-market participation and further help explain why gender differences can remain uneven as women's educational attainment improves.

Unpaid care and household responsibilities also help explain why gender differences can continue even when women become more educated. Women are often expected to take greater responsibility for childcare, domestic work and other family duties. These responsibilities may reduce the time and flexibility available for paid employment, particularly when affordable childcare is limited or jobs require long and inflexible working hours (Goldin, 2014; Jayachandran, 2021). Using a randomised experiment in an informal settlement in Nairobi, Kenya, Clark et al. (2019) find that women who received subsidised childcare were more likely to be employed than women who did not receive the support. More recent experimental evidence from Uganda also shows that childcare support increased labour supply and earnings among single mothers, indicating that childcare responsibilities can act as an important time constraint on women's employment (Bjorvatn et al., 2025). These findings show that education alone may not be enough when care responsibilities limit women's ability to enter or remain in paid work.

Occupational segregation provides another explanation for why education may not produce equal labour-market outcomes. It occurs when women and men are concentrated in different occupations or economic sectors. Using evidence from 69 developing countries, Borrowman and Klasen (2020) find that gendered occupational segregation remains persistent and that rising levels of women's education do not automatically reduce it. In some cases, higher education was associated with greater occupational segregation. This suggests that women may become more educated while continuing to enter a narrower range of occupations.

Evidence from South Africa also shows a connection between gender differences in education fields and the types of jobs women enter. Roberts and Schöer (2021) find that African women working in female-dominated jobs earn less than working women in male dominated jobs. They also find that women with tertiary qualifications in male-dominated fields were more likely to enter male-dominated occupations. Their findings show that women's labour market outcomes may depend not only on the level of education obtained, but also on occupational sorting and the field of education considered suitable for women.

Women may also face disadvantages during recruitment, even when they have the education and qualifications required for a job. Employers use referrals from existing workers to identify potential employees. However, referral networks may reproduce gender differences when men mainly recommend other men. Using a field recruitment experiment in Malawi, Beaman, et al. (2018) find that male participants systematically referred few women. This was not because qualified women were unavailable, but when the men were specifically asked to recommend female candidates, they were able to identify women with suitable qualifications. Offering performance-based payments also did not substantially change men's tendency to recommend male candidates. Women's referrals of qualified women were not large enough to offset this pattern. The findings show that women may be disadvantaged before their qualifications are directly assessed by an employer. An educated woman may possess the required skills, but she may have fewer opportunities to be informed about a vacancy, recommended for a position or included in the group from which an employer selects workers. These findings suggest Referral- based recruitment may therefore weaken the expected relationship between education and employment when access to jobs depends partly on gender-segregated networks or referral behaviour. This study does not directly measure gender norms however; it provides evidence of a labour-market process through which social relationships and gendered recruitment practises may limit qualified women´s ability to convert their education into employment.

Taking together, this literature shows that education remains important, but it may not fully remove gender inequality in labour market. Women may still face barriers connected to unpaid care responsibilities, the organisation of work, occupational segregation and recruitment practises. The thesis does not primarily aim to compare women and men. However, this literature supports the women-focused analysis by showing that women face labour-market barriers that cannot be explained by education alone. The next section therefore examines gender norms as one possible mechanism through which these barriers may operate.

2.4 Gender Norms as the Central Mechanism

The most important literature for this thesis is the literature on gender norms and women's labour market outcomes. Research shows that gender gaps persist not only because of differences in education or a formal legal right, but also because of informal social expectations about women and men. These expectations may influence employment decision, household labour division, occupational choices and the social acceptability of women's paid work (Alesina et al., 2013; Fortin, 2005; Jayachandran, 2021; Kleven, in press).

First, previous studies provide evidence of a direct relationship between gender attitudes and women's labour-market outcomes. Using World Values Survey data from OECD countries, Fortin (2005) finds that anti-egalitarian gender attitudes are strongly associated with lower females' employment rate and the wider gender pay gaps. Although, Fortin's study focused on OECD countries, the mechanism is relevant for this thesis because it shows that gender attitude are not only abstract beliefs, but they are systematically connected to measurable labour market outcomes.

Jayachandran (2021) provides one of the clearest explanations on how social norms constrain women's employment in developing countries. She argues that cultural barriers can affect women's participation and success in the labour market, and that countries at similar levels of economic development can still have very different female employment patterns because of differences in gender norms. Also, social expectations may affect women's mobility, household responsibilities, interactions with men and the types of employment considered acceptable for women. This is directly relevant to this thesis because it supports the arguments that economic and educational factors alone may not fully explain women's labour market outcomes.

Alesina et al. (2013) also showed that gender roles may be deeply rooted and persistent. This historical analysis links traditional agricultural practises to present-day gender-role attitude and women's labour market participation in employment, politics and entrepreneurship. Their findings suggest that historical divisions of labour may contribute to the continued influence of gender roles across generations. The is important for this thesis because it treats gender norms as persistent informal institutions rather than temporary opinions. This helps justify why this thesis treats gender norms as a central explanatory factor in the education labour market-relationship.

Second, Gender norms may influence not only whether women enter employment but also the type of work they undertake. Goldin (2014) shows that labour-market structures that reward long hours and provide limited flexible working hours may disadvantage workers who carry greater family responsibilities. Because women are often expected to perform more childcare and domestic work, the organisation of work may interact with social expectations without completely removing the barriers that affect their occupational choices and advancement.

The child-penalty literature provides further explanation of how family roles affect women's labour-market outcomes. Kleven's work on child penalties and gender norms shows that the arrival of children can create large and persistent labour-market penalties for women, and that these penalties vary across geography and cultural settings (Kleven, in press). This matters for the thesis because it shows that gender norms can shape women's labour market outcomes through family responsibility and expectations around motherhood. Even though this thesis does not estimate child penalties, the mechanism is closely related; social expectations about women's family roles can affect whether women enter work, remain employed, or move into better occupations. Related published evidence is provided by Kleven et al. (2019).

Using administrative data from Denmark, Kleven et al. (2019) find that childbirth creates a long-term gender gap in earnings of about 20 percent. This gap is explained by changes in women's labour-force participation, working hours and wages. Childbirth also affects women's occupational choices, promotion opportunities, employment sectors and the type of firms in which they work. The authors further find that child penalties are transmitted across generations, suggesting that women's responses to childbirth may partly reflect the family environment and gender roles they observed while growing up. Together, these studies show that motherhood can have lasting effects on women's

employment and occupational development, while gender norms may influence the size and persistence of these effects.

The paper Gender norms and the child penalty in China also strengthen this argument. The authors Zhang et al. (2024) show that women's labour market outcomes declined after childbirth, which similar patterns are not observed among men. More importantly, the study finds that women experience larger labour market penalties when they or their husbands hold traditional gender role views, and that traditional views may push women towards more household work or more flexible informal jobs. This provides strong micro-level evidence that gender norms can influence women's labour market behaviour through both household division of labour and career choices.

The Afrobarometer evidence is especially important for connecting these arguments to Africa. Afrobarometer Round 7 gender report shows that support for women's equality is weaker when the issue concerns access to jobs than when it concerns political leadership or land rights. Lardies et al. (2019). Across the 34-country Round 7 analysis, a substantial share believed that men should have preference when jobs are scarce. The report also shows that women are less likely than men to participate in labour market and that gender gaps remain visible in employment, education, assets and household decision-making.

More recent Afrobarometer Round 9 evidence also shows that support for gender equality in principle does not always translate into equality in practice. The 2023 Afrobarometer dispatch Twum & Logan (2023) reports that many Africans support women's equal rights, but women still trail men in educational attainment, employment-related outcomes, ownership of productive assets, and household financial decisions-making. It also reports that a narrower majority supports women's equal rights to jobs than supports other forms of gender equality which is directly relevant to the labour market focus of this thesis. This is directly relevant to this study because it suggests that support for equality is uneven and equality in the labour market is still more contested suggesting that gender norms may be especially important when the issue is women's access to paid work.

These descriptive Afrobarometer patterns are supported by peer-reviewed evidence from Kenya. De Giusti and Kambhampati (2016) examine whether gender-related social institutions and household attitudes are associated with women's probability of employment and the type of employment they enter. They find that women's employment choices are related to social and household factors, including religion, ethnicity, marital status and differences in age and education between women and their spouses. These factors may reflect expectations within women's birth and marital families. Although the study does not use the same gender-attitude questions as Afrobarometer, it supports the broader argument that social institutions and household gender relations are related to both whether African women work and the type of employment they undertake.

Taking together, the literatures reviewed above already provides strong evidence that education improves labour market outcomes and that gender norms shape women's economic opportunities. Therefore, the contribution of this thesis is not based on the claim that gender norms have been ignored in previous research. Instead, this thesis builds on these studies but focuses on a different empirical question; Do gender norms matter mainly because they directly affect whether women enter employment, or because they change how education translates into labour market outcomes.

This distinction is important because gender norms may matter by shaping whether women enter employment at all, even if they do not consistently change the return to education. Additionally, it uses a pooled sample of women from 31 Sub-Saharan African countries, allowing the analysis to move beyond a single-country setting. Moreso, it combines education, gender attitudes, employment, and occupation in the same individual-level framework. Education may matter differently at two stages: first, whether women enter paid employment, and second whether employed women move into higher-skill occupations. By separating employment from higher-skill occupation, the thesis can examine whether gender norms appear more relevant for labour market entry or for occupational attainment.

This means that the thesis does not try to prove that gender norms are a new explanation for women's labour market inequality. The study therefore contributes by refining where gender norms appear to matter most; whether at the point of labour market entry, through occupational attainment, or through the interaction between education and norms.

3. Theoretical and Conceptual Framework

The theoretical starting point of the thesis is human capital theory. Human capital theory argues that education is treated as an investment that improves productivity, skill acquisition, and employability (Becker, 1964; Mincer, 1974). In this tradition, schooling is expected to raise the probability of employment because educated individuals possess skills that make them more employable. It is also expected to increase access to higher skill occupations because such jobs often require literacy, numeracy, credentials, and more specialised forms of knowledge. The Mincerian framework further links schooling and work experience to labour market rewards, suggesting that education is not only a social good but also an economic investment with expected returns to the labour market (Mincer, 1974). Signalling theory provides a complementary explanation; even when employers cannot directly observe productivity, educational qualifications may signal ability, discipline, motivation and trainability (Spence, 1973). Together, these theories provide the baseline expectation that education should be positively associated with women's employment and occupational attainment.

However, the central argument of this thesis is that education alone is not sufficient to explain women's labour market outcomes. Human Capital Theory explains why education should increase women productive potential, but it does not fully explain why this potential may fail to translate into employment or better occupations. This limitation is especially important for women because the use of education in the labour-market can be shaped by social expectations, family responsibilities, employer perceptions, and norms about appropriate female behaviour. In other words, education may create potential, but gender norms may influence whether that potential converted into actual labour market outcomes. This is consistent with the wider literature showing that women's labour market outcomes cannot be understood only through skills and education, because they are also shaped by the structure of work, household and social expectations (Duflo, 2012; Goldin, 2014; Jayachandran, 2021).

A development perspective provides another explanation for why education may not always translate into employment. Structural Transformation Theory explains economic development as a process in which workers move from low productivity activities, especially traditional agriculture, into more productive sectors such as manufacturing and modern services. As this process occurs, the growth of productive sectors is expected to create better employment opportunities and increase the demand for educated workers (Herrendorf et al., 2014; Lewis, 1954)

However, structural transformation has been uneven in Sub-Sahara Africa. Diao et al. (2017) find that workers have moved from agriculture into services and manufacturing in several African countries, but manufacturing employment continues to grow from a very low starting point. Fox et al. (2016) similarly show that young Africans are more educated than previous generations, while formal wage employment remains limited. Fox and Thomas (2016) explained that the slow growth of modern enterprises leaves many workers dependent on household farms, small businesses and informal employment.

This development perspective complements Human Capital Theory. Human Capital Theory explains how education increases women's skills and qualifications, while Structural Transformation Theory explains why suitable jobs must also be available for those skills to be used. Education may therefore improve women's productive ability without guaranteeing employment or access to higher skill occupations when the economy does not create enough suitable jobs. Women may face this general development constraint in addition to gender specific barriers. The next part of the framework therefore considers how gender roles theories and social expectation theories may further influence women's ability to convert education into labour-market outcomes.

The thesis therefore adds a gender perspective to the human capital framework. Gender norms are shared beliefs and expectations about the roles, responsibilities and behaviour considered appropriate for women and men. The norms are not only personal opinions, but they may also operate as informal social rules that influence women's own expectations, household decisions and the way women are evaluated in the labour market.

Social Role Theory helps explain how these gender expectations develop. The theory argues that beliefs about women and men are partly shaped by observing the different social roles they commonly perform. When women are more often seen performing childcare, domestic work and other caring roles, while men are more often seen in paid employment and positions of authority, people may begin to associate women with caregiving and men with breadwinning and leadership. Over time, these observed differences may become expectations about how women and men should behave (Eagly & Sczesny, 2019; Eagly & Steffen, 1984; Koenig & Eagly, 2014;).

These expectations may influence women's employment through household decisions and the division of Unpaid Work. When women are expected to carry primary responsibility for childcare and domestic work, they may have less time and flexibility for paid employment. Families may also give greater priority to men's employment when men are viewed as the main breadwinners (Jayachandran, 2021). More Egalitarian gender attitude may reduce these barriers by making women's paid employment more acceptable and more compatible with their expected social roles.

Gender roles may also affect women's access to high-skill occupations. Role Congruity Theory argues that women may be evaluated less favourably when the qualities associated with a job are perceived as inconsistent with traditional expectations of women (Eagly & Karau, 2002). This may be particularly relevant to occupations involving authority or leadership, where qualities traditionally associated with men may be valued. Role Congruity Theory therefore provides one possible mechanism through which qualified women may face disadvantages in some occupational settings. A related explanation is provided by the theory of "doing gender". West and Zimmerman (1987) argue that gender is repeatedly produced through everyday social interactions. Decisions about whether women should work, how family duties should be divided and which occupations are appropriate for women may therefore reinforce existing gender expectations.

Risman (2004) extends this argument by describing gender as a social structure operating at Individual, interactional and institutional levels. At the individual level, gender influence women's attitudes and expectations. At the interactional level, it may shape decisions within households and workplaces. At the institutional level, it may be reflected in workplace practises, occupational structures and the wider division of paid and unpaid work. This perspective is useful for the present thesis because the gender attitude index measures women's individual attitudes, while recognising that this attitude may be formed within wider household, workplace and social conditions.

Together, these theories support the two possible roles of gender attitudes examined in this thesis. First, gender attitudes may have a direct relationship with women's labour market outcomes because they may influence whether paid employment and particular occupations are viewed as acceptable for women. Second, gender attitude may moderate the relationship between education and the labour-market outcomes. Education may provide women with skills and qualifications, but restrictive gender roles may limit their ability to convert these resources into employment or higher-skill work. More egalitarian attitudes may therefore create conditions in which women are better able to use their education in the labour-market.

Economic theories of identity also help explain why gender norms may matter for labour market outcomes. Akerlof and Kranton (2000) argue that identity can enter economic decision-making because individuals may gain or lose utility from behaving in ways that are consistent or inconsistent with social categories. Applied to gender, this means that women's labour market choices may be shaped not only by wages and education, but also by whether paid employment is consistent with accepted ideas of womanhood, motherhood or respectability. In more traditional settings, a woman may face social cost for working outside the home or entering occupations considered inappropriate

for women. In more egalitarian setting, paid employment may be more compatible with social identity and therefore easier to pursue. This theoretical perspective links directly to the empirical focus of the thesis.

The Gender Norm index used in this study captures individual attitudes towards gender roles. It does not measure all dimensions of gender norms in society, but it provides an important proxy for women's own views about gender equality. Individual attitudes may be related to women's expectations, labour-market choices, and willingness to participate in paid work while reflecting the wider social environment in which women live (Akerlof & Kranton, 2000; Fortin, 2025). For this reason, the index is interpreted as an attitudinal measure of gender norms rather than a complete measure of all social constraints.

The first mechanism through which gender norm may affect women's labour market outcomes is the household mechanism. In traditional gender systems, women are often expected to carry primary responsibility for childcare, domestic work, and family care. These expectations may reduce the time and flexibility available for paid employment. They may also affect whether families support women's work outside the home. Goldin (2014) shows that gender inequality persists partly because many labour markets reward long and inflexible hours which disadvantages workers who carry greater family responsibilities. Jayachandran (2021) similarly argues that cultural norms help explain why female employment differs across countries even at similar levels of development. In this thesis, this mechanism supports the expectation that women with more egalitarian views may be more likely to enter paid work.

The second mechanism is the employer and occupational-sorting mechanism. Gendered expectations about commitment, mobility, leadership, or family roles may influence how women are evaluated in recruitment and occupational settings (Beaman et al., 2018; Eagly & Karau, 2002). Even when women have education, employers may assume that women are less available for continuous or less suitable for certain occupations. These assumptions affect hiring, promotion, and occupational placement. Fortin's (2005) cross-country study of OECD countries is important here because it shows that gender role attitudes are strongly associated with women's labour market outcomes, especially female employment and the gender gap pay. Although the context differs from Sub-Saharan Africa, the mechanism is relevant; social attitudes towards women work are linked to measurable labour-market outcomes.

The third mechanism is the self-expectation and choice mechanism. Women's own gender attitude may shape what they consider possible, acceptable, or desirable. Women with more egalitarian attitudes may be more likely to see paid employment as compatible with their identity and social role. Women with more traditional attitudes may be less likely to seek paid employment or may prefer forms of work that are more compatible with domestic expectations (Akerlof & Kranton, 2000). This mechanism does not imply that women's outcomes are simply a matter of personal choice, rather is recognises that personal attitudes are formed within her social structures and may reflect the constraints women face (Risman, 2004). The child penalty literature supports this interpretation by showing that gender norm can influence women's labour supply, household allocation and career choices after a childbirth. In a recent study of China, Zhang er al. (2024) show that women's labour market outcomes declined after childbirth while similar declines are not observed among men. They also find that women and spouses with traditional views are associated with larger labour market penalties and greater movement towards housework or flexible informal work.

The fourth mechanism is the education-conversion mechanism. Although human capital theory predicts that education increases women's skills, productivity and employability, however, gender norm theory discussed above suggests that the labour market value of education may depend on whether women are socially permitted and practically able to use their education in paid work. If restrictive norms define men as breadwinners and women as caregivers, educated women may still face barriers to employment through household expectations, care responsibilities, or social disapproval of women's work (Akerlof & Kranton, 2000; Jaychandran, 2021; Koenig & Eagly, 2014). This is the theoretical reason for testing whether gender attitude condition the relationship between education and women's labour market outcomes.

The thesis therefore treats employment and higher-skill occupation as two related but distinct outcomes. Employment captures women's entry into paid work and is expected to be especially sensitive to gender norms because social expectations can shape whether women are encouraged, permitted, or willing to work outside the home (Fortin, 2005; Jayachandran, 2021). Higher-skilled occupation captures the type of work reached among women who are already employed. Education is expected to matter strongly for this outcome because higher-skill jobs generally require stronger qualifications, credentials and specialised human capital (Becker, 1964; Mincer, 1974; Spence, 1973). However, occupation must be interpreted carefully because it is observed only among employed women.

The hypotheses follow directly from this theoretical argument.

H1: Higher educational attainment is positively associated with women's probability of employment.

This follows from human capital theory and signalling theory. Education increases skills, productivity, and employability, while qualifications may also signal ability and trainability to employers

H2: Higher educational attainment is positively associated with women's probability of entering higher-skill occupation among employed women.

This follows from the expectation that higher skill occupations require stronger qualification and more specialised forms of human capital. Education should therefore matter not only for whether women work, but also for the type of work they can access.

H3: More egalitarian gender attitudes are positively associated with women´s employment.

This follows from gender norm theory, social role theory and identity economics. If women view paid employment as socially acceptable and compatible with their gender role, they may be more likely to enter paid work. This hypothesis is expected to be especially relevant for employment because employment is the first stage where social norms about whether women should work are likely to be most binding (Fortin, 2005; Jayachandran, 2021)

H4: More egalitarian gender attitude may be positively associated with women's higher-skill occupation among employed women.

This follows from the idea that gender norms may influence occupational aspirations, employer evaluations and the types of work women consider acceptable or attainable. However, this hypothesis is more cautious than H3 because higher skill occupation is observed only among employed women. If norms already affect selection into employment, the direct norm effects may be weaker or harder to observe in the occupational sample.

H5: More egalitarian gender attitudes may strengthen the association between education and women's labour market outcomes.

This hypothesis follows from combining human capital theory with gender norm theory. Education provides skills and qualifications, but gender norms may determine whether those skills can be converted into employment or higher skill work. The interaction between education and gender attitude therefore tests whether the labour market value of education is stronger among women with more egalitarian gender attitudes. These hypotheses are tested empirically using observational Afrobarometer data. The purpose is not to claim causal identification but to examine whether the patterns in the data are consistent with theoretical mechanisms described above.

4. Data and Methodology

4.1 Data Source and Sample

The empirical analysis uses pooled microdata from the Afrobarometer survey programme. Afrobarometer is a cross-country public opinion survey programme covering many African countries and collecting information on social, political, and economic attitudes. The survey is especially useful for this thesis because it includes both standard socio-economic variables and attitudinal questions about gender roles making it possible to analyse labour market outcomes and gender norms within the same data set (Afrobarometer, 2019, 2023).

A key decision in this thesis is the use of only Round 7 (2016-2018) and Round 9 (2021-2023), rather than the full set of Afrobarometer rounds. This choice is driven by comparability constraints. While Afrobarometer includes many rounds, the wording and availability of gender norm questions vary significantly across rounds. Only Round 7 and Round 9 contain a consistent set of overlapping questions on gender roles that can be harmonised into a comparable cross-country index. Using additional rounds would require combining non-equivalent measures, which would weaken the interpretation of gender norm variable. For this reason, the analysis prioritises internal consistency and comparability over expanding the number of rounds.

The sample is restricted to 31 Sub-Saharan African countries observed in both Round 7 and Round 9, ensuring a more comparable dataset. The initial matched sample contained 32 countries, but Mauritius was excluded because key outcome variables were not consistently available across rounds and specifications. The pooled dataset contains over 40,000 observations with around 20,000 women per round in the employment sample and about 5,000 women per round in the occupation sample. The main empirical analysis focuses primarily on women because the central aim of the thesis is to examine how education and gender norms are associated with women's labour market outcomes. Men are used only in a simple background comparison to motivate the women-focused design, but they are not part of the main empirical analysis or robustness interpretation.

4.2 Descriptive Statistics and Motivating Patterns

Before presenting the empirical strategy, it is useful to describe the main patterns in the data. Table 1 presents descriptive statistics for the women-only sample used in the main analysis. Around 27% of women report cash-paying employment. Among employed women with non-missing classifiable occupation information, 23.4% are in higher skill occupations. The average education level is 3.231 on the Afrobarometer 0 - 9 education scale. Since 3 represents primary school completion and 4 represent some secondary or intermediate schooling, this suggests that the average woman in the sample has slightly above primary-completed education but below full secondary education. The average gender norm index is 3.863 on a scale from one to five, where higher values indicate more egalitarian gender attitude. This suggests that women in the sample report moderately egalitarian attitude on average. The average age is about 36 years, and about 55.8% of women live in rural areas.

Table 1. Summary Statistics for the women-only analytical sample

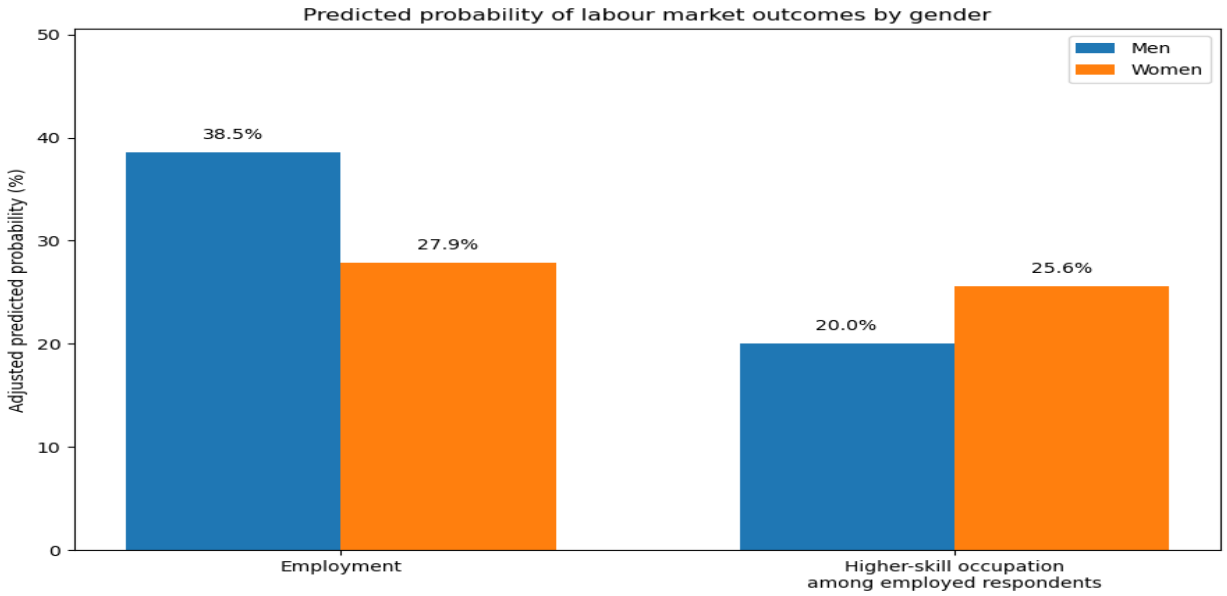
Variable	N	Mean	SD	Min	Max
Employment	41387	0.27	0.444	0	1
Education level (0-9)	41443	3.231	2.215	0	9
Individual gender attitude index	41443	3.863	0.94	1	5
Age	41443	35.887	14.087	18	103
Rural residence	41443	0.558	0.497	0	1
Higher-skill occupation among employed women	10347	0.234	0.424	0	1

Note: N refers to the number of valid observations for each variable. The number of observations differs across variables because of missing responses and outcome specific sample restrictions. Employment is measured among women with none missing employment information. Higher-skill occupation is measured only among employed women with non-missing occupation information, so its sample size is smaller than the employed sample. Mean values for the binary variables can be interpreted as proportions; for example, the employment mean to 0.270 indicates that about 27.0% of women are employed. Education is measured using the 0-9 Afrobarometer education scale where 0 = no formal schooling and 9 = postgraduate education. SD refers to standard deviation while Min and Max show the lowest and highest observed values for each variable

As additional motivation for women-focused design, figure 1 presents predicted probabilities of labour market outcomes by gender. The figure is based on a simple pooled background model controlling for education, age, age-

squared, rural residents, country fixed effect and survey round fixed effect. The result shows that men have a predicted employment probability of 38.5percent, compared with 27.9% for women. This means that women remain substantially less likely to be employed even after accounting for education and other basic controls. This pattern supports the argument that labour market barriers are more binding for women and motivates the central question of the thesis: whether gender norms may be one of the social factors contributing to women's weaker labour market entry. In other words, the gender gap shown in Figure 1 is not used as the main analysis but as background evidence for why it is important to examine how gender norms shape women's labour market outcomes...

Figure 1: Predicted probability of labour market outcomes by Gender



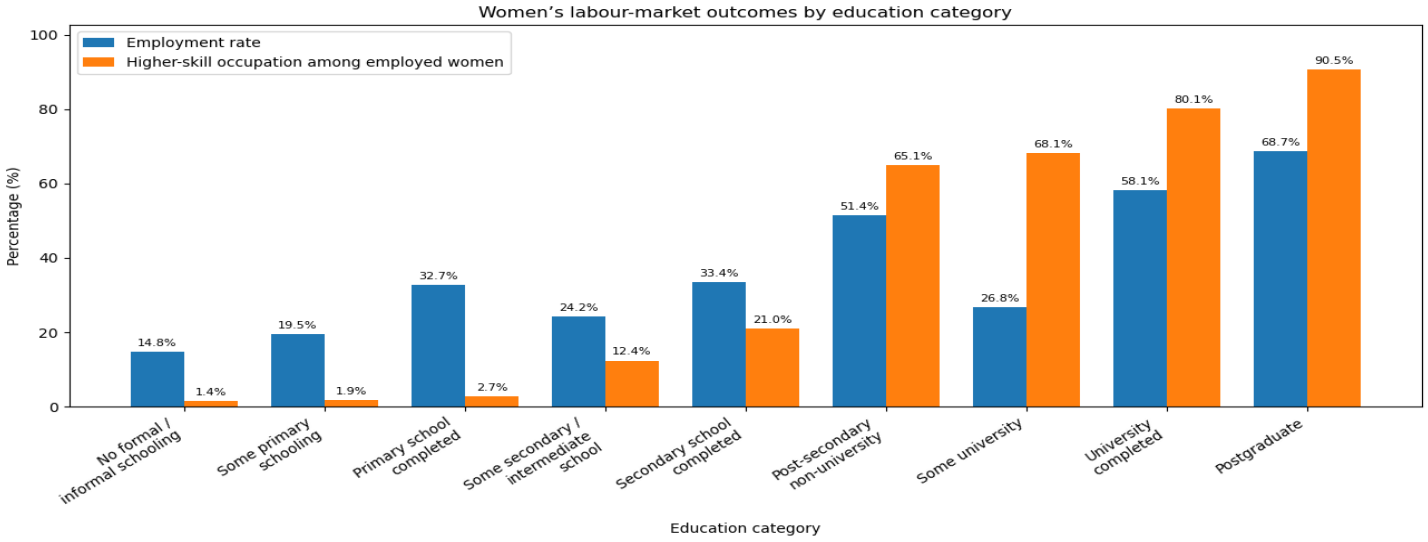
Note: Predicted probabilities are based on pooled linear probability models controlling for education (0-9), age, age squared, rural residence, country fixed effects, and round fixed effects. The occupation outcome is estimated only among employed respondents.

Figure 1 also presents an important pattern for higher-skill occupation. Among respondents who are already employed, women have a higher predicted probability of being in higher skill occupations than men, 25.6% compared to 20.0%. Together with the predicted employment probability for women, this pattern motivates the decision to examine labour market outcomes in two stages. Employment captures access to paid work, while higher-skilled occupation captures the type of work reached after employment has occurred. The contrast between these outcomes raises an important question for the thesis: whether gender norms are more closely related to women's entry into employment, the occupational attainment, or the way education is associated with both outcomes. Because occupation is observed only among employed respondents, the occupation result is interpreted as conditional on employment. The full regression result behind this figure is reported in Appendix A10

The descriptive patterns also support the decision to analyse two labour market outcomes. Figure 2 shows women's employment and higher-skill occupation by education category. The blue bars report the employment rate among all women in each education group, while the orange bars report the share of employed women who are in higher-skill occupations. The figure shows that labour-market outcomes generally improve with education, although the pattern is stronger for higher-skill occupation than for employment. Employment is lowest among women with no formal or informal schooling, at 14.8%, and rises to 68.7% among women with postgraduate education. The pattern is not perfectly linear, as women with some university have a lower employment rate than those with post-secondary non university education, but the overall trend still shows that higher education is associated with greater labour-market participation. The education gradient is much stronger for higher-skill occupation. Among employed women, only 1.4% of those with no formal or informal schooling are in higher-skill occupations, compared with 65.1% of those with post-secondary non university education, 80.1% of university graduates, and 90.5% of postgraduate women. This supports the thesis' decision to analyse both employment and higher-skill occupation separately: education matters not

only for whether women work, but even more strongly for the type of work they access once employed. The full descriptive table behind this figure is reported in Appendix Table A3.

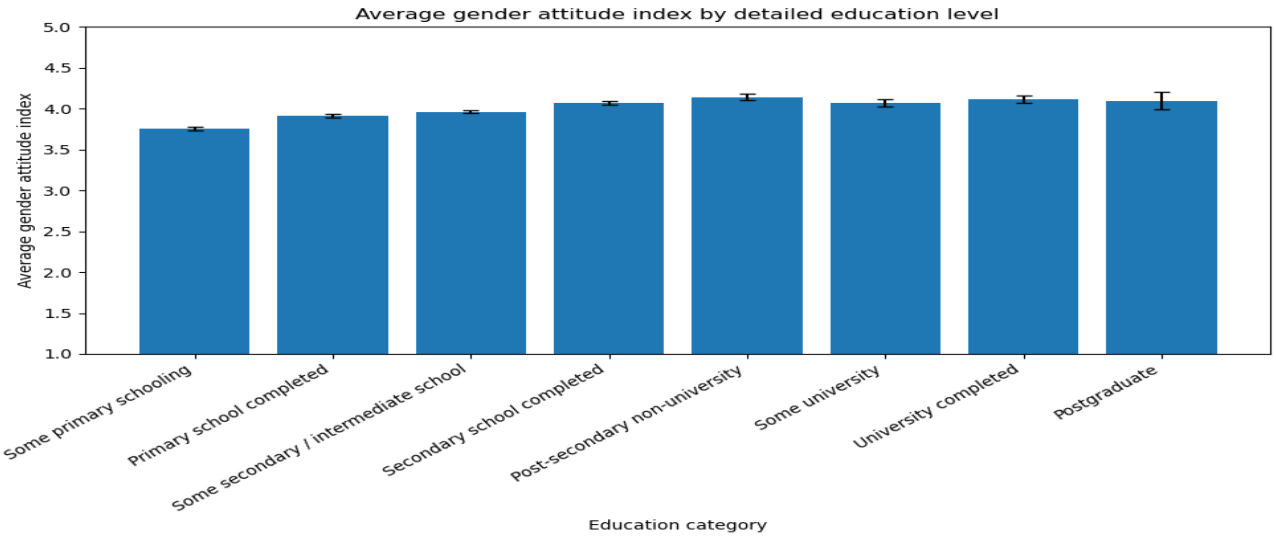
Figure 2: Women's labour market outcomes by education category



Note: Employment is calculated among all women in each education category. Higher-skill occupation is calculated only among employed women with non-missing occupation information. No formal schooling and informal schooling are combined for descriptive presentation.

Similarly, the descriptive pattern also supports the decision to examine the relationship between gender norms and labour market outcomes for women. Figure 3 shows the average gender attitude index by detailed education level. The figure suggests that women with higher education tend to report more egalitarian gender attitudes. The average attitude score rises from about 3.76 among women with some primary schooling to above 4.0 from secondary school completion onwards. The highest average values for are observed among women with post-secondary non university education, university completion and postgraduate education. However, the increase is gradual rather than dramatic, and the pattern becomes relatively flat at higher education levels. This is important for the thesis because it suggests that education and gender attitudes are related, but they are not the same thing. In other words, more educated women tend to hold more egalitarian attitude, but education does not automatically determine gender attitude. This provides descriptive motivation for examining whether gender attitudes are directly associated with women's labour market outcomes and whether they condition the relationship between education and those outcomes. The full descriptive table behind this figure is reported in appendix Table A3.

Figure 3: Women Average gender norm attitude by education categories



Note: The gender attitude index ranges from 1 to 5. Higher values indicate more egalitarian attitudes. The displayed education categories exclude no formal and informal schooling, so the graph starts from primary education. Bars show means; error bars show 95% confidence intervals.

The relationship between education and gender attitudes is further checked using correlation diagnostics reported in Appendix Table A3. The results show that education and gender attitudes are positively related, but the relationship is weak. In the women's employment sample, Spearman correlation between education and the gender attitude index is 0.209, while in the employed women occupation sample it is 0.129. The individual attitude items also show weak positive correlations with education. For example, in the employment sample, The Spearmen correlations are 0.140 for political leadership attitude, 0.160 job-priority attitude, and 0.115 for equal land-rights attitudes. This suggests that more educated women tend to report slightly more egalitarian attitudes, but education and gender attitude are not the same concept. The stronger correlations between the gender attitude index and the individual items as expected because the index is constructed from those items. Overall, the correlation diagnostics supports the use of education and gender attitudes as related but distinct variables in the empirical analysis

4.3 Variables and Measurements

The analysis uses two labour market outcomes. The first is employment, defined as a binary indicator equal to one if the respondent has a job that pays a cash income, either full-time or part-time, and zero otherwise. The variable captures labour market entry and broadly measures whether education is associated with access to paid work. The second outcome is higher-skill occupation, also defined as a binary indicator for whether an employed respondent is in a higher-skill/ non-manual occupations (such as professional, managerial, or clerical works) or lower-skill/Manual occupations (such as agriculture, informal labour, or manual work). It is coded as one for higher-skill occupations and zero otherwise.

Importantly, this outcome is observed only for individuals who are already employed. This introduces a selection issue, since the occupation analysis is conditional on employment and therefore applies to a non-random subset of individuals. As a result, the occupation results should be interpreted as conditional relationships rather than unconditional labour market effects. This second outcome is important because education may influence not only whether women work but also what type of work they are able to access. Using both outcomes strengthens this analysis. A woman may be employed but concentrated in low-status or low productivity work. Looking only at employment would miss this difference. The occupation variable therefore provides a second and arguably higher-quality measure of labour market success.

The main explanatory variable is education, measured as the respondent's highest level of attainment. Education is grouped using the Afrobarometer 0-9 education categories: no formal schooling, informal schooling only, some primary, primary school completed, some secondary/intermediate schooling, secondary school completed, post-

secondary non university education, some university, university completed, and postgraduate education. The main regression keeps those detailed categories rather than collapsing them into broad groups. This is because incomplete and completed schooling may have different labor-market meanings and combining categories could hide important differences across education levels. Also, the analysis focuses on the labor-market returns to education, and these returns may differ depending on whether education is incomplete, completed, vocational/post-secondary, university level, or postgraduate. Grouped education categories are used only for descriptive figures and tables while the main empirical models used the original 0-9 scale.

The key mechanism variable is the gender norm measure, constructed as an individual-level attitude index. The index is based on survey questions capturing views about gender roles including attitudes towards women's political leadership, access to employment & opportunities, and equal rights. Examples of such questions include whether respondents agree that men make better political leaders than women, whether women should have equal chances of being elected in political office, and whether men should have priority in employment when jobs are scarce. Responses to these questions are harmonized and combined into a single index. The gender norm index is constructed such that higher values indicate more egalitarian attitude, while lower values reflect more traditional or restrictive gender norms. In this context, egalitarian norms refer to beliefs that support equal opportunities for men and women in areas such as leadership, employment and political participation. By contrast, traditional norms reflect views that prioritize men's roles in public and economic life and assign more domestic roles to women. This interpretation is important for the empirical analysis as it allows the interaction term to be understood as capturing whether more egalitarian environments strengthen the labor market returns to education for women.

Furthermore, the index is constructed using only the same questions that are available in both round seven and round nine, ensuring comparability across the pooled dataset. This is important since the main analysis pools the two survey rounds, and using non-equivalent questions would weaken the interpretation of the gender norm measure. Although some Afrobarometer country level datasets include pre-calculated indices, these are not consistently available in the merged dataset used in this study. For this reason, the gender norm index is constructed manually to ensure consistency across countries and rounds. The main pooled index is a strict three-item index constructed from matched gender attitude questions available in both survey Rounds 7 and 9. The final index is calculated as the simple average of the three items. Respondents have must have valid responses to all three items receive an index score. Full question wordings, response coding and item weights are reported in Appendix Table A1.

In addition to the main variables, the analysis includes a small set of control variables. These include age and age squared, which capture life-cycle patterns in employment and occupational attainment and a rural residence indicator, which accounts for differences in labor market opportunities between rural and non-rural areas. All models also include country fixed effects to control for time invariant differences across countries and round fixed effects to capture differences between survey rounds.

4.4 Empirical Strategy

The empirical strategy uses linear probability models (ordinary least squares) focusing on two women-only pooled models. The women-only models relate each labour market outcome to education, the norm measure, and an interaction between education and norm measure. The interaction term is central because it tests whether the association between education and labour market outcomes changes as gender norms become more egalitarian.

Model 1. Women's employment and Gender norm Model

$$Employment_{ict} = \alpha_1 + \beta_1 Education_{ict} + \beta_2 Attitude_{ict}^{Ind} + \beta_3 (Education_{ict} \times Attitude_{ict}^{Ind}) + \gamma X_{ict} + \delta_c + \tau_t + \varepsilon_{ict}$$

Where;

Education is education category

Norm is individual gender attitude index

Education X Norm is the interaction between education and gender norms

ict is individual i in country c and round t,

γX_{ict} includes age, age squared and rural residence,

δ_c are country fixed effects,

τ_t are rounfd fixed effects,

ε_{ict} is the error term.

This model tests whether education is associated with women's probability of employment, whether individual attitudes have a direct association with employment, and whether more egalitarian attitudes strengthen or weaken the education-employment relationship.

Model 2. Women's higher-skill occupation and Norm Model

$$Occupation_{ict} = \alpha_3 + \beta_1 Education_{ict} + \beta_2 Attitude_{ict}^{Ind} + \beta_3 (Education_{ict} \times Attitude_{ict}^{Ind}) + \gamma X_{ict} + \delta_c + \tau_t + \varepsilon_{ict}$$

This model focuses on whether education is associated with access to higher-skill occupation among women, and whether this occupation returns to education is stronger in more egalitarian individual-norm settings.

In both models, the coefficient on education captures the association between educational attainment and labour market outcomes. The coefficient on the gender norm index captures the direct association between egalitarian attitude and the outcome. The inter term captures whether the relationship between education and the outcome become stronger or weaker as gender attitude become more egalitarian. The interaction term is central to the thesis because it tests whether the association between education and labour market outcomes varies depending on gender norms. In other words, it examines whether more egalitarian attitudes strengthen or weaken the labour market returns to education for women. The models are estimated using linear probability models (LPM). Although the dependent variables are binary, the LPM is preferred in this context because it allows for straightforward interpretation of coefficients as changes in probabilities and facilitate the interpretation of interaction effects. Alternative non-linear models such as logit and probit are estimated as robustness checks and reported separately, but they are not used as the main specification.

To address inference concerns, the standard errors are computed using a bootstrap procedure clustered at the country level. This approach is adopted because the number of countries in the sample is relatively limited, and bootstrap methods provide more reliable inference in such settings compared to conventional clustered standard errors. Additional robustness checks including round-specific models and alternative specifications are presented in later sections.

The study is observational and should therefore be interpreted as associational rather than causal. Endogeneity may arise because gender attitudes are not randomly assigned. For example, household background, labour market opportunities, religion, culture or previous employment experience may influence both gender attitudes and labour market outcomes. To reduce some of these concerns, the main models include age, age squared, rural residence, country fixed effects and round fix effects. In addition, the robustness checks add respondents' own living conditions and perceived country economic condition to account for household welfare and broader economic circumstances. This added controls help test whether the gender norm results are simply capturing economic disadvantage or country level economic perceptions. For this reason, the results are interpreted as associations rather than causal effects

Table 2. Summary of key variables

Variable	Type	Description
Employment	Binary	Indicator equal to 1 if the respondent is engaged in paid work (full-time or part-time), 0 otherwise
Occupation	Binary	Indicator equal to 1 if an employed respondent is in a higher-skill (more non-manual) occupation category and 0 otherwise
Education	Categorical (0-9)	Education attainment grouped 0-9 categories from no formal schooling to postgraduate education
Gender norm index (attitude)	Continuous index	Individual-level index constructed from gender role questions; higher values indicate more egalitarian attitudes
Female	Binary	Indicator equal to 1 for women and 0 for men (used only in supportive comparison models)
Age	Continuous	Respondent's age in years
Age_squared	Continuous	Square of age, capturing non-linear life-cycle effects
Rural	Binary	Indicator equal to 1 if respondent lives in a rural area, and 0 otherwise
Country fixed effects	Fixed effects	Controls for time-invariant differences across countries
Round fixed effects	Fixed effects	Controls for differences between survey Rounds

The analysis focuses primarily on women-only models. The gender norm index is constructed using harmonised questions from Afrobarometer Round 7 and Round 9, with higher values indicating more egalitarian attitudes. Higher-skill occupation variable is defined only for employed women with non-missing occupation information. Employment is measured for all women with non-missing employment information. The female variable is used only for background motivation and not part of the main women-only empirical models. Full variable definitions, coding decisions and country coverage are reported in Appendix Table A2.

5. Empirical Results

5.1 Results of Main Model

The empirical analysis examines whether gender norms shape how education translates into women's labour market outcomes in Sub-Saharan Africa. The focus is therefore not only on the association between education and employment or occupational attainment, but more importantly on whether gender norms influence these relationships directly and through interaction with education.

The results show that education is positively associated with both employment and higher-skill occupation for women. Because education is measured using the Afrobarometer 0 to 9 categories, the results also show how the association changes across detailed levels of schooling, from informal schooling to postgraduate education. The magnitude of these effects generally increases at higher levels of education especially from secondary school completion upwards, indicating that educational attainment is strongly associated with women's labour market outcome. This pattern is particularly strong for occupational outcomes, where post-secondary non-university education, university completion and postgraduate education are associated with substantial increases in the probability of accessing higher skilled work.

The central empirical question is whether gender attitudes are directly associated with women's labour-market outcomes within education groups or whether they moderate the relationship between education and those outcomes. Table 3 presents the underlying coefficients from the linear probability models (LPM). However, because the continuous gender attitude index is interacted with categorical education, the coefficient on the gender attitude index

represents the attitude association only for women with no formal schooling which is the reference education category. For every other education category, the complete association between gender attitude and the outcome must be calculated by combining the attitude coefficient with the corresponding education attitude interaction coefficient. Education-specific marginal effects are therefore presented after Table 3 to evaluate the direct-association mechanism, while the interaction coefficients are used to access whether the attitude association differs across education levels and therefore provide evidence of moderation. Additional supporting tables and robustness estimates are presented in Appendix Tables A4-A9. These combined marginal effects are therefore calculated and presented in section 5.1.1

Table 3. Main pooled results: Women's Employment and Higher-skill Occupation Model

Variables	Women Employment	Women Higher-skill Occupation
Informal schooling only	0.0273	0.0120
	(0.0179)	(0.0312)
Some primary schooling	0.0314**	0.0283
	(0.0124)	(0.0190)
Primary school completed	0.0683***	0.0781***
	(0.0176)	(0.0238)
Some secondary / intermediate school	0.0808***	0.1282***
	(0.0144)	(0.0359)
Secondary school completed	0.1397***	0.2492***
	(0.0181)	(0.0473)
Post-secondary non-university	0.2948***	0.6859***
	(0.0203)	(0.0397)
Some university	0.1430***	0.6322***
	(0.0176)	(0.0442)
University completed	0.3958***	0.7806***
	(0.0222)	(0.0370)
Post-graduate	0.4744***	0.8785***
	(0.0653)	(0.0398)
Individual attitude index	0.0142**	0.0109
	(0.0061)	(0.0080)
Informal schooling only × individual attitude	0.0053	0.0097
	(0.0103)	(0.0209)
Some primary schooling × individual attitude	-0.0022	0.0009
	(0.0071)	(0.0077)
Primary school completed × individual attitude	-0.0082	-0.0060
	(0.0076)	(0.0089)
Some secondary / intermediate school × individual attitude	-0.0093	-0.0009
	(0.0084)	(0.0167)
Secondary school completed × individual attitude	-0.0187**	-0.0141
	(0.0095)	(0.0152)
Post-secondary non-university × individual attitude	-0.0033	0.0378
	(0.0212)	(0.0231)
Some university × individual attitude	-0.0202	-0.0097
	(0.0214)	(0.0296)
University completed × individual attitude	-0.0166	0.0068
	(0.0209)	(0.0192)
Post-graduate × individual attitude	0.0269	0.0559
	(0.0589)	(0.0416)
Controls (Age, Age-squared; rural Residence)	Yes	Yes
Country & Round Fixed Effects	Yes	Yes
Observations	41,387	10,347
R^2 / pseudo R^2	0.178	0.485

*Linear probability models are estimated for women in 31 Sub-Saharan African countries using Afrobarometer survey rounds 7 & 9. The dependent variables are employment and higher-skill occupation. The gender attitude index is a strict three-item index constructed from matched Afrobarometer attitude questions, with higher values indicating more egalitarian attitudes. Bootstraps standard errors clustered at the country level are reported in parentheses. The reference category for education is no formal education. The occupation model is estimated only amongst employed women. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The coefficient on the gender-attitude index represents the attitude association for women with no formal schooling, the reference category. The interaction coefficients show how the attitude association in each remaining education category differs from that of the reference category*

5.1.1 Education-Specific Marginal Effects of Gender Attitudes

To evaluate the direct association mechanism more accurately, the marginal effect of the gender attitude index is calculated separately for every education category. For women with no formal schooling, the marginal effect equals the coefficient on the gender attitude index because this is the reference education category. For every other education category, the marginal effect combines the coefficient on the gender attitude index with the corresponding education attitude interaction coefficient. Table 4 reports this complete education specific marginal effect in probability units, together with country-cluster bootstrap standard errors and 95% confidence intervals.

Each marginal effect shows the change in the probability of employment or higher skilled occupation associated with a one-point increase in the gender attitude index within the stated education category, holding the included controls and fixed effect constant. These marginal effects are used to determine whether gender attitudes are associated with the outcome within a particular education group. By contrast, the interaction coefficient in Table 3 indicates whether the attitude association for an education category differ significantly from attitude association for women with no formal schooling. A marginal effect may be statistically significant even when the corresponding interaction coefficient is not significant. The two sets of results therefore help distinguish the direct association mechanism from the moderation mechanism.

Table 4. Marginal Effects of Gender Attitudes by Education Level: LPM

	Women Employment		**Women High-Skill Occupation**	
Education level	**Marginal Effect**	**95% CI**	**Marginal Effect**	**95% CI**
No formal schooling	0.0142** (0.006)	[0.0024, 0.0260]	0.0109 (0.0079)	[-0.0045, 0.0264]
Informal schooling only	0.0194** (0.0098)	[0.0002, 0.0387]	0.0206 (0.0242)	[-0.0269, 0.0681]
Some primary schooling	0.0120** (0.0049)	[0.0023, 0.0217]	0.0118** (0.0053)	[0.0014, 0.0223]
Primary school completed	0.006 (0.008)	[-0.0097, 0.0217]	0.005 (0.0064)	[-0.0075, 0.0175]
Some secondary / intermediate	0.0048 (0.0058)	[-0.0065, 0.0162]	0.01 (0.0116)	[-0.0127, 0.0328]
Secondary school completed	-0.0045 (0.0079)	[-0.0200, 0.0110]	-0.0031 (0.0121)	[-0.0269, 0.0206]
Post-secondary non-university	0.0109 (0.0192)	[-0.0268, 0.0486]	0.0488** (0.0196)	[0.0103, 0.0872]
Some university	-0.006 (0.0197)	[-0.0446, 0.0326]	0.0013 (0.0286)	[-0.0547, 0.0572]
University completed	-0.0024 (0.0206)	[-0.0427, 0.0378]	0.0177 (0.0175)	[-0.0166, 0.0520]
Postgraduate	0.0411 (0.0594)	[-0.0753, 0.1575]	0.0668* (0.038)	[-0.0077, 0.1413]

Observations	41,387	10,347
Successful bootstrap replications	500	500
Controls: age, age squared and rural residence	Yes	Yes
Country fixed effects	Yes	Yes
Survey-round fixed effects	Yes	Yes

The table reports education-specific marginal effects from linear probability models. Marginal effects and 95% Confidence intervals are reported in probability unit. Country-cluster bootstrap standard errors are reported in parentheses. Each marginal effect represents the change in the probability of the outcome associated with a one-point increase in the Gender Attitude Index within the stated education category. All models control for age, age squared and rural residents can include country and survey-round fixed effect. The higher skilled occupation model is restricted to employed women with valid occupation Information. *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$. *In each bracketed 95% confidence interval, the first value is the lower confidence interval, and the second value is the upper confidence limit.*

5.1.2 Employment Marginal Effects

The employment results provide evidence that the association between gender attitude and labour market entry differs across education categories. Among women with no formal schooling, a one-point increase in the gender attitude index is associated with a 0.0142 increase in the probability of employment. This is equivalent to a 1.42 percentage-point increase and is statistically significant at the 5% level. The positive results for the reference category show that more egalitarian gender attitudes are associated with a higher probability of employment among women with no formal schooling.

The marginal effect is also positive and statistically significant among women with informal schooling. A one-point increase in the attitude index is associated with a 00194 increase in the probability of employment, corresponding to approximately 1.94 percentage point. Among women with some primary schooling, the marginal effect is 0.0120, corresponding to a 1.20-percentage point increase in employment probability. This estimate is also statistically significant at the 5% level.

For women who completed primary school or attained higher levels of education, the employment marginal effects are not statistically significant. Although some estimates are positive and others are negative, their 95% confidence intervals include zero. The negative statistically insignificant estimate for secondary graduates, women with some university education and university graduates should therefore not be interpreted as evidence that egalitarian attitudes reduce employment. Instead, the estimate indicates that the data do not provide sufficient statistical evidence of a positive or negative association within this education categories.

The employment findings therefore suggest that the positive association between egalitarian gender attitudes and employment is concentrated mainly among women at the lower end of the education distribution. The results do not support the interpretation that one common positive attitude effect applies equally across all education levels. Instead, the direct association between gender attitude and employment is education specific.

5.1.3 Higher-Skilled Occupation Marginal Effects

The marginal-effect results for higher-skill occupation are less consistent than the employment results. Among employed women with some primary schooling, a one-point increase in gender attitude Index is associated with a 0.0118 increase in the probability of being in a higher-skilled occupation. This corresponds to approximately 1.18 percentage points and is statistically significant at the 5% level.

A larger positive association is observed amongst women with post-secondary non-university education. For this group, a one-point increase in the gender-attitude index is associated with a 0.0488 increase in the probability of higher-skilled occupation, equivalent to approximately 4.88 percentage points. The 95% confidence interval does not include zero, and the estimate is statistically significant at the 5% level.

The postgraduate marginal effect is also positive, at 0.0668, corresponding to approximately 6.68 percentage points. However, this estimate is statistically significant only at the 10% level and its 95% confidence interval includes zero.

It should therefore be treated as weak and imprecise evidence rather than a strong finding. The remaining occupation marginal effects are not statistically significant.

The results show that gender attitudes may be associated with higher-skill occupation at selected education levels. However, unlike the employment results, the significant occupation effects are not concentrated in one clear path of the education distribution. The pattern is therefore less consistent and should be interpreted cautiously. In addition, the occupation model includes only women who are already employed, meaning that the estimate applies to a selected group of employed women rather than to all women.

5.1.4 Interpretation of the Moderation Mechanism

The marginal effects show the complete association between gender attitudes and each labour-market outcome within every education category. However, evidence of moderation is assessed primarily through the education-attitude interaction coefficients reported in Table 3. This coefficient test whether the attitude association within an education category differs significantly from the association among women with no formal schooling.

In the employment model, most education-attitude interaction coefficients are not statistically significant. The only statistically significant interaction is for secondary school completion, and its coefficient is negative (-0.0187). This indicates that the association between a one-point increase in the gender attitude index and employment probability is 0.0187 probability units lower for women who completed secondary school than for women with no formal schooling, the reference category. However, the complete marginal effect for secondary school graduates is not statistically different from zero. The results therefore do not show that egalitarian attitudes significantly reduce employment among secondary school graduates. Rather, it shows that their attitude-employment slope is lower than that of the reference group.

In the higher skilled occupation model, none of the education-attitude interaction coefficient in the main LPM specification are statistically significant. Therefore, although some education-specific occupation marginal effect are positive and significant, the evidence does not show that this attitude associations differ significantly from the reference category. A significant marginal effect within a group is not, by itself, evidence of moderation. Moderation requires evidence that the association differs across education categories.

Overall, the interaction coefficients do not reveal a clear or systematic pattern in which more egalitarian gender attitudes strengthen the labour market returns to education. Most interactions are statistically insignificant, and the one significant employment interaction is negative rather than positive. The main model therefore provides weak evidence for the proposed moderating mechanism.

To provide a fuller interpretation of the interaction between education and gender attitudes, adjusted probability predictions were calculated across the complete gender-attitude scale for every education category. Figures 4 and 5 show how the adjusted probability of employment and higher-skilled occupation changes as the gender-attitude index increases from 1, representing the least egalitarian attitudes, to 5, representing the most egalitarian attitudes. The figures complement the education-specific marginal effects by showing the estimated outcome levels and the direction of the attitude-outcomes relationship within every education category.

Figure 4. Adjusted Employment Predictions by Education level and Gender Attitudes

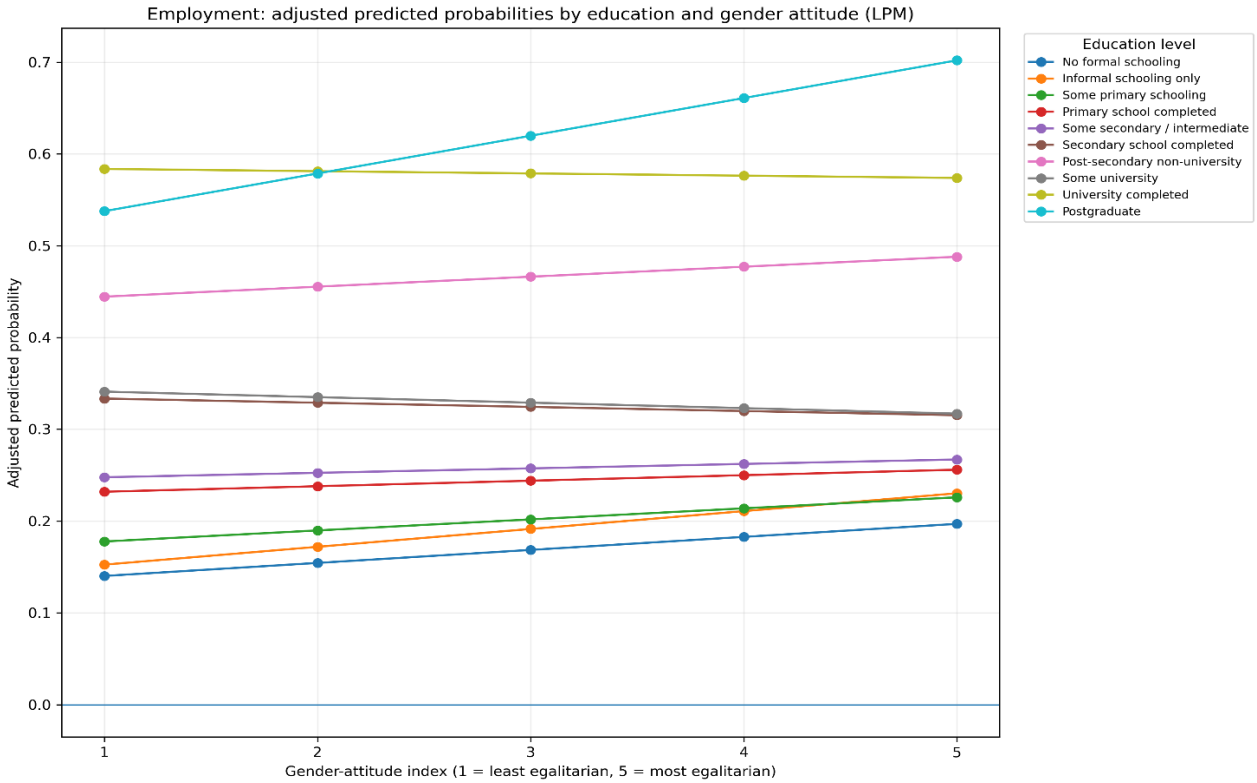
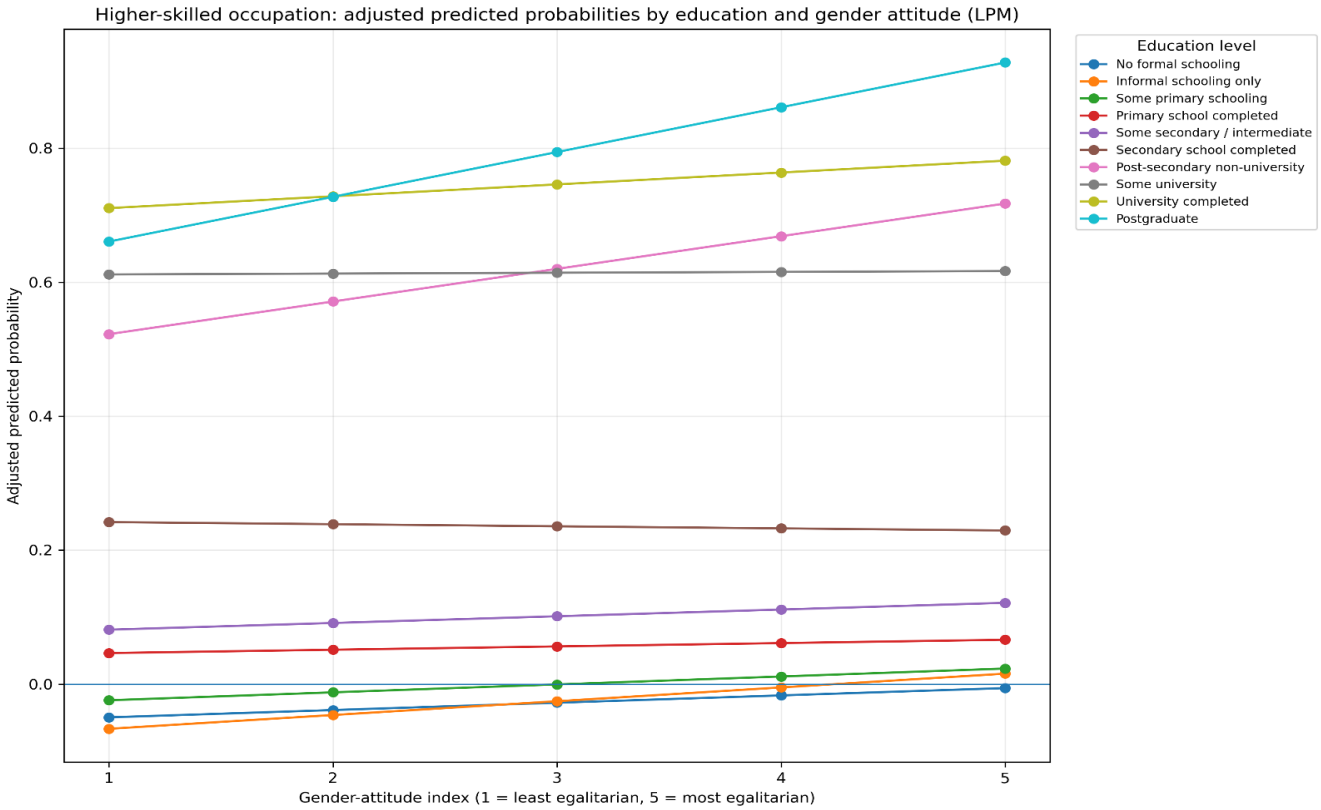


Figure 4 shows substantial differences in adjusted employment probabilities across education categories. Women with higher levels of education generally have higher predicted employment probabilities than women with limited formal education. However, the relationship between gender attitude and employment is not uniform across education levels. The predicted employment line rises most clearly among women with no formal schooling, informal schooling and some primary schooling, indicating that more egalitarian attitudes are associated with greater employment participation within these groups. The lines are flatter or slightly declining for several higher education categories. This pattern supports the marginal-effect results by showing that the positive attitude-employment association is concentrated mainly among woman with lower educational attainment rather than increasingly consistent with education.

Figure 5 shows a strong education gradient in adjusted higher-skilled occupation probabilities among employed women. Women with university and postgraduate education have considerably higher predictable abilities of entering higher-skilled occupations than women with lower educational attainment. The slope across the gender attitude scale varies by education category. The clearest positive patterns appear for post-secondary non-university and Postgraduate education while several other categories show relatively small changes. The figure therefore suggests that education is the dominant factor associated with occupational attainment while the relationship between gender attitude and higher skill-occupation is more limited and education specific.

Figure 5. Adjusted Higher-Skilled Occupation Predictions by Education Level and Gender Attitudes



The figure above report adjusted linear predictions from the LPM specifications. Because the linear probability models do not constrain fitted values to the interval between zero and one, some predictions may fall slightly below zero and one. Such values should be interpreted as linear model prediction rather than literal probabilities.

In addition, the thesis provides a visual presentation of the education-specific marginal effects and their 95% confidence intervals for employment and higher-skilled occupation, respectively. The points represent the estimated marginal effect, while the horizontal confidence intervals show the degree of statistical uncertainty around each estimate. A confidence interval that crosses the zero line indicates that the marginal effect is not statistically significant at the 5% level. The employment figure shows that the estimated marginal effects for no formal schooling, informal schooling and some primary schoolings are all located to the right of the zero line, and their 95% confidence intervals do not cross zero. These are therefore positive and statistically significant education-specific associations between egalitarian gender attitudes and employment. For all other education categories, the confidence intervals across the zero-line meaning that the estimated associations are not statistically significant from zero at the 5% level. The graph therefore shows that the positive relationship between egalitarian gender attitudes and employment is concentrated among women with lower levels of educational attainment. This is reported in Appendix Figure A1

In the higher-skilled occupation Figure, only some primary schooling and post-secondary non-university education have confidence intervals lying completely to the right of zero. This indicates positive and statistically significant associations for these two groups, while the other occupation estimates are not statistically significant at the 5% level. This is reported in Appendix Figure A2

Taking together, the main results provide stronger evidence for the direct-association mechanism than for the moderating mechanism. More egalitarian gender attitudes are positively associated with employment among women with no formal schooling, informal schooling and some primary schooling. This suggests that gender attitude may be particularly relevant for labour-market entry among women with relatively low levels of education. However, the association is not statistically significant across the full education distribution. For higher skilled occupation, positive associations are observed at selected education levels, particularly some primary schooling and post-secondary non university education. Nevertheless, these results are less consistent than the employment findings and must be interpreted considering the selected employed women sample.

The interaction results provide limited support for the hypothesis that gender attitude systematically moderates the relationship between education and labour-market outcomes. Most interaction coefficient are not statistically significant, and the marginal effects do not display a clear pattern in which the association of egalitarian attitudes becomes stronger as education increases. The evidence therefore does not support the claim that egalitarian gender attitudes consistently strengthen the labour-market returns to education.

The more defensible conclusion is that gender attitudes are associated with women's labour market outcomes mainly through education specific relationships with employment, rather than through a stable moderating effect on the relationship between Education and labour market outcomes. This means that gender attitudes appear to matter more clearly at the stage of labour market entry, especially among women with relatively low education, while education itself remains particularly important for access to higher skilled occupations

5.2 Robustness Checks

This section extends the main results by examining whether the findings remain stable under alternative specifications. Since the main contribution of the thesis is the role of gender norms, the interpretation focuses especially on two issues: First, whether gender norms have a direct association with women's labour market outcomes; and second, whether gender norms condition the relationship between education and labour market outcomes through the education-norm interaction terms. The robustness check is continuation of the results presented in main empirical models. The tables are reported in the appendix while the discussion here focuses on the substantive interpretation of the results. Because the robustness models include interactions between gender attitudes and categorical education, the coefficient on the attitude variable represents the attitude association for women with no formal schooling, the reference education group. It should therefore not be interpreted as one general association applying equally to all women. The education-specific marginal effects are examined for the main Linear Probability Model and the non-linear probability model, Logit robustness model, while the remaining robustness checks are used mainly to access the stability of the reference group coefficient and the education-attitude interaction pattern.

5.2.1 Logit and Probit Robustness Checks

The first robustness check estimates logit and probit models because both dependent variables are binary. The linear probability model remains the main specification because it is easier to interpret and present interaction terms more transparently, but the non-linear models help check whether the main findings depend on model choice. Appendix Table A5.1 reports the average marginal effects associated with the separate components of the nonlinear model, including the education categories, the gender-attitude index and the education-attitude interaction components. These separate estimates cannot be interpreted as the complete association between gender attitudes and the outcome within a particular education category. Appendix Table A5 therefore reports the education-specific average marginal effects of gender attitudes calculated from the full Logit model. It directly shows the complete average marginal effect of a one-point increase in the gender-attitude index within each education category

The Logit and Probit results continue to show a strong positive association between education and women's labour-market outcomes. The positive education pattern is particularly clear for higher skilled occupation, where most post-secondary and university level education are associated with substantially higher probabilities of occupational attainment. This supports the main finding that education is important for both employment and access to higher skilled work. The attitude association coefficients 0.0241 and 0.0221 for employment model and 0.0165 and 0.0119 for higher-skill occupation model for both Logit and Probit respectively in Appendix Table A5.1 are not complete general attitude effects for all education categories. They come from the separate model terms and should not be interpreted as uniform effects applying to every woman. They only show the attitude association for the reference group.

The education specific logit average marginal effect provides a more complete interpretation of the association between gender attitudes and employment. For women with no formal schooling, a one-point increase in the gender attitude index is associated with a 0.0193 increase in the average predicted probability of employment. The corresponding average marginal effects 0.0263 for women with informal school and 0.0148 for women with some primary schooling. These three estimates are positive and statistically significant. The remaining education-specific employment marginal effects are not statistically significant. The logit results therefore reproduce the main Linear probability model pattern. The positive association between egalitarian gender attitudes and employment is concentrated among women with relatively low levels of education rather than applying uniformly across the full education distribution. See Table A5 in Appendix

For higher skilled occupation, the education-specific logit marginal effect is positive and statistically significant only among women with post-secondary non university education. For this group, a one-point increase in the gender attitude index is associated with a 0.0423 increase in the average predicted probability of higher-skilled occupation. The marginal effects for the remaining education categories are not statistically significant. The nonlinear evidence for higher-skilled occupation is therefore more limited than the employment evidence and is concentrated in one education category. See Appendix Table A5

The interaction terms again provide limited support for the education-gender norm mechanism. In the employment models, several education attitude interactions are negative and statistically significant, including primary school completed, some secondary/intermediate schooling, secondary school, and university completed. The secondary school completed interaction is negative in both the logit/probit models, with average marginal effect of -0.0270 and -0.0255, respectively. These negative estimates do not mean that egalitarian attitude significantly reduce employment within these education categories. Rather, they indicate that the attitude-employment relationship for these groups is weaker than that of women with no formal schooling, the reference education category. In the higher-skilled occupation models, none of the education-attitude interaction estimate are statistically significant. See Table A5.1 in appendix. The nonlinear interaction results therefore do not support the expected positive moderation mechanism.

Instead, the significant employment interactions are negative, while the occupation interactions are mostly statistically insignificant.

Overall, the completed logit marginal effect supports the linear probability model (LPM) findings that the positive association between egalitarian gender attitude and employment is concentrated among women with lower educational attainment. The logic and probit interaction result also provide no consistent evidence that more egalitarian attitudes strengthen the relationship between education and labour market outcomes. The nonlinear models therefore support an education-specific employment association but not a stable positive moderating mechanism. The complete average marginal effects from the logit robustness checks are reported in Appendix Table A5

5.2.2. Economic Condition Control Robustness

The second robustness check adds two additional controls: respondents' assessment of the country's economic condition and their own living conditions. This check is useful because labour market outcomes may be shaped not only by education and gender norms but also my broader economic perceptions and household welfare. If the main findings disappear after these controls are added, then the earlier results may partly reflect omitted economic conditions rather than the relationship between education, norms and labour market outcomes.

The results show that education remains strongly and positively associated with both outcomes. The positive education pattern is especially clear at secondary school completion and higher education levels, and it remains particularly strong in the occupation model. This confirms that the role of education is not driven only by differences in perceived economic conditions or living standards.

In the employment model, the coefficient on the gender-attitude index remains positive and statistically significant at 0.0137 after the additional economic controls are included. Since no formal schooling is the reference category, this result represents the attitude association among women with no formal schooling rather than a general association for all women. The estimate is close to the corresponding main-model coefficient of 0.0142. In the occupation model, the reference-group attitude coefficient is 0.0107 and is not statistically significant.

The interaction terms remain weak. In the employment model, the interaction between secondary school completion and individual attitude is negative and statistically significant with a coefficient of -0.0186. This means that the association between secondary school completion employment is weaker among women with more egalitarian attitudes than the reference group, contrary to the expected positive moderation mechanisms. The other employment interaction terms are not statistically significant. In the occupation model, most interaction terms are also not statistically significant, although the interaction between post-secondary non-university education and individual attitude is positive and weakly significant. Since this result appears only for one education category and one outcome, it should be interpreted cautiously rather than as strong evidence that gender norms consistently strengthen the returns to education.

This robustness check therefore confirms that the education results and reference-group employment association remain stable after controlling for perceived economic conditions, while the interaction results continue to provide weak and inconsistent evidence of moderation. The full estimates for the economic-condition robustness checks are reported in Appendix Table A6.

5.2.3. Single-Question Gender Attitude Robustness

The third robustness check replaces the three-item gender attitude index with each attitude item separately. This check is important because the pooled index combines three related but different dimensions of gender attitude; political leadership, men's priority for jobs, and equal land rights. Estimating the items separately helps show whether the main results are driven by one specific attitude dimension or whether the pattern is consistent across all three items.

The attitude coefficient for the separate questions apply to women with no formal schooling, the reference education category. For employment, the political-leadership attitude coefficient is positive and statistically significant at 0.0077, while the men-priority-for-jobs and equal-land-rights coefficients are not statistically significant. For higher skilled occupation, only the equal land right coefficient is positive and statistically significant at 0.0165. The reference-group attitude-employment associations therefore differ across the three attitude dimensions.

The interaction terms provide limited support for the moderation mechanism. In the employment models, most education-attitude interactions are not statistically significant. The equal-land-rights item shows a negative and statistically significant interaction with secondary school completion, with a coefficient of -0.0117. This is consistent with the negative secondary school completion interaction found in the main model, but it does not support the expected positive moderation effect. The political leadership item also shows a negatively significant interaction for secondary Intermediate schooling while the main priority for job shows in negative weakly significant interaction for some secondary/intermediate schooling. Overall, the patterns are scattered and do not show a stable positive interaction mechanism.

For higher skill occupation, interaction results are also mixed. Some interactions are statistically significant, but they vary by attitude item and educational category. For example, political leadership has positive significant interactions for some primary schooling and post-secondary non-university education, while equal land rights have negative significant interactions for some primary schooling, primary school completion, some secondary/intermediate schooling and secondary school completion. These mixed signs suggest that the individual attitude items do not produce one consistent moderation pattern.

Overall, the Single-question robustness checks support a cautious interpretation of the gender-norm mechanism. The main index remains useful because it provides a consistent pooled measure of gender attitude across rounds, but the single question results show that the attitude coefficient and interaction effects are partly item-specific. Therefore, the findings do not support a broad claim that all egalitarian gender attitudes strengthen the returns to education. Instead, the evidence suggests that some gender attitude dimensions are more closely related to labour market outcomes than others, and that's the education attitude direction remains weak and unstable. The full singe-question attitude robustness results are reported in Appendix table A7

5.2.4. Round-Specific Full-Gender Norm Robustness

This fourth robustness check estimates the woman-only model separately for round seven and round nine using the full gender attitude index available within each round. This is important because the main pooled analysis uses only matched attitude items that are comparable across the two survey rounds. The round-specific models therefore test whether the main findings are sensitive to the narrower pooled norm measure. However, the result continues to show that education is positively associated with women's labour market outcomes. However, the main purpose of this robustness check is to examine whether the gender norm result remain stable across survey rounds.

In the round seven employment model, the coefficient on the full attitude index is positive and statistically significant at 0.0350. Because no formal schooling is the reference education category, this means that among women with no formal schooling, a one-point increase in the full attitude index is associated with a 0.0350 increase in employment probability. The corresponding coefficient in the round nine employment model is positive but not statistically significant. The attitude coefficient is also not statistically significant for the no formal schooling reference group in either higher skilled occupation model for both round seven & nine. The reference-group attitude association is therefore present in round seven employment but is not stable across both survey rounds and outcomes.

The interaction terms provide limited support for the moderation mechanism. In the Round 7 employment model, some education-attitude interactions are negative and statistically significant, including some secondary/intermediate schooling, secondary school completion, and some university. The secondary school completed interaction has a coefficient of -0.0435, suggesting that the employment association of secondary school completion is weaker as the

full attitude index becomes more egalitarian. This is contrary to the expected positive moderation mechanism. In round 9 employment, only the primary school completed interaction is negative and statistically significant with a coefficient of -0.0175. This again does not support the idea that egalitarian gender attitudes consistently strengthen the education employment relationship.

For higher-skill occupation, interaction results are also weak and unstable. In Round 7, the post-secondary non-university interaction is positive and statistically significant, with a coefficient of 0.0768. However, the positive interaction appears only in one round and one education category. In Round 9, none of the occupation interaction terms are statistically significant. This means that round-specific occupation models do not provide robust evidence that gender attitudes consistently strengthen the relationship between education and higher-skill occupation. The round-specific results therefore show that the positive reference-group employment association is present only in round 7, while the interaction estimate vary across rounds, education categories and outcomes. The full round-specific robustness estimates are reported in Appendix Table A8

A men-only model is also reported as a supporting comparison in appendix Table A8. This model is not part of the main thesis analysis, because the study focuses on women's labour market outcomes, but it helps assess whether the gender attitude interaction pattern observed among women is specific to women. The results show that the coefficient on the attitude index is not statistically significant for employment & or higher-skill occupation for men with no formal schooling, the reference education category. This differs from the women's employment model, where the attitude coefficient is positive and statistically significant.

However, the men-only model also shows a negative and statistically significant interaction between secondary school completion and individual attitude in the employment model, with a coefficient of -0.0244. This suggests that the negative secondary-school interaction found in the women's employment model may not be uniquely women-specific. In the men's occupation model, some higher-education interactions are positive and significant, especially post-secondary non university education x attitude (0.0601) and university completed x attitude (0.0272), but these results are treated only as supporting evidence. Overall, the men-only comparison strengthens the cautious interpretation of the thesis: the interaction between education and attitude is not stable enough to be interpreted as a strong moderation mechanism that is unique to women. The men-only supporting comparison is reported in Appendix Table A9.

5.3 Overall Interpretation of the Robustness Checks

Taken together, the robustness checks strengthen the central empirical conclusion of the thesis but also narrows the interpretation of the gender norm mechanism. The first stable finding is that education is consistently and positively associated with women's labour market outcomes. This result holds across the main pooled models, the economic - control model, the logit and probit checks, the single-questions models and the round specific models. The relationship is especially strong for higher-skill occupation, where post-secondary and university-level education have large and statistically significant associations with occupational attainment among employed women.

The second finding is that the association between gender attitudes and employment is education-specific rather than uniform across all women. In the main pooled LPM, the education-specific marginal effects are positive and statistically significant among women with no formal schooling, informal schooling and some primary schooling. In the economy-condition robustness model, the attitude coefficient also remains positive and statistically significant for women with no formal schooling, the reference education category. The completed Logit marginal effect reproduces the main employment pattern, with positive and statistically significant associations among women with no formal schooling, informal schooling and some primary schooling. These results suggest that more egalitarian gender attitude are most clearly associated with employment among women with relatively low levels of education

The evidence for higher-skilled occupation is more limited and less consistent. In the main LPM, positive and statistically significant education-specific marginal effects are found for women with some primary schooling and post- secondary non university education. In the completed logit marginal effect model, only the post-secondary non-

university estimate remains positive and statistically significant. The remaining education-specific occupation estimates are not statistically significant. Since the occupation model is estimated only among employed women, these results should be interpreted carefully. If gender attitude influences who enters employment in the first place, the occupation sample may already reflect selection into employment.

The third finding is that the interaction terms are not robust enough to support a strong moderation claim. The original expectation was that egalitarian gender norms would strengthen the relationship between education and labour market outcomes. However, the interaction results do not consistently support this expectation. In the main model and the economic-control robustness model, the interaction between secondary school completion and individual attitude is negative and statistically significant in the employment model. The Logit and Probit checks also show negative significant interactions for some education categories. These results do not support the expected positive moderation mechanism.

The single-question robustness checks further show that the gender norm mechanism is not equally strong across all attitude items. Some attitude-items coefficients for women with no formal schooling, the reference education category, and some education-attitude interaction terms are statistically significant. But the pattern differs across political leadership, men's priority for jobs, and equal land rights. This suggests that the three attitude items are related but do not behave identically. Therefore, the main gender attitude index remains useful as a consistent pooled measure, but the single-question results show that the relationship between gender attitudes and labour market outcomes is partly item-specific

The round-specific robustness checks also support a cautious interpretation. The coefficient on the full attitude index is positive and statistically significant only for women with no formal schooling in the round seven employment model. It is not statistically significant for the corresponding reference group in the round nine employment model or in either occupation model. The education-attitude interaction terms also vary across rounds, education categories and outcomes. Some are negative and statistically significant, while others are insignificant or appear in only one round. The round-specific results therefore do not provide stable evidence that egalitarian gender attitude consistently strength the labour-market returns to education.

Overall, the robustness checks refine rather than overturn the thesis findings. Education remains consistently and positively is associated with employment and higher-skilled occupation for women in Sub–Saharan Africa. The main LPM and completed Logit marginal effects show that the positive association between egalitarian gender attitudes and employment is concentrated mainly among women with lower educational attainment. Evidence for higher-skilled occupation is more limited and appear only at selected education levels. The education-attitude interaction estimates are mixed, mostly statistically insignificant and sometimes negative, providing weak evidence that egalitarian attitudes systematically strengthen the labour-market returns to education. The more defensible conclusion is therefore that gender attitude has education specific associations with women's entry into employment while evidence of a stable moderating mechanism remains limited.

6. Discussion, Policy Relevance and Limitation

6.1 Discussion

The purpose of this thesis is to examine how education and gender attitudes are associated with women's labour-market outcomes in Sub-Saharan Africa and whether gender attitudes condition the relationship between education and those outcomes. The findings provide a more differentiated picture than the initial expectation. Education is strongly associated with both employment and higher skilled occupation, particularly at higher levels of attainment. Gender attitude, however, do not appear to operate uniformly across education levels or across the two labour-market outcomes. The clearest association is found at the point of labour-market entry, where more egalitarian gender

attitudes are positively associated with employment among women with no formal schooling, Informal schooling and some primary schooling. By contrast, the evidence that gender attitudes consistently strengthen the labour-market returns so education is weak. The findings therefore suggest that education and gender attitudes operate partly through different mechanism and at different stages of women's labour-market participation.

The strong education gradient is consistent with Human Capital Theory and Signalling theory. Human capital theory predicts that education raises productive capacity by improving skills, knowledge and adaptability, while signalling theory suggests that educational qualifications can provide employers with information about ability, Discipline and trainability (Becker, 1964; Mincer 1974; Spence, 1973). The findings are particularly consistent with these arguments. For higher-skilled occupation, where the association with education becomes substantially stronger at secondary, post-secondary and university levels. This is understandable because professional, technical, managerial and other higher-skilled occupations generally require formal qualifications and specialised knowledge. Education therefore appears to play two related roles: it improves women's chances of entering employment, but it is especially important in determining the type of occupation women can access once they are employed. This distinction is consistent with the theoretical framework of the thesis, which treats employment and occupational attainment as separate stages of the labour-market process.

At the same time, the employment results show why a human capital explanation alone is insufficient. The education-specific marginal effect indicates that egalitarian gender attitudes are positively associated with employment among women with no formal schooling, informal schooling and some primary schooling, whereas the corresponding associations are not statistically significant across most higher education categories. This is an important finding because it suggests that gender attitudes may be particularly relevant where women possess few formal educational resources with which to overcome barriers to employment. For women with limited formal education, entering paid work may be more strongly related to whether employment is considered personally and socially acceptable, whether household members support women's work, whether care responsibilities can be reconciled with employment (Goldin, 2014; Jayachandran, 2021). More egalitarian attitudes may therefore be associated with a greater willingness or ability to cross the initial boundary between non- employment and paid work. However, this mechanism is not directly observed in the present data.

This interpretation connects closely to Social Role Theory. Social Role Theory argues that gendered expectations are partly shaped and maintained by the different social roles commonly associated to women and men, particularly women's associations with caregiving and domestic responsibilities and men's association with bread winning (Eagly & Sczesny, 2019; Koenig & Eagly, 2014;). From this perspective, the stronger attitude- employment association among women with lower education may indicate that social role expectations are particularly relevant when formal labour-market resources are limited.

Identity economics provides a related explanation. Akerlof & Kranton (2000) argue that individuals may experience social cost when their behaviour conflict with norms associated with their social identity. Applied to women's employment, paid work may involve not only wages and economic return to education but also whether working outside the home is compatible with accepted ideas of womanhood, motherhood, caregiving or respectability. More egalitarian attitudes may reduce this conflict by making employment more compatible with women's own understanding of appropriate gender roles. The findings should not be interpreted as proving this mechanism, but they are consistent with the theoretical expectation that attitude can influence labour-market entry through the social meaning attached to women's paid work.

The findings can also be understood through the broader sociological perspectives used in the thesis. West and Zimmerman's concept of "doing gender" emphasises that gender is repeatedly produced through everyday interactions (West & Zimmerman, 1987) while Risman conceptualises gender as a social structure operating at individual, interactional and institutional levels (Risman, 2004). From this perspective, an individual woman's attitude towards employment does not exist independently of her household or labour-market environment. Her attitude may be

connected to expectations from spouses and relatives, the division of domestic work, employer practises and wider beliefs about appropriate female behaviour. This is particularly relevant because the gender attitude index used in this thesis measures individual attitudes rather than household, community or employer norms. The employment finding may therefore partly capture women's own believes and partly reflects the broader normative environments within which those beliefs have developed. This is consistent with the thesis literature showing that gender attitude can be associated with women's employment, household labour allocation and movement towards more flexible or informal forms of work (Fortin, 2005; Goldin,2014; Jayachandran, 2021; Zhang et al., 2024).

The concentration of the attitude association among lower educated women also helps explain why the expected positive interaction between education and gender attitudes receives little empirical support. The initial expectation was that more egalitarian attitudes would make it easier for women to convert education into employment, implying that the employment advantage associated with education would become stronger as attitudes become more egalitarian. The interaction estimates do not show this systematic pattern. Most are statistically insignificant, and the significant interaction for secondary-school completion is negative. This does not mean that egalitarian attitude reduce employment among women who completed secondary school. Rather, the negative interaction indicates that the attitude employment association is weaker for these women than for women with no formal schooling, the reference group. The completed marginal effect among women who completed secondary school is itself not statistically significant.

One possible interpretation is therefore that education and egalitarian attitude do not operate simply as complimentary resources. At lower levels of education, egalitarian attitude may be relatively important for crossing the initial barrier into paid work. As education rises, however, formal qualifications, expected earnings, professional aspirations and access to more structured labour market opportunities may become increasingly important in determining employment opportunities. Education may therefore reduce the extent to which individual gender attitudes distinguish who enters employment. This would explain why the positive attitude association does not become progressively stronger with education and why the moderation hypothesis receives weak support. The result refined rather than contradict the gender norm mechanism: attitude appears to matter, but principally for groups and at a particular stage of the labour market pathway.

The broader labour-market structure in Sub-Saharan Africa provides an additional perspective to this pattern. The development literature reviewed in this thesis notes that educational expansion does not automatically generate corresponding growth in productive or formal employment as many labour markets in the region remain characterised by informal employment, low productivity activities and limited creation of stable formal jobs (Filmer & Fox, 2014; Fox & Thomas, 2016; ILO, 2023). This connects the findings to the structural-transformation perspective introduce in the theoretical framework. Structural transformation requires workers to move towards more productive sectors and occupations but increases in educational attainment cannot by themselves create the jobs into which educated workers are expected to move (Lewis, 1954; Herrendorf et al., 2014). For women, these structural constraints can intersect with gender norms. A woman may become more educated or hold egalitarian views about women's work, but the labour market opportunities available to her may still be concentrated in informal or low productivity activities. The weak education-attitude interaction may therefore partly reflect the fact that individual attitudes cannot by themselves overcome limitations in the structure and availability of employment.

This structural perspective is particularly useful for understanding the difference between the employment and higher skill occupation results. Gender attitudes show a clearer relationship with the first stage, whether women enter paid work but a much weaker and less consistent relationship with higher skill occupation. One reason is that the occupation model is conditional on employment. Women who did not enter paid work are excluded before occupational attainment is observed. If restrictive gender attitudes or related social constraint already discourage some women from entering employment, those women are absent from the occupation sample. The occupational analysis

therefore examines a selected group of women who have already crossed the first labour-market barrier. This selection may make the role of gender attitude less visible at the occupational stage.

A second explanation is that the determinant of occupational attainment may differ from those of employment entry once women have entered employment, access to higher skilled occupation is likely to depend more strongly on formal qualifications, specialised skills, occupational requirements and the structure of labour demand (Becker, 1964; Spence, 1973; Herrendorf et al., 2014). A woman may hold very egalitarian attitudes but cannot enter a professional or technical operation occupation if she lacks the required education or if suitable jobs are unavailable. This is precisely where human capital theory, signalling theory and structural transformation become particularly relevant. Education provides the credentials and skills required for occupational sorting, while the structure of the economy determines whether sufficient higher productivity occupations exist.

The strong education gradient in the occupation results is therefore consistent with the argument that educational credentials become increasingly decisive after labour market entry. The occupation results should nevertheless not be interpreted as showing that gender attitudes are completely irrelevant after employment has occurred. The main LPM identifies positive education-specific attitude associations for some primary schooling, post-secondary non university education, while the nonlinear result provides more limited evidence. These selected associations suggest that norms may still matter for occupational aspiration, job choices or employer evaluations for some groups. However, the absence of a broad and consistent pattern means that the thesis cannot conclude that individual egalitarian attitudes systematically increase access to higher-skilled occupation. Social Road Theory and Risman's Theory of Gender as a social structure provides a useful distinction here; individual attitude may become more egalitarian while occupational structures, employer behaviour, household care arrangement and institutional expectations remain unchanged (Koenig & Eagly, 2014; Risman, 2004). Individual attitudes alone may therefore be insufficient to overcome structural barriers to occupational advancement.

Taking together, the findings suggest a 2-stage interpretation of women education to employment pathway. At the first stage, the question is whether women enter paid work at all. Here, gender attitude appears particularly relevant among women with limited formal education, consistent with social theory, identity economics, doing gender and the literature on household and social constraints. At the second stage, conditional on having entered employment, the question becomes what type of occupation women reach. At this stage, education, credentials and the structure of available employment appear to play a stronger role, consistent with human capital theory, signalling theory and the structural transformation perspective. The evidence therefore does not support a simple model in which egalitarian gender attitudes uniformly increase the returns to every level of education.

The main contribution of the findings is consequently more specific. Education remains a central labour market resource for women and is especially strongly associated with access to higher skilled occupations. Gender attitudes are also relevant, but their clearest relationship is with employment entry among women with lower educational attainment. The weak and sometimes negative interaction estimates suggest that egalitarian attitudes do not systematically strengthen the labour-market returns to education. Instead, the result indicates that human capital, social expectations and labour market structure may matter at different points in women's labour market trajectories This provides a more nuance explanation of why expanding women's education is important but may not by itself be sufficient to ensure that women enter employment or translate educational attainment into high-quality work.

6.2 Policy Relevance

The findings have two main policy implications. First, Investment in women's education remains essential. Education is strongly associated with employment and especially with higher-skill occupation in this study, consistent with the wider literature on labour-market returns to education (Montenegro & Patrinos, 2014; Psacharopoulos & Patrinos, 2018). This means that policies expanding girls and women's access to secondary and post-secondary education

remain essential for improving women's labour market opportunities. The strong association between higher education and higher skill occupation suggests that education remains one of the key clearest pathways into better quality work.

Second, education policy alone may not be sufficient. If gender norms are directly associated with women's employment, then improving education without addressing social and practical barriers may produce incomplete labour market gains. Women may acquire skills and qualifications, but still face restrictions linked to household expectations, unpaid care responsibilities, safety concerns, employer discrimination, or social disapproval of women's paid work (Beaman et al., 2018; Clark et al., 2019; Goldin, 2014; Jayachandran, 2021). The policy implication is therefore not to replace education policy but to complement it. Expanding women's education should be combined with policies that make it easier for women to enter and remain in paid work. Evidence from childcare interventions for example, shows that reducing childcare constraints can increase women's employment and labour supply (Bjorvatn et al., 2025; Clark et al., 2019). Such interventions may include affordable childcare, stronger enforcement of anti-discrimination rules, school-to- work transition programmes, mentoring and public campaigns that challenge restrictive beliefs about women's childcare. Since the clearest norm related results appears in the employment model, policies responses may need to consider the barriers that prevent women from entering paid work in the first place. This includes both formal barriers, such as discrimination and limited job access, and informal barriers, such as household expectations and social attitudes about women's work. A policy framework focused only on education attainment may miss this first stage barrier. Women may complete school but still be prevented from using the education if employment is not socially acceptable, practically feasible or safe.

At the same time, the strong education gradient in higher-skill occupation indicates that educational attainment needs to be matched by labour-market opportunities in which qualifications can be used. This connects to the structural transformation literature, which emphasises that expanding education alone cannot create productive employment when suitable jobs remain limited (Diao et al., 2017; Fox et al., 2016; Fox & Thomas, 2016). For Sub-Saharan African countries, education, labour-market and gender equality policies may therefore need to be considered together rather than in isolation.

6.3 Limitations

This thesis has several limitations. First, the analysis is based on observational survey data. The result should therefore be interpreted as associations rather than causal effects. The models show whether education and gender norms are related to women's labour market outcomes, but they cannot fully prove that gender norms cause these outcomes. This does not invalidate the thesis, because the aim of the study is not to claim causal identification. Rather, the thesis provides evidence on patterns that are consistent with the theoretical mechanisms linking education, gender norms and women's labour market outcomes.

Second, endogeneity remains a concern. Gender attitudes are not randomly assigned. Unobserved factors such as family background, religion, community expectations, local labour market condition, household bargaining power or previous work experience may influence both gender attitudes and labour market outcomes. Reverse causality is also possible. For women for example, women who are already employed may develop more egalitarian attitudes because of their labour market experience. The analysis includes controls, country fix effects, round fix effects, and robustness checks with living conditions and perceived country economic conditions. These reduce some concerns, but they do not eliminate all possible sources of bias. The result should therefore be read as careful associational evidence rather than causal estimate.

Third, the gender norm index is limited by the available Afrobarometer questions. The index captures individual attitude towards gender roles, but it does not fully measure household level norms, employer attitude, community pressure, or institutional constraints or the behaviour of spouses and family members. Gender norms are broader than individual survey responses, so the index should be understood as an attitudinal proxy rather than a complete measure

of the gender norm environment. This is important because a woman may personally hold egalitarian attitudes but still live in a household or community where restrictive norms limit her employment choices.

Fourth, the occupation model is conditional on employment. Higher-skill occupation is observed only among women who are already employed. If norm influence whether women enter employment in the first place, then the occupation sample is selected. This means that the occupation results cannot be interpreted as applying to all women. They apply only to employed women with classifiable occupation information. This limitation is important, but it also support the thesis arguments that labour market entry and occupational attainment should be treated as separate stages This means the occupation results describe a selected group rather than all women. If gender norm influences which women enter employment, then the occupation sample may understate or obscure the full role of norms.

Fifth, the analysis could not include some potentially important controls such as marital status and number of children in the final specification. These variables are relevant because marriage, fertility and childcare responsibilities are closely linked to women's labour market outcomes. However, their absence should not be seen only as a weakness. In this thesis, marriage and children may also be a part of the mechanism through which gender norms operates. For example, restrictive gender norms may shape marriage timing, fertility decisions, childcare expectations and household division of labour. If these variables were included as ordinary controls, they could absorb parts of the gender norm mechanism and potentially biassed interpretation by controlling a one of the pathways through which norms effects women's employment. For this reason, the lack of these controls is a limitation, but their inclusion could also require careful theoretical treatment rather than simple addition to the model.

Finally, the study uses pooled cross-sectional data from two Afrobarometer rounds. This provides broad regional coverage, but it does not allow the same individuals to be followed over time. The thesis can therefore examine associations across individuals and countries, but it cannot observe how changes in attitude or education over time affect the same woman's labour market outcomes.

Despite these limitations, the thesis provides useful evidence on the relationship between education, gender norms and women's labour market outcomes. Its main contribution is not to claim causality, but to clarify how these relationships appear in the data. The findings suggest that gender norms are much strongly link to women's entry into employment than to a consistent moderation of education returns. This provides a more precise understanding of where social attitudes matter most in the education- labour market pathway for women in Sub-Saharan Africa.

6.4 Conclusion and Further Research

This thesis examined how education and gender norms are associated with women's labour market outcome in Sub-Saharan Africa. Using pooled Afrobarometer Round 7 and Round 9 data from 31 countries, the study focuses on two outcomes; women's employment and higher-skill occupation among employed women. The main aim was to understand whether education translates into labour market outcomes for women, and whether gender norms shape this relationship directly or through interaction with education.

The first conclusion is that education is strongly and consistently associated with women's labour market outcomes. Higher-levels of education are linked to a higher probability of employment and a much higher probability of entering higher-skill occupations among employed women. This supports the human capital argument that education remains an important pathway for improving women's economy opportunities.

The second conclusion is that gender norms matter for women's employment, but their relevance differs across education levels. Egalitarian gender attitudes appear particularly important for labour market entry among women with lower educational attainment. Such attitudes may help reduce personal or social barriers that discourage these women from participating in paid work. The evidence therefore supports a direct relationship between gender attitude and employment among lower-educated women, rather than one general relationship applying equally to all women.

The 3rd conclusion is that gender attitudes do not consistently change the labour market returns to education. The evidence for a moderating relationship between education and gender attitude is weak and inconsistent. Gender attitudes appear more relevant to whether women with lower educational attainment enter paid work than to whether the employment advantage of education becomes stronger. The evidence for higher skill occupation is also more limited, suggesting that education becomes the more important factor for occupational attainment once women have entered employment. This distinction shows the importance of separating entry into paid work from the type of occupation reached among employed women.

Further research could build on this thesis in several ways. First, longitudinal studies should follow women with different levels of education over time to determine whether egalitarian attitudes increase subsequent entry into employment, particularly among women with no formal or limited primary education, or whether employment experience itself leads to a more egalitarian attitude. This would help address the direction of the relationship and the possibility of reverse causality.

Second, future research should examine why the positive attitude-employment association is concentrated among women with lower educational attainment. Marriage, fertility, childcare responsibilities, household bargaining, spousal approval and control over mobility could be examined as potential mechanisms rather than treated only as ordinary control variables. This would help identify whether egalitarian attitudes are associated with employment because they influence women's own employment preferences, household decision making or their ability to overcome family-related barriers.

Third, future studies should distinguish individual attitude from the wider gender-norm environment by collecting linked information on women, spouses, household, communities and employers. Such data could establish whether employment among women with lower education is more strongly associated with their own attitude, the attitude of household members, community expectations or employer practises.

Fourth, future research should address selection into employment when analysing occupational attainment. Longitudinal or two-stage approaches could follow women from non-employment into employment and then into different types of occupations. This could help determine whether the limited occupation findings arise because gender attitudes are less relevant after women enter employment or because the observed occupation sample excludes women who were prevented from entering paid work.

Finally, country-specific and comparative research should examine whether the lower-education employment pattern varies with labour market structure, including the availability of formal and informal work, childcare provision, urban and rural employment opportunities and enforcement of gender equality protections. Qualitative interviews with women with no formal, informal or limited primary education could complement this analysis by showing how personal attitudes, family expectations and practical constraints influence the decision to enter paid work.

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Appendix

Appendix Table A1. Construction and use of gender attitude measures

Table A1.1 Main pooled gender attitude index used in the main and pooled robustness models

Measure	Round 7	Round 9	Concept measured	Exact Questions	Recoding	Used in
Political leadership attitude	Q16	Q20	Support for women having equal chance as political leaders	Statement 1: Men make better political leaders than women and should be elected rather than women. Statement 2: Women should have the same chance of being elected to political office as men.	1 = least egalitarian 5 = most egalitarian	Main model; economic controls; logit/probit; men-only comparison; correlation diagnostics, individual attitude model
Job priority / equal job opportunity attitude	Q38D	Q21A	Rejection of male priority in jobs / support for equal economic opportunity	When jobs are scarce, men should have more right to a job than women	Higher = more egalitarian	Main model; economic controls; logit/probit; men-only comparison; correlation diagnostics, individual attitude model
Equal land rights attitude	Q38E	Q21B	Support for women's equal land/property rights	Women should have the same rights as men to own and inherit land.	Higher = more egalitarian	Main model; economic controls; logit/probit; men-only comparison; correlation diagnostics, individual attitude model
Additional gender attitude items used only in round-specific robustness						
Domestic gender roles	Q38F	-	Rejection of women priority in household care-giving	Is it better for a family if the woman has main responsibility for taking care of the home than a man?	Higher = more egalitarian	Round-specific model

This table reports the Afrobarometer gender-attitude items used to construct the attitude measures in the thesis. Panel A represents the three matched items used to construct the main pooled gender-attitude index used in main women-only analyses, robustness checks and supporting men-only analyses. The single-question robustness model used them separately. Panel B presents additional gender-attitude item used only in the round-specific full attitude robustness models. These additional gender-attitude was used only in constructing the gender attitude index for Round 7 in the round-specific attitude robustness models. All items are recorded so that higher values indicate more egalitarian gender attitudes.

Appendix Table A1.2 Coding of gender attitude items

Final score	Interpretation	Political leadership item	Male job-priority item	Equal land/property rights item
1	Least egalitarian	Strongly agree/supports men as better political leaders	Strongly agrees that men should have job priority	Strongly disagrees with women's equal land / property rights
2	Less egalitarian	Agree/Supports men as better political leaders	Agrees that men should have job priority	Disagrees with women's equal land / property rights
3	Neutral / middle position	Agrees with neither statement	Neither agrees nor disagrees	Neither agrees nor disagrees
4	More egalitarian	Supports women having equal chance as political leaders	Disagrees that men should have job priority	Agrees with women's equal land/property rights
5	Most egalitarian	Strongly supports women having equal chance as political leaders	Strongly disagrees that men should have job priority	Strongly agrees with women's equal land/property rights

The gender attitude items are recoded onto a 1-5 scale, where higher values indicate more egalitarian gender attitude. For the political leadership item, responses supporting men's political leadership are coded lower, while responses supporting women's equal chance of political leadership are coded higher. For the male job-priority item, the scale is reverse-coded so that stronger disagreement with male priority in employment receives a higher score. For the equal land/property rights item, stronger agreement with women's equal rights receives a higher score. The final Gender attitude index is calculated as the simple average of the three recorded items, So each item receives equal weight of 1 one-third. Respondents must have valid responses to all three attempts to receive an index score.

Table A2: Variable definitions, coding and sample coverage

Variable	Role in analysis	R7	R9	Final coding used in thesis	Model used
Employment	Dependent variable	Q94	Q93A	1 = employed full-time or part-time; 0 = not employed	All
Higher-skill occupation	Dependent variable	Q95A	Q93B	1 = higher-skill occupation; 0 = lower-skill occupation. Set to missing for non-employed respondents	All
Education	Main explanatory variable	Q97	Q94	Original Afrobarometer 0–9 education categories	All
Gender attitude index	Main mechanism variable	(Q16+Q38D+ Q38E)/3	(Q20 + Q21A + Q21B)/3	Average weight of 3 gender item	All
Gender	Women-only analysis	Q101	Q100	1 = Man; 2 = Woman;	All
Age	Control variable	Q1	Q1	Respondent's age in years; invalid values treated as missing	All
Age squared	Control variable	Q1	Q1	Age × age	All
Rural residence	Control variable	URBRUR	URBRUR	1 = rural; 0 = urban/semi-urban/peri-urban	All
Country fixed effects	Fixed effect	COUNTRY	COUNTRY	Country indicators included but not displayed	All
Round fixed effects	Fixed effect	Round 7	Round 9	Round 7 is reference; Round 9 included as fixed effect	All
Country economic condition	Robustness control	Q4A	Q4A	Higher values indicate better perceived national economic condition	Economic-control robustness only
Own living condition	Robustness control	Q4B	Q4B	Higher values indicate better perceived personal living condition	Economic-control robustness only

This table reports the source, coding, and analytical role of the variables used in the thesis. Employment is coded as 1for full-time or part-time paid work and 0 otherwise. Higher-skill occupation is measured only among employed respondents with classifiable occupations. Education is kept in the original Afrobarometer 0-9 categories. The Gender attitude index is a strict three-item index based on matched items from Rounds 7 and 9 covering women's political leadership, male priority in jobs/equal job opportunities and equal land/property rights. Each item is recorded from 1 to 5 so that higher values indicate more egalitarian attitudes. The index is calculated as the simple average of the three items, with each item giving equal weight. Respondents must have valid answers to all three items to receive an index score; non-substantive responses such as "don't know", "refused", and missing values are excluded. Country and round fixed effects are included in the regression models but not displayed as separate variables in the main tables. The final pooled analytical sample includes 31 Sub-Saharan African countries observed in both Afrobarometer Round 7 and Round 9. The included countries are Benin, Botswana, Burkina Faso, Cabo Verde, Cameroon, Cote d'Ivoire, Eswatini, Gabon, Gambia, Ghana, Guinea, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mozambique, Namibia, Niger, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone, South Africa, Sudan, Tanzania, Togo, Uganda, Zambia, and Zimbabwe. Morocco and Tunisia are excluded because the thesis focuses on Sub–Saharan Africa, while Mauritius is removed because the employment outcome is not consistently available for the final analysis. Individual level sample sizes differ across outcomes because the employment model includes women with valid employment information while the occupation model is restricted to employed women with classifiable occupations.

Appendix Table A3: Women's Gender attitude and Labour-market outcomes by Education level

Education level	N_ women	Mean gender attitude	Mean age	N_employed women	Employment rate (%)	Higher-skill occupation among employed women (%)	Rural share (%)
No formal schooling	7654	3.57	41.34	1032	14.57	0.97	75.78
Informal schooling only	1467	3.36	38.23	215	16.29	3.72	71.51
Some primary schooling	6613	3.76	38.65	1212	19.49	1.9	68.77
Primary school completed	5882	3.91	37.29	1830	32.74	2.68	62.75
Some secondary / intermediate school	8177	3.96	32.28	1765	24.19	12.41	48.23
Secondary school completed	6369	4.07	31.68	1961	33.44	21.01	41.12
Post-secondary non-university	1908	4.14	33.77	933	51.42	65.06	35.12
Some university	1376	4.07	28.94	317	26.82	68.14	20.13
University completed	1714	4.11	34.5	934	58.11	80.09	26.14
Postgraduate	227	4.1	38.58	148	68.72	90.54	22.91

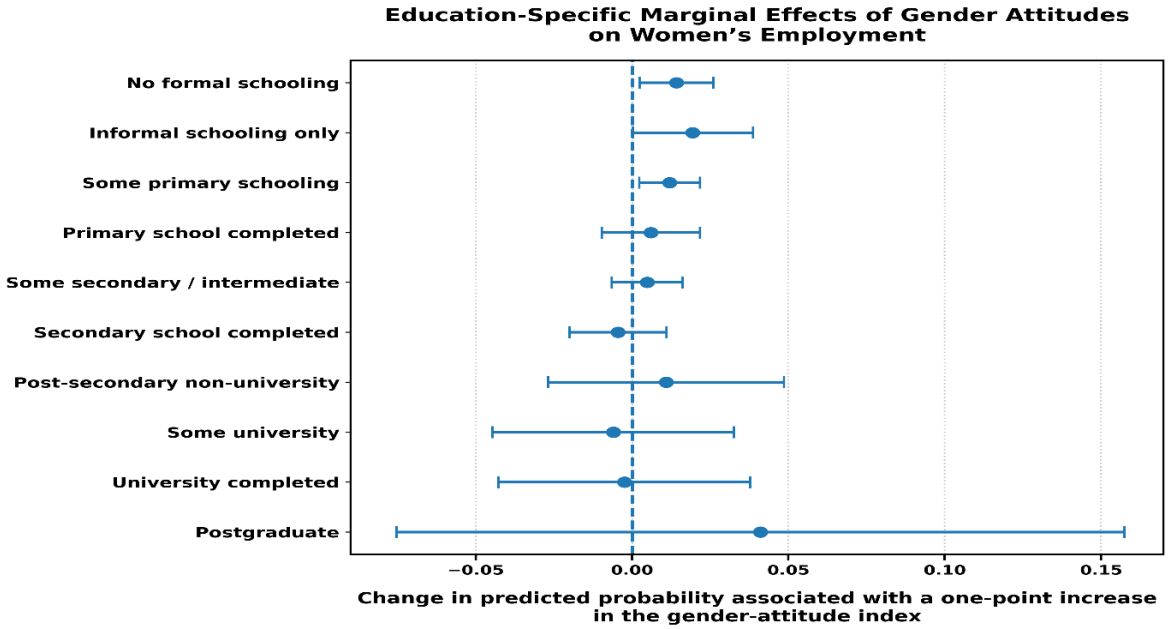
This table reports descriptive statistics for women by Afrobarometer education category. The sample includes women with valid information on education, gender attitude, age, rural residents, and employment status. The gender attitude index ranges from 1 to 5, with higher values indicating more egalitarian gender attitude. Employment rate is calculated amongst all women within each education category. Higher-skill occupation is calculated only among employed women with non-missing and classifiable occupation information. Rural share refers to the percentage of women living in rural areas within each education category. Education is therefore based on a smaller sample than employment because non-employed women do not have an occupation category. Values are descriptive and not as causal effect.

Appendix Table A4: Main Pooled Women-only Model

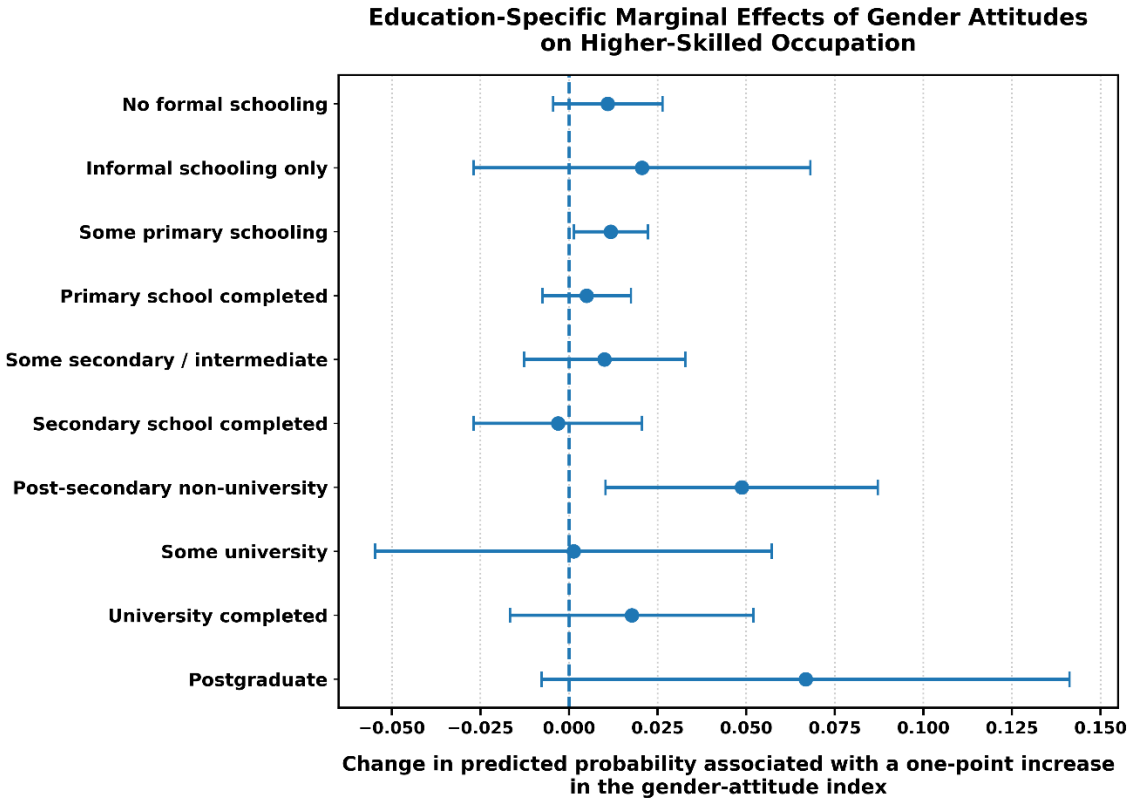
Variables	Women Employment	Women Occupation
Informal schooling only	0.0273	0.0120
	(0.0179)	(0.0312)
Some primary schooling	0.0314**	0.0283
	(0.0124)	(0.0190)
Primary school completed	0.0683***	0.0781***
	(0.0176)	(0.0238)
Some secondary / intermediate school	0.0808***	0.1282***
	(0.0144)	(0.0359)
Secondary school completed	0.1397***	0.2492***
	(0.0181)	(0.0473)
Post-secondary non-university	0.2948***	0.6859***
	(0.0203)	(0.0397)
Some university	0.1430***	0.6322***
	(0.0176)	(0.0442)
University completed	0.3958***	0.7806***
	(0.0222)	(0.0370)
Post-graduate	0.4744***	0.8785***
	(0.0653)	(0.0398)
Individual attitude index	0.0142**	0.0109
	(0.0061)	(0.0080)
Informal schooling only × individual attitude	0.0053	0.0097
	(0.0103)	(0.0209)
Some primary schooling × individual attitude	-0.0022	0.0009
	(0.0071)	(0.0077)
Primary school completed × individual attitude	-0.0082	-0.0060
	(0.0076)	(0.0089)
Some secondary / intermediate school × individual attitude	-0.0093	-0.0009
	(0.0084)	(0.0167)
Secondary school completed × individual attitude	-0.0187**	-0.0141
	(0.0095)	(0.0152)
Post-secondary non-university × individual attitude	-0.0033	0.0378
	(0.0212)	(0.0231)
Some university × individual attitude	-0.0202	-0.0097
	(0.0214)	(0.0296)
University completed × individual attitude	-0.0166	0.0068
	(0.0209)	(0.0192)
Post-graduate × individual attitude	0.0269	0.0559
	(0.0589)	(0.0416)
Age	0.0241***	0.0046***
	(0.0023)	(0.0015)
Age squared	-0.0003***	-0.0000**
	(0.0000)	(0.0000)
Rural	-0.0395***	0.0152*
	(0.0112)	(0.0082)
Observations	41,387	10,347
R^2 / pseudo R^2	0.178	0.485

*Bootstrap SE in parenthesis; country &round FE included; reference education= no formal schooling; significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01. Occupation model is estimated only among employed women*

Appendix Figure A.1. Education-Specific Marginal Effects of Gender Attitudes on Women's Employment: LPM



Appendix Figure A.2: Education-Specific Marginal Effects of Gender Attitudes on Higher-skilled Occupation.



Appendix Table A5. Education-Specific Average Marginal Effect of Gender Attitudes: Logit Model: Robustness

	Women Employment		**Women Higher-Skilled Occupation**	
Education level	Marginal Effect	95% C.I	Marginal Effects	95% CI
No formal schooling	0.0193*** (0.0074)	[0.0048, 0.0337]	0.0011 (0.0017)	[-0.0022, 0.0043]
Informal schooling only	0.0263** (0.0105)	[0.0058, 0.0468]	0.0056 (0.0563)	[-0.1048, 0.1159]
Some primary schooling	0.0148*** (0.0047)	[0.0055, 0.0240]	0.0073 (0.0053)	[-0.0030, 0.0177]
Primary school completed	0.0051 (0.0073)	[-0.0091, 0.0194]	0.0093 (0.0064)	[-0.0033, 0.0218]
Some secondary / intermediate school	0.0057 (0.0063)	[-0.0068, 0.0181]	0.0139 (0.0099)	[-0.0056, 0.0333]
Secondary school completed	-0.0033 (0.0072)	[-0.0175, 0.0109]	0.0037 (0.0116)	[-0.0191, 0.0265]
Post-secondary non-university	0.0092 (0.0199)	[-0.0299, 0.0483]	0.0423** (0.0182)	[0.0067, 0.0780]
Some university	-0.007 (0.0213)	[-0.0487, 0.0348]	0.0008 (0.0344)	[-0.0666, 0.0682]
University completed	-0.0086 (0.0167)	[-0.0414, 0.0242]	0.0193 (0.0185)	[-0.0169, 0.0555]
Postgraduate	0.0358 (0.0565)	[-0.0749, 0.1465]	0.0618 (0.0496)	[-0.0355, 0.1591]
Controls: age, age squared and rural residence	Yes		Yes	
Country fixed effects	Yes		Yes	
Survey-round fixed effects	Yes		Yes	
Country-cluster bootstrap standard errors	Yes		Yes	
Bootstrap replications	500		497	
Observations	41,387		10,347	

The table reports education specific average marginal effect from logit models. Each estimate represents the average change in the probability of the stated outcome association with a one- point increase in the gender attitude Index within the specified education category. Marginal effects and 95% confidence intervals are reported in probability units. Standard errors and confidence intervals are based on 500 country-cluster bootstrap replications for employment and 497 successful replications for higher-skilled occupation. The employment model includes women with valid employment information, while the higher skilled occupation model is restricted to employed women with valid and classifiable occupation information. No Formal schooling is the reference education category in the underlying regression model. In each bracketed 95% confidence interval, the first value is the lower confidence limit, and the second value is the upper confidence limit. *; Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01*

Appendix Table 5.1: Average Marginal Effects of Separate Education, Gender-Attitude and Education-Attitude Interaction Components: Logit and Probit Robustness Checks

Variables	**Logit Employment**	**Probit Employment**	**Logit Occupation**	**Probit Occupation**
Informal schooling only	0.0383*	0.0375*	0.1083	0.0915
	(0.0205)	(0.0192)	(1.5408)	(1.0327)
Some primary schooling	0.0379***	0.0349***	0.1101***	0.0872***
	(0.0140)	(0.0133)	(0.0295)	(0.0252)
Primary school completed	0.0754***	0.0722***	0.1913***	0.1614***
	(0.0167)	(0.0162)	(0.0409)	(0.0318)
Some secondary / intermediate	0.0914***	0.0874***	0.2908***	0.2435***
	(0.0144)	(0.0150)	(0.0488)	(0.0420)

Secondary school completed	0.1432***	0.1400***	0.3898***	0.3415***
	(0.0158)	(0.0155)	(0.0562)	(0.0499)
Post-secondary non-university	0.2535***	0.2549***	0.5890***	0.5526***
	(0.0162)	(0.0157)	(0.0713)	(0.0653)
Some university	0.1582***	0.1511***	0.5318***	0.4960***
	(0.0170)	(0.0163)	(0.0681)	(0.0639)
University completed	0.3328***	0.3368***	0.6243***	0.5902***
	(0.0220)	(0.0198)	(0.0754)	(0.0713)
Postgraduate	0.3853***	0.3899***	0.6934***	0.6555***
	(0.0598)	(0.0557)	(0.0892)	(0.0851)
Individual attitude index	0.0241***	0.0221***	0.0165	0.0119
	(0.0089)	(0.0076)	(0.0241)	(0.0202)
Informal schooling only × attitude	0.0052	0.0032	0.0109	0.0076
	(0.0137)	(0.0131)	(0.7523)	(0.4814)
Some primary schooling × attitude	-0.0076	-0.0070	0.0185	0.0183
	(0.0094)	(0.0081)	(0.0314)	(0.0262)
Primary school completed × attitude	-0.0190**	-0.0172**	0.0042	0.0107
	(0.0096)	(0.0085)	(0.0309)	(0.0249)
Some secondary / intermediate × attitude	-0.0186*	-0.0174*	-0.0024	0.0007
	(0.0105)	(0.0097)	(0.0285)	(0.0250)
Secondary school completed × attitude	-0.0270**	-0.0255**	-0.0144	-0.0117
	(0.0117)	(0.0104)	(0.0245)	(0.0215)
Post-secondary non-university × attitude	-0.0171	-0.0154	0.0034	0.0105
	(0.0179)	(0.0170)	(0.0222)	(0.0192)
Some university × attitude	-0.0300	-0.0275	-0.0162	-0.0112
	(0.0208)	(0.0205)	(0.0294)	(0.0260)
University completed × attitude	-0.0307**	-0.0277*	-0.0064	-0.0022
	(0.0151)	(0.0150)	(0.0244)	(0.0212)
Postgraduate × attitude	0.0047	0.0070	0.0315	0.0342
	(0.0471)	(0.0463)	(0.0490)	(0.0442)
Age	0.0292***	0.0275***	0.0038**	0.0037**
	(0.0028)	(0.0024)	(0.0018)	(0.0019)
Age squared	-0.0003***	-0.0003***	-0.0000	-0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Rural residence	-0.0396***	-0.0397***	0.0106	0.0096
	(0.0111)	(0.0101)	(0.0079)	(0.0083)
Observations	41,387	41,387	10,347	10,347
Pseudo R^2	0.161	0.161	0.473	0.472

*Average marginal effects (AME)are reported; country-cluster bootstrap SE in parenthesis; no formal schooling as reference group; country & round fixed effects included; occupation models are estimated only among employed women. Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01. Pseudo R^2 is reported as a descriptive model fit statistic. The higher pseudo R^2 in the occupation models indicates better model fit than in the employment models, but pseudo R^2 is not directly comparable to ordinary R^2 from the linear models.*

Appendix Table A6: Robustness checks with Economic Conditions Controls

Variables	**Women Employment**	**Women Occupation**
Informal schooling only	0.0269*	0.0095
	(0.0159)	(0.0287)
Some primary schooling	0.0299**	0.0271*
	(0.0122)	(0.0162)
Primary school completed	0.0657***	0.0759***
	(0.0182)	(0.0208)
Some secondary / intermediate school	0.0771***	0.1246***
	(0.0142)	(0.0331)

Secondary school completed	0.1349***	0.2437***
	(0.0167)	(0.0446)
Post-secondary non-university	0.2878***	0.6807***
	(0.0197)	(0.0365)
Some university	0.1381***	0.6264***
	(0.0170)	(0.0416)
University completed	0.3869***	0.7707***
	(0.0202)	(0.0329)
Post-graduate	0.4684***	0.8689***
	(0.0694)	(0.0365)
Individual attitude index	0.0137**	0.0107
	(0.0062)	(0.0075)
Informal schooling only × individual attitude	0.0045	0.0103
	(0.0094)	(0.0188)
Some primary schooling × individual attitude	-0.0019	0.0019
	(0.0074)	(0.0075)
Primary school completed × individual attitude	-0.0087	-0.0056
	(0.0078)	(0.0083)
Some secondary / intermediate school × individual attitude	-0.0095	-0.0002
	(0.0078)	(0.0151)
Secondary school completed × individual attitude	-0.0186**	-0.0157
	(0.0092)	(0.0147)
Post-secondary non-university × individual attitude	-0.0053	0.0383*
	(0.0210)	(0.0216)
Some university × individual attitude	-0.0209	-0.0109
	(0.0206)	(0.0310)
University completed × individual attitude	-0.0163	0.0081
	(0.0208)	(0.0198)
Post-graduate × individual attitude	0.0335	0.0540
	(0.0601)	(0.0402)
Age	0.0243***	0.0047***
	(0.0023)	(0.0016)
Age squared	-0.0003***	-0.0000**
	(0.0000)	(0.0000)
Rural	-0.0379***	0.0152*
	(0.0109)	(0.0084)
Country economic condition	-0.0110***	-0.0022
	(0.0028)	(0.0036)
Respondent living conditions	0.0138***	0.0133***
	(0.0031)	(0.0038)
Observations	40,897	10,238
R^2 / pseudo R^2	0.179	0.487

*Model include more controls as country economic condition, and residents own living conditions. These controls help reduce concerns about omitted economic factors Country-clustered bootstrap SE in parenthesis; no formal education = reference group; Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01*

Appendix Table A7: Single-question Gender attitude Robustness model

	Political leadership attitude		Men priority for jobs attitude		Equal land rights attitude	
Variable	**Employment**	**Occupation**	**Employment**	**Occupation**	**Employment**	**Occupation**
Gender attitude item (direct effect)	0.0077**	0.0002	0.0041	0.0009	0.0058	0.0165**
	(0.0032)	*(0.0031)*	*(0.0026)*	*(0.0029)*	*(0.0041)*	*(0.0072)*
Informal schooling only × gender attitude item	0.0094	-0.0016	-0.0054	0.0158	0.0017	-0.0073
	(0.0067)	*(0.0092)*	*(0.0064)*	*(0.0127)*	*(0.0072)*	*(0.0126)*
Some primary schooling × gender attitude item	-0.0016	0.0066**	0.0053	0.0036	-0.0085	-0.0125*
	(0.0039)	*(0.0033)*	*(0.0037)*	*(0.0040)*	*(0.0059)*	*(0.0071)*
Primary school completed × gender attitude item	-0.0002	0.0017	-0.0045	0.0017	-0.0056	-0.0149*
	(0.0040)	*(0.0042)*	*(0.0065)*	*(0.0035)*	*(0.0056)*	*(0.0089)*
Some secondary / intermediate school × gender attitude item	-0.0079*	0.0121	0.0008	0.0063	-0.0053	-0.0264**
	(0.0047)	*(0.0079)*	*(0.0037)*	*(0.0068)*	*(0.0052)*	*(0.0118)*
Secondary school completed × gender attitude item	-0.0046	-0.0017	-0.0075	0.0069	-0.0117**	-0.0314**
	(0.0058)	*(0.0096)*	*(0.0056)*	*(0.0064)*	*(0.0058)*	*(0.0136)*
Post-secondary non-university × gender attitude item	-0.0071	0.0286**	0.0051	0.0258*	-0.0023	-0.0044
	(0.0125)	*(0.0140)*	*(0.0104)*	*(0.0154)*	*(0.0117)*	*(0.0121)*
Some university × gender attitude item	-0.0038	-0.0174	-0.0181*	0.0036	0.0002	-0.0040
	(0.0143)	*(0.0202)*	*(0.0107)*	*(0.0154)*	*(0.0121)*	*(0.0257)*
University completed × gender attitude item	-0.0229	0.0049	0.0024	0.0044	-0.0034	-0.0030
	(0.0152)	*(0.0111)*	*(0.0113)*	*(0.0096)*	*(0.0101)*	*(0.0128)*
Post-graduate × gender attitude item	-0.0100	0.0215	0.0235	0.0337	0.0224	0.0065
	(0.0286)	*(0.0221)*	*(0.0281)*	*(0.0245)*	*(0.0503)*	*(0.0205)*
Education main effects	Included	Included	Included	Included	Included	Included
Age and age squared	Yes	Yes	Yes	Yes	Yes	Yes
Rural residence	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Country-cluster bootstrap SE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	41,387	10,347	41,387	10,347	41,387	10,347
R^2	0.179	0.484	0.178	0.485	0.178	0.484

*Each pair of columns reports a separate model in which the strict pooled gender attitude index is replaced by one individual attitude item. The table reports only the direct attitude coefficient and the education-attitude interaction terms because these are the coefficients of interest for this robustness check. Education is measured using the Afrobarometer 0-9 categories; no formal schooling is the reference group. All models include education main effects, age, age squared, rural residence, country fixed effects, and round fixed effects, but these controls are not displayed. The sample is restricted to respondents with valid answers to all three matched attitude questions to remain comparable with the strict-index model. Country-cluster bootstrap standard errors are reported in parentheses. Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.*

Appendix Table A8: Round-specific Robustness Model

Variables	R7 Employment	R7 High-Skill occupation	R9 Employment	R9 High_skill Occupation
Full attitude index	0.0350**	0.0105	0.0078	0.0122
	(0.0139)	(0.0088)	(0.0054)	(0.0105)
Informal schooling only × full attitude	-0.0145	0.0091	0.0056	0.0170
	(0.0193)	(0.0300)	(0.0173)	(0.0450)
Some primary schooling × full attitude	-0.0113	0.0118	0.0004	-0.0039
	(0.0166)	(0.0114)	(0.0093)	(0.0121)
Primary school completed × full attitude	-0.0077	0.0139	-0.0175**	-0.0183
	(0.0161)	(0.0132)	(0.0083)	(0.0151)
Some secondary / intermediate school × full attitude	-0.0298*	0.0034	-0.0001	-0.0121
	(0.0164)	(0.0164)	(0.0076)	(0.0210)
Secondary school completed × full attitude	-0.0435**	-0.0037	-0.0163	-0.0261
	(0.0195)	(0.0214)	(0.0105)	(0.0202)
Post-secondary non-university × full attitude	-0.0014	0.0768***	-0.0042	0.0155
	(0.0257)	(0.0294)	(0.0258)	(0.0321)
Some university × full attitude	-0.0613**	-0.0138	-0.0032	0.0157
	(0.0295)	(0.0418)	(0.0214)	(0.0301)
University completed × full attitude	-0.0356	-0.0000	-0.0177	-0.0006
	(0.0280)	(0.0261)	(0.0290)	(0.0223)
Post-graduate × full attitude	-0.0070	0.0952	0.0730	0.0135
	(0.0631)	(0.0638)	(0.0752)	(0.0430)
Education Effects	Included	Included	Included	Included
Age & Age Squared	Yes	Yes	Yes	Yes
Rural Residence	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes
Round Fixed Effects	No	No	No	No
Observations	20,231	5,191	21,067	5,144
R^2	0.188	0.498	0.183	0.486

*Each column reports a separate round-specific linear probability model. The table displays only the direct gender attitude coefficient and the education-attitude interaction terms, which are the coefficients of interest for this robustness check. Education main effects, age, age squared, rural residents and country fixed effects are included in all models but not displayed. Round fixed effects are not applicable because the models are estimated separately by survey round. Since the attitude items differ across rounds, these estimates are interpreted as robustness evidence rather than as the main pooled specification. Standard errors are clustered by country using bootstrap resampling. Significance level: * p < 0.10, ** p < 0.05, *** p < 0.01.*

Appendix Table A9: Men_only supporting Comparison Model

Variables	Men Employment	Men High-skill Occupation
Individual attitude index	0.0101	0.0023
	(0.0079)	(0.0075)
Informal schooling only × individual attitude	-0.0129	0.0165
	(0.0137)	(0.0105)
Some primary schooling × individual attitude	-0.0031	-0.0015
	(0.0106)	(0.0072)
Primary school completed × individual attitude	-0.0144	0.0005
	(0.0095)	(0.0073)
Some secondary / intermediate school × individual attitude	-0.0115	0.0123
	(0.0079)	(0.0097)
Secondary school completed × individual attitude	-0.0244**	0.0059
	(0.0098)	(0.0102)
Post-secondary non-university × individual attitude	0.0038	0.0601***

	(0.0153)	(0.0175)
Some university × individual attitude	-0.0011	-0.0071
	(0.0143)	(0.0202)
University completed × individual attitude	-0.0041	0.0272**
	(0.0109)	(0.0114)
Post-graduate × individual attitude	-0.0124	-0.0044
	(0.0243)	(0.0286)
Education Effects	Strong Positives	Strong positives
Controls	Yes	Yes
Country Fixed Effects	Yes	Yes
Country Fixed Effects	Yes	Yes
Observations	41,557	15,303
R^2 / pseudo R^2	0.183	0.386

*This table reports selected coefficients from men-only models using the same specification as the main women's models. The dependent variables are employment and high-skill occupation among employed men. Only the direct gender attitude coefficient and education-attitude interaction terms are displayed, while education main effect, age, age squared, rural residence, country fixed effects and round fixed effects are included but not shown. Standard errors are clustered at the country level using bootstrap resampling. The men-only results are used as a supporting comparison to assess whether the patterns observed among women are gender-specific. Significance levels: * p < 0.10, ** p < 0.05, *** p < 0.01.*

Appendix Table A10: Predicted probability Labour Market Outcomes by Gender

Variable	**Women Employment**	**Women Higher-skill Occupation**
Female (men = reference)	-0.107***	0.056***
	(0.010)	(0.013)
Informal schooling only	0.025*	0.043*
	(0.014)	(0.025)
Some primary schooling	0.031***	0.034**
	(0.010)	(0.016)
Primary school completed	0.076***	0.077***
	(0.015)	(0.020)
Some secondary/intermediate	0.079***	0.128***
	(0.013)	(0.029)
Secondary school completed	0.141***	0.225***
	(0.016)	(0.037)
Post-secondary non-university	0.273***	0.580***
	(0.022)	(0.036)
Some university	0.125***	0.571***
	(0.018)	(0.037)
University completed	0.353***	0.775***
	(0.020)	(0.029)
Postgraduate	0.465***	0.882***
	(0.033)	(0.030)
Age	0.027***	0.006***
	(0.002)	(0.001)
Age squared	-0.000***	-0.000***
	(0.000)	(0.000)
Rural residence	-0.060***	0.016**
	(0.010)	(0.007)
Country fixed effects	Yes	Yes
Round fixed effects	Yes	Yes
Observations	84,336	25,975
R-squared	0.192	0.416

Linear probability models are estimated on the pooled R7/R9 sample. The employment model includes all respondents with valid covariates. The occupation model is restricted to employed respondents with classifiable occupation. Men are the reference group. Education is measured using the original Afrobarometer 0-9

*categories. Models include age, age squared, rural residence, country fixed effects, and round fixed effects. Standard errors are calculated using a country-cluster pairs bootstrap. Standard errors in parentheses. Significance levels are based on normal-approximation p-values using the bootstrap standard errors: * p < 0.10, ** p < 0.05, *** p < 0.01..Only the female coefficient is displayed. Since men are the omitted reference category, the female coefficient represents the adjusted women-minus-men difference in the probability of the outcome. Predicted probabilities are adjusted predictions from the same pooled linear probability models. For each outcome, all observations are predicted twice: once setting female = 0 and once setting female = 1, while keeping other covariates at their observed values. The predicted probabilities themselves are descriptive and are not the main causal estimates.*

Appendix A11.1: Correlation Diagnostics

Appendix Table A11.1. Pairwise correlations between education and gender attitude measures

Sample	Attitude measure	What the measure captures	N	Pearson r	Pearson p	Spearman ρ	Spearman p	Interpretation
women employment	Gender attitude index	Average of the three attitude items	41,387	0.204	<0.001	0.209	<0.001	Weak
women employment	Political leadership item	Support for women having the same chance as men to be political leaders	41,387	0.139	<0.001	0.140	<0.001	Weak
women employment	Jobs priority item	Rejection of the view that men should have priority for jobs	41,387	0.156	<0.001	0.160	<0.001	Weak
women employment	Equal land rights item	Support for women having equal land /property rights	41,387	0.113	<0.001	0.115	<0.001	Weak
employed women occupation	Gender attitude index	Average of the three attitude items	10,347	0.131	<0.001	0.129	<0.001	Weak
employed women occupation	Political leadership item	Support for women having the same chance as men to be political leaders	10,347	0.081	<0.001	0.069	<0.001	Very weak
employed women occupation	Jobs priority item	Rejection of the view that men should have priority for jobs	10,347	0.124	<0.001	0.122	<0.001	Weak
employed women occupation	Equal land rights item	Support for women having equal land /property rights	10,347	0.050	<0.001	0.053	<0.001	Very weak

Reports pairwise correlations between education, full gender index & the individual attitude items used to construct the index. Higher values of the gender attitude measures indicate more egalitarian attitude. The woman employment sample includes all women with valid employment, education, attitude, and control variables. The employed women occupation Sample is smaller because it includes only women who are already employed and have a classifiable occupation. The sample N appears within each sample because the strict gender attitude index requires valid responses to all three attitude items. Positive correlations mean that higher education is associated with more egalitarian attitudes, while values close to zero indicate weak relationships.

Table A11.2. Spearman's Correlation Matrix: Women's Employment Sample

Column1	Education	Gender attitude index	Political leadership item	Jobs priority item	Equal land rights item
Education	1.000	0.209	0.140	0.160	0.115
Gender attitude index	0.209	1.000	0.648	0.725	0.605
Political leadership item	0.140	0.648	1.000	0.236	0.221
Jobs priority item	0.160	0.725	0.236	1.000	0.190
Equal land rights item	0.115	0.605	0.221	0.190	1.000

The table presents Spearman rank correlations between education, the gender attitude index, and the individual gender attitude items. Sparman correlation matrix describe the strength and direction of association of these variables among all women included in the employment model, regardless of whether they are employed or not.. Correlations closer to one indicates stronger positive association, while correlations closer to zero indicate weaker associations. The Gender attitude index is expected to have relatively higher correlations with the individual attitude items because it is calculated directly from them. This high index-item correlations (0.605 - 0.725) therefore reflects the construction of the index rather than multicollinearity concerns. In contrast, the weaker relations between education and the attitude measures (0.115 - 0.209) suggest that education and gender attitudes capture related but distinct dimensions. Correlations are descriptive associations only and should not be interpreted as causal relationships. The education–gender attitude index correlation is 0.209 in the employment sample. This is weakly positive and supports the argument that education and attitudes are conceptually related but empirically distinct.

Table A11.3: Spearman correlation matrix: employed women occupation sample

Column1	Education	Gender attitude index	Political leadership item	Jobs priority item	Equal land rights item
Education	1.000	0.129	0.069	0.122	0.053
Gender attitude index	0.129	1.000	0.616	0.737	0.608
Political leadership item	0.069	0.616	1.000	0.227	0.211
Jobs priority item	0.122	0.737	0.227	1.000	0.215
Equal land rights item	0.053	0.608	0.211	0.215	1.000

This table reports spearman rank correlation for the employed women sample used in the Higher-skill Occupation Model. The variables included are education, the full gender attitude index and the three individual attitude questions used to construct the index. The metric shows how closely these variables move together among women who are already employed. Positive correlation means that higher values of one variable are associated with higher values of another variable. The gender attitude index is expected to be strongly correlated with the three individual attitude items because the index is calculated from those items (0.608 - 0.737). The weaker correlations between education and the attitude measures suggest that, among employed women, education and gender attitude are related but still measure different concepts (0.053 – 0.129). The correlations are descriptive and do not imply causality.