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Gender Differences in Socio-Emotional Skills and Economic Outcomes

New Evidence from 17 African Countries

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Abstract

Using data from 41,873 individuals across 17 African countries and 13 studies, this paper maps data from various self-reported scales to 10 socio-emotional skills and examine gender differences in these skills and their relationship with education and earnings. Apart from self-control, the findings show a significant male advantage in self-reported skills—men have an aggregate socio-emotional skill level 0.151 standard deviations higher than women, equivalent to the socio-emotional skill gained over 5.6 years of education. This is robust to controlling for positive self-concept. Closing the gender gap in education would close 17percent of this gap. While overall socio-emotional skill and education are positively correlated for both men and women, women do not have a positive correlation with education for some individual socio-emotional skills. The male advantage in socio-emotional skills increases at higher education levels. Socio-emotional skills are associated with higher earnings, especially for women. However, the specific skills associated with higher earnings differ by gender. Interpersonal skills are more strongly correlated with earnings for women than for men, and measures of these skills are often underrepresented, which indicates a key direction for future research. The paper further examines differences in the relationship between socio-emotional skills and earnings by levels of education and occupation. It discusses the implications of these results for interventions seeking to hone women's socio-emotional skills for labor market success and to address the gender norms that may perpetuate gaps in socio-emotional skills.

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Gender Differences in Socio-Emotional Skills and Economic Outcomes:

New Evidence from 17 African Countries[1]

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1. Introduction

Recent evidence from economics, sociology and psychology has pointed to the importance of socio-emotional skills for explaining economic outcomes and productivity (Heckman et al., 2006; Lippman et al., 2015; Roberts et al., 2007; Woolley et al., 2010). Across regions, occupations, and skill levels, employers consistently report an unmet demand for socio-emotional skills among employees and commonly prioritize skills such as communication, customer handling, teamwork, problem solving, perseverance and self-management (Cunningham & Villasenor, 2016; Kautz et al., 2014). Socio-emotional skills training is already often a component of development programs targeting health, education, and employment: vocational and business training, life skills for maternal health or safe spaces, microcredit, and graduation programs to name a few. Programs teaching socio-emotional skills have real potential as policy levers because they may explain part of the gender gap in economic empowerment; they may affect program participation; and they are more malleable at later ages relative to cognitive skills (Almlund et al., 2011; Cunha et al., 2010). However, socio-emotional skills are numerous and may prove difficult to teach sustainably. Thus, the success of programs teaching socio-emotional skills will require identifying which skills matter most for whom and how this varies with context.

Socio-emotional skills is a term often used interchangeably with noncognitive skills, 21st century skills, personality traits, and life skills (Duckworth & Yeager, 2015; Heckman & Kautz, 2013; Sanchez Puerta et al., 2016). However, unlike many of these terms, socio-emotional skills do not include beliefs, preferences, values, and attitudes (e.g. optimism); they are not considered static to a particular individual, and they do not include technical knowledge of media, technology, health, finance, and social issues. Socio-emotional skills focuses on a clear list of associated competencies that are considered malleable and transferable across contexts: the Collaborative for Academic, Social and Emotional Learning (CASEL) defines socio-emotional skills as the set of skills used to "manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions." By comparison, soft skills generally encompass socio-emotional skills and personality traits.[2]

[2] Although socio-emotional skills differ from personality traits, we refer to work on gender differences in personality traits to complement our discussion in cases where literature on gender differences in socio-emotional skills is lacking.

This paper uses individual-level data on 41,873 respondents from 17 Sub-Saharan African countries to examine gender differences in ten socio-emotional skills and their relationship with education and earnings. It makes four main contributions to the literature.

To our knowledge, ours is the first paper to analyze gender differences in several dimensions of socio-emotional skills drawing on a large sample of data from multiple African settings, where limited evidence exists. Only a few key studies have extended analysis of gender differences to developing countries, including some in Sub-Saharan Africa (Lynn & Martin, 1997; Costa et al., 2001; Schmitt et al., 2008), and these studies are mostly confined to measures of the Big Five personality traits[3]. Unexpectedly, these studies find that a higher human development index ranking is associated with larger gender differences in personality traits; the magnitude of gender differences is higher in European and American contexts and is small to nonexistent in Asian and African countries. Based on Cohen's D, the overall magnitude of the gender difference in our results is similar to results for personality differences in Sub-Saharan Africa (Costa et al., 2001; Schmitt et al., 2008). Our results indicate that men on average have an aggregate socio-emotional skills level that is 0.151 standard deviations higher than the average level among women, equivalent to 5.6 years of education or a 5 percentile increase in socio-emotional skills levels. This male advantage persists after controlling for education, age, marital status and even measures associated with confidence, such as self-esteem and self-efficacy. However, the range of gender differences across skills and studies is considerable, and most would be categorized as *small* or *moderate* based on a meta-analysis of gender differences in skills (Hyde, 2005).

A large literature from developed countries has examined whether gender stereotypes are reflected in specific socio-emotional skills gender differences, which we summarize in Appendix Table A1. Eagly and Wood's (2012) cross-disciplinary social role theory predicts that men have an advantage in *agentic* skills while women have an advantage in *communal* skills, though this may vary with local norms and occupational segregation. Focusing on concepts associated with the ten specific socio-emotional skills used in this study, trends in the literature suggest that women score lower than men on self-reported measures of positive self-concept, emotional regulation and higher on measures of self-control, empathy, and interpersonal relatedness. Gender differences are mixed, small in magnitude, or weak in evidence for perseverance, personal initiative, problem solving, expressiveness, and collaboration (see Appendix Table

[3] These are five factors that often arise in the analysis of personality traits. They include Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism.

A1). Here, we confirm a male advantage in agentic skills such as personal initiative. Contrary to expectations, men score higher on the communal skill of teamwork and have no robust advantage in expressiveness. Women are not found to have an advantage in communal skills.

The second contribution of this paper is to investigate the relationship between socio-emotional skills and education. Our results are in line with literature demonstrating a positive association between socio-emotional skills and educational attainment (Heckman et al., 2006; Almlund et al., 2011; Taylor et al., 2017; Kraft & Grace, 2015; Mammadov, 2021). While we know that gender inequality in employment outcomes differs across the educational distribution, there is very little evidence on gender differences in the relationship between socio-emotional skills and education. Bridging this evidence gap has important policy implications for what works in school to reduce gender differences in socio-emotional skills and in turn, employment outcomes. We find that gender differences in socio-emotional skills are partially explained by lower education levels among women. Closing the gender gap in education would close about 17% of the socio-emotional skills gender gap. If overall, education is associated with similar gains in overall socio-emotional skills levels for men and women, interestingly, the gender gap in interpersonal skills increases with education attainment. Women may gain less from education than men in terms of interpersonal skills, such that the gender gap in interpersonal skills is only significant for more educated individuals. Alternatively, more highly educated women may encounter post-education social norms or work environments that limit their use and development of interpersonal skills.

The third contribution of this paper is to analyze associations between socio-emotional skills and earnings and their gender specificities. Given that one can expect gender-differentiated returns to earnings to vary across skills, it is important to identify which skills matter most for whom to inform the design of future programs teaching socio-emotional skills in Sub-Saharan Africa. While a large literature has documented the link between economic outcomes and socio-emotional skills, particularly in developed countries (Almlund et al., 2011; Heckman et al., 2006; Kautz et al., 2014; Lindqvist & Vestman, 2009; Lippman et al., 2015; Roberts et al., 2007), and more recently in developing countries (Campos et al., 2017; Koop et al., 2000; Krauss et al.,2005, on the impact of personal initiative trainings, Gielnik et al., 2015 on the impact of a STEP training; Groh et al., 2016 in Jordan and Chioda et al., 2021 in Uganda on the impact of a soft skills training), we still lack crucial evidence on gender-specific returns to *specific* socio-emotional skills in a developing country setting. Grouping socio-emotional skills into one category often results in the use of non-comprehensive measures such that results from various studies are not comparable to each other.

While these studies demonstrate the importance of socio-emotional skills, they do not allow insights into programming decisions and how various socio-emotional skills relate to productivity, occupational choice, and discrimination. A seminal study by Heckman et al. (2006) finds that returns to soft skills – utilizing measures of self-esteem and locus of control - are greater for women relative to men in the United States, both for likelihood of employment and earnings. By contrast, a recent study by Exley et al. (2020) highlights conditions under which women's negotiations may yield negative returns in a US laboratory environment.

Additionally, there are several limitations in drawing conclusions from studies based in Western contexts. (i) There is a focus on formal wage employment, rather than the self-employment and informal work common to a developing context. (ii) Studies of entrepreneurship may differ, as self-employment in developing contexts is more often pursued out of necessity and a lack of formal job options, rather than out of desire. (iii) Local social norms and beliefs may affect the cultivation and value placed on particular socio-emotional skills. (iv) Finally, measurement of socio-emotional skills may differ as the behaviors associated with skills may vary with culture.

We show that socio-emotional skills are robustly associated with higher earnings for both men and women in Sub-Saharan Africa, and for women, this holds with a wider set of skills. In this way, our results are similar to an examination of nine middle-income countries, where women were found to have a positive correlation between earnings and openness, emotional stability, conscientiousness, and extraversion; while for men, this positive correlation existed for openness alone (Gunewardena et al., 2018). While we do not find evidence of gender differences in correlations between an aggregate index of socio-emotional skills and earnings, we find that positive self-concept is associated with lower earnings for women relative to men, while interpersonal skills are associated with higher earnings. As noted earlier, we focus on socio-emotional skills in our analysis.

Finally, this paper contributes to the literature by examining how the relationship between socio-emotional skills and earnings varies by educational attainment, which we interpret as a proxy for the qualification level of the occupation, and by the occupational sector. Few papers have explored this variation. We find that the association between aggregate socio-emotional skills and earnings is higher for more educated women and less educated men, though results differ substantially with the particular skill involved. At higher levels of education, while the relative advantage women have in the association

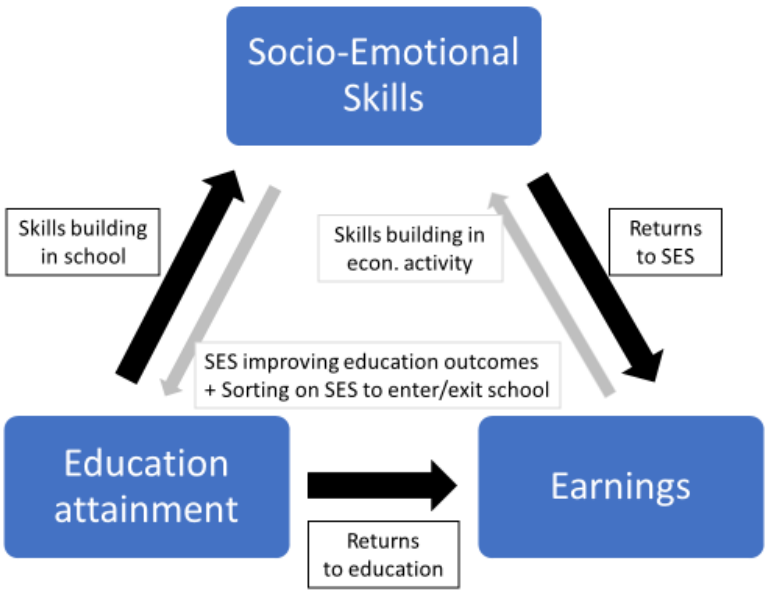
with earnings is highest for teamwork, gender gaps in levels are wider. This calls for education policies that address the gender gap in the acquisition of teamwork and other interpersonal skills. The evidence on the positive relationship between socio-emotional skills and earnings is stronger for non-agricultural self-employment, relative to agriculture and wage employment.

The remainder of the paper proceeds as follows. Section 2 presents the conceptual framework for this study. Section 3 introduces the data, presents summary statistics and lays out our empirical strategy. Section 4 presents our main results on gender gaps in socio-emotional skills and on the gender-specific relationships between socio-emotional skills and education on the one hand and socio-emotional skills and earnings on the other hand. Section 5 provides some robustness checks on these results, while Section 6 concludes with policy implications and suggestions for further research.

2. Conceptual Framework and Existing Evidence

In this section, we present a simple framework of the relationship between education, socio-emotional skills and economic outcomes, and how these links may vary across gender, in order to provide the economic intuition behind our empirical tests. Figure 1 presents a simplified visualization of how socio-emotional skills, educational attainment and earnings interact.

Figure 1: Conceptual Framework: Socio-emotional skills, Education and Earnings



2.1 Socio-emotional skills and education

In general, education is found to correlate positively with socio-emotional skills, though results may not be monotonic (Heckman et al., 2006). First, there is evidence on school sorting under socio-emotional skills whereby individuals with low endowments in socio-emotional skills are less likely to enter school and more likely to exit (Conti et al., 2010; Acosta et al. 2020; Papageorge et al. 2019). Second, the potential of socio-emotional skills training to improve attendance, educational attainment, and academic achievement is well documented, with important implications for potential earnings (Heckman et al., 2006; Almlund et al., 2011; Durlak et al., 2011; Lippman et al., 2015; OECD, 2015; Taylor et al., 2017; DiPrete & Jennings, 2012). In a study of elementary school children in the United States, Diprete & Jennings (2012) find that girls have higher levels of soft skills, but there is no gender difference in academic returns to these skills. In Uganda, Chioda et al. (2021) show that graduates from a soft-skill intensive training were more likely to have graduated from secondary school and female graduates were also more likely to be enrolled in or to have completed tertiary education. However, the impact of socio-emotional skills on academic outcomes is by no means guaranteed and varies with the particular skill and academic indicator analyzed (Smithers et al., 2018; OECD, 2021). Conscientiousness, and related concepts such as self-discipline, persistence, grit, have been particularly predictive of academic performance (Almund et al., 2011; Duckworth et al., 2007; Duckworth & Segilman, 2005; OECD, 2021; Mammadov, 2021), possibly due to their impact on study habits, effort, and prosocial behavior (Almund et al., 2011). Other mindset interventions have been found to create a belief in malleable intelligence, transform the attribution of setbacks, affirm values, or improve aspirations, and thereby motivate students, increase use of learning strategies, mitigate stereotype threat, encourage belongingness, and reduce absences and disruptive behavior (Yeager & Walton, 2011; Farrington et al., 2012). While self-esteem has had mixed results on academic performance, results may be positive in cases where it is tied to a positive attitude which enhances incentives (Mohanty, 2009), facilitates persistence and initiative (Baumeister et al., 2003), or reduces risky behavior (Heckman et al., 2006; Guerra et al., 2014). However, few other socio-emotional skills have been analyzed in detail, with little to no examination of social skills (Farrington et al., 2012).

Though the causal influence of education on socio-emotional skills is promising, demonstrating a rigorous causal relationship is logistically difficult. However, a number of studies suggest the causal mechanisms at play. In the US, Jackson et al. (2020) found that high schools impact students' self-reported socio-emotional development by enhancing social well-being and promoting hard work. Their results suggest that socio-emotional skills can be fostered by schools to improve longer-run outcomes. Schooling offers

the opportunity for individuals to develop attention and self-discipline, regulate stress as they navigate academic and social problem solving, develop teamwork and empathy skills via cooperative learning (Guerra et al., 2014; Durlak et al., 2011), and grow self-esteem from academic performance (Baumeister et al., 2003). Moreover, exposure to ideas and peers may affect academic performance, socialization, and forward-looking behavior (Duflo et al., 2011; Villaseñor, 2018; Bernard et al., 2014). Teachers and school leaders can affect students' socio-emotional skills through their relationships with students, the behaviors they model, and the classroom environments they create (Jones et al., 2013). Both positive and negative impacts have been found on students' complex task performance, growth mindset (Kraft & Grace, 2016), self-efficacy (Blazar and Kraft, 2017), school culture, classroom behavior, peer interactions, emotional support, and motivation (Loeb et al., 2019; Villaseñor, 2018). These teacher effects on socio-emotional skills are comparable to those on academic achievement (Villaseñor, 2018). Thus, in a setting such as sub-Saharan Africa where educational attainment remains lower for girls, girls may have less opportunity to develop foundational skills.

Moreover, educational institutions may be a source of instilling social norms and beliefs that affect one's skill acquisition. Girls may have a poorer sense of belonging (OECD, 2021) and be less encouraged to speak up or interact in an assertive manner and more penalized when doing so. These factors may lead them to practice certain socio-emotional skills, especially interpersonal skills, less than boys (Amanatullah and Morris, 2010), which may affect their individual beliefs and future choice of activities, goal levels, commitment, and persistence (Gielnick et al., 2015). In turn, individuals' beliefs may also affect their likelihood of using and cultivating particular socio-emotional skills, and thus affect their socio-emotional skills levels in adulthood: if women are less likely to believe their actions will obtain results, it reduces their motivation to develop and hone skills such as perseverance, personal initiative, expressiveness, influence, and negotiation. Correll (2001, 2004) found that if individuals are told that men are better than women at a task, they will assess themselves and select a career accordingly, despite equal ability and aspirations.

2.2 Socio-emotional skills and economic outcomes

Conceptually, socio-emotional skills may contribute indirectly to economic outcomes (labor market participation and earnings) through educational outcomes, which in turn contributes to the building of other skills (cognitive or technical). More directly, socio-emotional skills may be key to the development,

planning, and realization of goals across contexts[4]. The evidence base on the relationship between socio-emotional skills and economic outcomes, and how it can differ by gender, is rapidly expanding.

Studies based in Western contexts have examined the relationship between soft skills and economic outcomes through many stages of the employment process, though these often focus on personality traits and beliefs rather than socio-emotional skills. In the hiring process, extraversion, conscientiousness, and lower neuroticism are correlated with positive interviews and job recommendations (Roberts et al., 2007). Social skills, self-control, and low irritability have been found to be protective against unemployment (Lippman et al., 2015; Roberts et al., 2007). Job performance has been linked to conscientiousness, regardless of job complexity (Kautz et al., 2014; Almlund et al., 2011; Judge & Ilies, 2002), and to positive emotions, which are associated with creative problem solving (Roberts et al., 2007). Among men in Sweden, soft skills such as persistence, social skills, and emotional stability, as measured in a psychological interview, correlate with employment and wage across occupations. Moreover, these skills mattered more than cognitive ability among unqualified workers and managers (Lindqvist & Vestman, 2009).

Recent evidence has expanded to developing contexts and varied socio-emotional skills exogenously to isolate the causal impact of socio-emotional skills on economic outcomes. Personal initiative trainings aimed to instill self-management skills have become recognized as an effective way to build an entrepreneurial proactive mindset among farmers and entrepreneurs and increase profits (Campos et al., 2017; Koop et al., 2000; Krauss et al.,2005). This training was found to be effective for women regardless of their educational background (Campos et al., 2017). This contrasts with the null impact of a soft skills training program on female youth employment among community college graduates in Jordan (Groh et al., 2016). STEP, a program targeting self-efficacy among younger entrepreneurs who have not yet launched their businesses, has shown positive impacts in Uganda, Kenya, and Mexico. STEP students start 34% more businesses one year after the training and 20% more businesses two years after the training, and they create 35% additional jobs two years after the training (Gielnik et al., 2015). In Uganda, Chioda et al. (2021) tested the effects of a skill upgrade by introducing hard skills and soft skills in a 3-week mini-

[4] More specifically, developing an action plan may require the self-awareness to set desirable and attainable goals, and the problem solving, decision making and social awareness to anticipate potential obstacles and plan accordingly. Goal attainment may require the emotional regulation and perseverance to transcend obstacles, the expressiveness and respectful communication to share one's desires and ask for help, the self-control to stay on track with goals, the persuasion and negotiation skills to navigate business relationships and market prices, and the networking and collaboration skills to build market linkages and find resources or opportunities.

MBA training to high school students while varying the intensity of the soft skills students received. After three and half years, students in both groups showed an increase in both soft and hard skills, while only training in soft skills was linked to gains in self-efficacy, persuasion, and negotiation. Further, students who received the skill upgrade had substantially higher earnings and were more likely to start enterprises and have enterprises with higher survival rates. The training also led to larger profits and business capital investments.

In theory, socio-emotional skills-building policies may have particularly high economic returns for women in Sub-Saharan Africa, as women face more barriers to success in the workforce and binding social norms that limit expressiveness, mobility, time, network formation, and occupational choice (Chakravarty et al., 2017). Perseverance and creativity in problem solving may be essential since women bear more responsibility for daily survival and short-term budgeting, and women may be more mentally taxed and have less financial flexibility (Friedson-Ridenour & Pierotti, 2019; Schilbach et al., 2016). Communication, persuasion, and conflict resolution skills may improve women's ability to navigate home-based barriers as they request and obtain the support of family members, influence fertility decisions, and negotiate the allocation of household assets and responsibilities. At work, higher levels of relationship building skills, teamwork and personal initiative may be required to expand networks, obtain information and find opportunities, develop skills, navigate inclusion in male-dominated occupations, and find allies for both business and emotional support. Conversely, the relationship between socio-emotional skills and economic outcomes could be weaker for women if they have lower expected returns, or they are less likely to cultivate and practice socio-emotional skills due to restrictions on mobility, socialization, and labor force participation. Evidence on the link between gender, socio-emotional skills, and earnings is still scant. A longitudinal study from the US shows that moving an individual from the 25th to the 75th percentile of non-cognitive ability at age 14 to 21 is associated with males' and females' wages being 10 and 30 points higher and their probability of employment being 15 and 40 points higher, respectively (Heckman et al. 2006). In this study, women's economic outcomes are thus more strongly correlated with non-cognitive skills. Nyhus & Pons (2012) found that personality traits reduced the unemployed portion of the gender-wage gap by 12.% percentage points. A set of studies have documented gender differences in the returns to specific skills, though results differ with culture and occupation. Among Wisconsin graduates, men alone were rewarded for antagonism (the opposite of agreeableness) (Mueller & Plug, 2006), whereas management positions in Australia were associated with non-agreeableness regardless of

gender. However, these positions were associated with conscientiousness among men and openness and extroversion among women (Cobb-Clark & Tan, 2011).

One might expect that returns to socio-emotional skills may differ across sectors and by education level. Those with lower education levels may have fewer job options with less decision-making power, such that possession of certain socio-emotional skills cannot be used productively. For example, repetitive wage or agricultural work may be expected to require listening, perseverance, and self-control. However, employment that allows decision-making or working with others may observe returns if individuals can use personal initiative to adopt new methods or explore new markets, use negotiation to obtain higher prices or access cheaper inputs, or use interpersonal skills to influence family members or collaborate with other businesses. Gender-differentiated returns to socio-emotional skills may be less prevalent among those with lower education levels or those residing in rural economies, as there may be fewer job options and less gender-based occupational segregation (Das & Kotikula, 2019). Those with lower education levels may face stronger social norms that limit the returns to particular socio-emotional skills. Alternatively, as socio-emotional skills are transferable across occupations and relevant for economic empowerment in the home and workplace, returns to socio-emotional skills may not differ by education or occupation.

A few studies have found variation in returns to personality at higher education levels. Gensowski (2018) found that the correlation of personality and earnings is higher for men with a graduate degree than those with a bachelor's or less. Nyhus & Pons (2005) found that extraversion was less punished, and autonomy was less rewarded among men with some university education, while women were punished for emotional stability at both pre-university/vocational and university education levels. In the United Kingdom, Carneiro et al. (2007) found that returns to social adjustment levels at age 11 were positive and did not vary with education. There is also some evidence that women with high-status occupations faced earnings penalties for being aggressive (Bowles et al., 2001).

Three non-experimental papers provide evidence on the relationship between soft skills and earnings in the agriculture sector from Africa. In Malawi, an increase in women's non-cognitive ability (such as perseverance, passion for work, and optimism) was correlated with higher rates of adoption of valuable cash crops (Montalvao et al., 2017). In Ghana, non-cognitive skills were found to increase technology adoption and technical efficiency on rice farms (Ali et al., 2020). In Côte d'Ivoire, the relative self-esteem

of rural spouses determines who is earning income from cash crop agriculture through increased control over household land, with women's outcomes being more sensitive to self-esteem levels (Botea et al., 2021).

3. Sample Data and Empirical Strategy

3.1 Data set construction

We started by compiling data from all baseline surveys conducted by the World Bank's Africa Gender Innovation Lab (GIL) which included any measures of socio-emotional skills and economic outcomes for both men and women. This approach yielded a database of 10 studies in 8 countries (Benin, the Republic of Congo, Côte d'Ivoire, Ghana, Kenya, Mozambique, Nigeria, and Togo) conducted between 2013 and 2020. To broaden the scope of our analysis, we added data for the two African countries included in the World Bank's STEP Skills Measurement Program – Ghana and Kenya, as well as data from the Future of Business Survey, which was a co-product of Facebook, OECD and World Bank (which includes respondents from Angola, Benin, Botswana, Côte d'Ivoire, Cameroon, Ethiopia, Ghana, Kenya, Mozambique, Nigeria, Senegal, Tanzania, Uganda, South Africa, and Zambia). Appendix Table A2 summarizes the database of studies included in our sample.

Since each study used different scales and measures of skills, it was necessary to align the data under a common framework. We utilized a framework developed by GIL as part of its larger research agenda to examine the importance of socio-emotional skills for women's economic outcomes in Sub Saharan Africa. To establish this framework, GIL worked with psychologists and used existing literature to develop a list of skills that are malleable, span the range of socio-emotional skills while mapping to existing frameworks[5], can be used to examine gender differences, and include higher-order categories that allow for separate treatment arms to rigorously unpack the causal influence of particular socio-emotional skills. We appended the data and mapped each of the survey items to one of these 14 socio-emotional skills. This categorization process was independently conducted prior to the analysis by a psychologist well-versed in the definitions of the skills, in close collaboration with our research team. The resulting dataset includes measures for 10 of the 14 skills. The remaining four skills were not included because of their absence from the 13 studies in our sample: emotional awareness, listening, interpersonal influence, and

[5] Several groups and organizations have developed frameworks to classify and organize socio-emotional skills and overlapping concepts. Three commonly used frameworks are CASEL, USAID Youth Power, and Big 5 Personality, and Harvard's EASEL Lab documents many others.

negotiation.[6] Appendix Table A3 provides a definition for each of the 10 skills under study as well as example items aggregated to construct each skill measure. The complete list of items combined to construct a given skill measure is available on request. In order to create an index for each skill, we first reversed all socio-emotional skills measures such that higher numbers indicate "higher" socio-emotional skills levels. Second, we standardized each item such that the mean is zero and the standard deviation is 1 for women in each study. We then took an average of the items for a given skill based on the categorization exercise. Finally, we standardized the index to the women's sample in each study. This allows us to later interpret regression coefficients on gender differences relative to the variation between women.

Additionally, we created three aggregated skills measures: *Intra* that averages all intrapersonal skill indices available in a given study (positive self-concept, emotional regulation, self-control, perseverance, personal initiative and problem-solving and decision-making (PSDM)), *Inter* that averages all interpersonal skill indices available in a given study (empathy, expressiveness, interpersonal relatedness and teamwork), and *All* that averages all socio-emotional skill indices available in a given study. Our analysis thus considers 13 measures of socio-emotional skills (10 skill-specific and 3 aggregated measures).

3.2 Sample description

Our pooled sample comprises 41,873 individual-level observations from surveys (see Appendix Table A2 for sampling criteria) conducted in 8 Sub-Saharan African countries (Benin, the Republic of Congo, Côte d'Ivoire, Ghana, Kenya, Mozambique, Nigeria, and Togo) or under the Future of Business Survey (15 Sub-Saharan African countries). While all studies target both men and women, and more specifically couples in Côte d'Ivoire and Mozambique, only 42.7% of the respondents are women. Most studies' respondents are adults and young adults, in both urban and rural areas, with an average age of 36 years old (23 in the Republic of Congo skills project to 49 in the Future of Business project). Very few studies limit sample selection by education level and the average respondent has completed 9.6 years of education (a minimum average of 2.6 years in Mozambique and a maximum of 13.3 years in Nigeria). Among the respondents, 57.3% are married. Of the respondents, 74.5% report earning a positive income, with some variation across studies (43% in Mozambique up to 98% in Togo's Private Sector Development Project). Respondents earn on average $138 (USD) monthly with the average income varying between $2 in

[6] *Self Awareness* in the framework was renamed *Positive Self Concept* and *Collaboration* from the framework was renamed *Teamwork*, as the latter terms are similar, but better reflected the specific data that was available.

Mozambique and $504 in Ghana (see Table 1). The Future of Business Survey is the only study in the data set with no data on earnings.

Apart from the STEP surveys, samples used for this analysis are typically not representative of the general population but come from selected subpopulations. This implies that results are not always externally valid, but representative surveys very rarely contain detailed measures of socio-emotional skills.

Table 2 shows summary statistics on the 13 socio-emotional skills measures for the pooled sample (Panel A) and at the study-level (Panel B). Overall, 323 items were used to construct the socio-emotional skills measures. Importantly, more than 70% of socio-emotional skills items refer to intrapersonal skills, which reflects the larger effort made to collect data on intrapersonal skills (mostly positive self-concept, personal initiative and PSDM). In comparison, interpersonal skills, and especially empathy and teamwork, suffer from a thinner information base. This translates into a lower number of observations being used for interpersonal skills and a lower reliability in these indices as indicated by systematically lower Cronbach's alpha across studies compared to intrapersonal skills. Panel B indicates for each study which socio-emotional skills measures are available and the number of items they are based upon with summary statistics when available. Note that each study measures between 2 and 9 specific socio-emotional skills (excluding aggregate measures), the average study measuring 5.7 specific socio-emotional skills: 3.8 intrapersonal skills (out of 6) and 1.8 interpersonal skills (out of 4).

3.3 Estimating gender differences in socio-emotional skill levels

To measure gender differences in socio-emotional skill levels, we regress each of the 13 measures of socio-emotional skills on the gender of the respondent controlling for a set of project dummies, using the pooled sample described above.

$$Skill_{is} = \alpha + \beta Woman_{is} + \delta\rho_s + \epsilon_{is} \quad (1)$$

Where:

- $Skill_{is}$ is the socio-emotional skill measure for individual *i*, either skill-specific or aggregated.
- $Woman_{is}$ is a dummy equal to one if the individual *i* in study *s* is a woman.
- ρ_s is a study fixed effect.

However, in model (1) the estimated gender difference coefficient might also be capturing differences in age, marital status or education. To account for these confounding factors, we re-run model (1) four times by adding each of these variables one at a time as a control variable. See equation (2) below.

$$Skill_{is} = \alpha + \beta Woman_{is} + \gamma X'_{is} + \delta \rho_s + \epsilon_{is} \quad (2)$$

Where:

- X_{is} is a vector of control variables including age, marital status, education (highest educational attainment), and employment status of individual i.[7]

We run a weighted regression to account for the fact that sample sizes vary a lot across skills. As can be seen in Table 2, sample sizes vary from 39,885 to 8,260 observations for the individual skills. Without weights, for instance, Empathy would be given more weight in the pooled sample than Perseverance, despite having almost a fifth of the observations. To avoid skills with larger samples contributing more to the analysis, we create sampling weights, which are equal to the inverse of the probability that a given observation is included in our analysis sample. The OLS estimates of β give the conditional gender differences for each skill.

3.4 Heterogeneity in gender differences by education

To look at the heterogeneity of gender differences in socio-emotional skill levels, we regress each of the 13 measures of socio-emotional skills on the interaction of the gender of the respondent with education variables, years of education and a vector of dummy variables of transitional grades (ever entered lower secondary, ever entered senior secondary and ever entered higher education), using the pooled dataset, in two sets of regressions.[8]

$$Skill_{is} = \alpha + \beta_1 Woman_{is} + \beta_2 Education_{is} + \beta_3 Woman_{is} \times Education_{is} + \gamma X'_{is} + \delta \rho_s + \epsilon_{is} \quad (3)$$

[7] Age bins represents dummy variables equal to 1 if the respondent's age belongs to the age cohort which ranges from 15 to 65 with a 5-year gap, 0 otherwise. Married is a dummy variable equal to 1 if the respondent is married/cohabitating, 0 otherwise. Education dummies represent dummy variables equal to 1 if the respondent's highest educational attainment (completed) is 0, 1, ... or 14, where 0=No education, 1=completed grade 1, 2=completed grade 2, … 12=completed high school, 13=completed certificate or diploma and 14=completed university degree or above, 0 otherwise. Employment is a dummy variable equal to 1 if the respondent is currently working, 0 otherwise.

[8] We examine heterogeneity by years of education first and then add a vector of dummy variables for transitioning grades in a different regression to allow us to estimate the relative implications of each set of factors.

Where:

- $Education_{is}$ is the number of years of education of individual *i*.
- X_{is} controls for marital status and a vector of dummy variables of age bins equal to one if individual *i*'s age belongs to the age cohort ranges from 15 to 65 with a 5-year gap.
- ρ_s is a study fixed effect.

The coefficient β_1 in equations 3 gives the difference in socio-emotional skills levels between less educated women and less educated men. Again, β_3 stands for the differential gender gap in socio-emotional skills levels between more and less educated populations. In other words, a significantly positive β_3 indicates that gender differences are significantly stronger among more educated people. $\beta_1 + \beta_3$ estimates the difference in socio-emotional skills levels between men and women among the educated people.

3.5 Correlation between socio-emotional skills and employment outcomes

Differences by gender

For each of the 13 measures of socio-emotional skills, we run a regression on the full sample of men and women, regressing an employment outcome on the interaction of the socio-emotional skill measure with the gender of the respondent.

$$Y_{is} = \alpha + \beta_1 Woman_{is} + \beta_2 Skill_{is} + \beta_3 Skill_{is} \times Woman_{is} + \beta_4 EEducation_{is} + \beta_5 Woman_{is} \times EEducation_{is} + \gamma X'_{is} + \delta \rho_s + \epsilon_{is} \quad (4)$$

Where:

- Y_{is} is monthly earnings defined as the inverse hyperbolic sine (IHS) transformation of the respondent's monthly earnings in US dollars.
- X_{is} is a vector of control variables including age bins/cohorts and respondent's marital status.
- $Education_{is}$ is the number of years of education of individual *i*.
- ρ_s is a study fixed effect.

The coefficient β_1 in equation 4 gives the difference in earnings between women and men with a given socio-emotional skills. β_2 gives the correlation between the socio-emotional skills and any earnings for men, while $\beta_2 + \beta_3$ gives the same correlation for women. β_3 indicates whether having any earnings is

more or less correlated with $Skill$ for women than men. On the other hand, β_4 and $\beta_4 + \beta_5$ shows the correlation between years of education and any earnings for men and women, respectively.

Heterogeneity by education

To assess differences in returns to socio-emotional skills by education, we regress earnings on the interaction of each of the 13 socio-emotional skill measure with respondent's years of education.

$$Y_{is} = \alpha + \beta_1 Woman_{is} + \beta_2 Education_{is} + \beta_3 Woman_{is} \times Education_{is} + \beta_4 Skill_{is} + \beta_5 Woman_{is} \times Skill_{is} + \beta_6 Education_{is} \times Skill_{is} + \beta_7 Woman_{is} \times Education_{is} \times Skill_{is} + \gamma X'_{is} + \delta \rho_s + \epsilon_{is} \quad (5)$$

Where:

- Y_{is} is monthly earnings defined as the inverse hyperbolic sine (IHS) transformation of the respondent's monthly earnings in US dollars.
- X_{is} is a vector of control variables including age bins/cohorts and respondent's marital status.
- $Education_{is}$ is the number of years of education of individual *i*.
- ρ_s is a study fixed effect.

In equation 5, the coefficient β_1 gives the difference in earnings between women and men with a given socio-emotional skills. β_2 gives the correlation between educational attainment and any earnings for men, while $\beta_2 + \beta_3$ gives the same correlation for women. Similarly, β_4 and $\beta_4 + \beta_5$ shows the correlation between socio-emotional skills and any earnings for men and women, respectively. Finally, β_6 gives the correlation between socio-emotional skills and any earnings for men with a given years of education while and $\beta_6 + \beta_7$ gives the same correlation for women.

Heterogeneity across types of employment

After dividing our sample into two groups based on whether the respondent is self-employed in the non-agricultural sector or wage employed, we re-run equation 4 and assess whether results vary based on employment type.

4. Results

4.1 Gender differences in levels of socio-emotional skills

Table 3 and Figure 2 report estimates of the average gender difference in socio-emotional skills. Following equation (1), we begin by estimating the gender gap with project fixed effects in Model A. Our preferred specification is reported in Model D and follows equation (2), with additional controls for age, marital status, education.[9] We find that women have significantly lower levels of socio-emotional skills, even after controlling for education and demographic characteristics. The gender gap in socio-emotional skills decreases from 0.18 (model A) to 0.151 when adding the full set of controls (model D). Finally, in Model E, we add controls for employment status and the results do not substantially change, indicating that the gender differences in socio-emotional skills we find are not driven by women's lower likelihood of engaging in paid work. Whereas controlling for education does change some results meaningfully, controlling for employment does not. This suggests that employment does not substantially develop socio-emotional skills in this context. We explore the relationship between socio-emotional skills and employment in more detail in section 4.3 of the paper.

To provide some context on the magnitude of the gender gap in our preferred specification in Model D, the conditional gender gap is equivalent to 5.6 years of education. As a comparison, the gender gap in education in our sample, after controlling for age, marital status and project fixed effects, is 0.96 years. Therefore, closing the gender gap in education would close about 17% of the socio-emotional skills gender gap. Additionally, the gender gap is equivalent to a 5 percentile increase in socio-emotional skills levels, based on the women's distribution. This gap is similar without project fixed effects, indicating that the gap holds across the whole sample and is not only due to within-country variations. One factor to note is that sample sizes differ across the specific individual skills, we therefore take the aggregate measures as our preferred estimates of general differences in skills and conduct robustness checks in section 5 to examine how sensitive gender gaps in individual skills are to skills measures. We confirm that these main results with our aggregate measures are unlikely to be driven by sample selection, using data from the Ghana and Kenya STEP surveys, which include a random sample of respondents drawn from a general urban population. Consistent with our pooled results, we find in the STEP surveys that men have significantly

[9] The findings below are not sensitive to additionally controlling for number of children. Because of the reduced sample size, these results are not presented here but available upon request.

higher levels of socio-emotional skills, with a larger gender gap in intrapersonal compared to interpersonal skills (we report a full set of results for individual projects in Table 8).

With this caveat in mind, looking into intrapersonal skills, interpersonal skills, and individual skills still yields informative conclusions. The conditional gender gap is larger for intrapersonal skills (0.143) than for interpersonal skills (0.104). Apart from self-control, there is a gender gap favoring men for all individual skills, significant at the 1% level (5% level for empathy). It is largest for emotional regulation, personal initiative, problem-solving and decision-making and teamwork; it is smallest for positive self-concept, empathy, expressiveness, and interpersonal relatedness.

In addition, the portion of the gender gap in socio-emotional skills which can be associated with education varies across skills: it is largest for positive self-concept, problem-solving, and empathy while lowest for teamwork. We will dig deeper into the analysis of the correlation between gaps in socio-emotional skills and education in the following tables.

4.2 Educational attainment and socio-emotional skills, by gender

Having estimated gender differences in socio-emotional skills for the full sample, we now turn to examine heterogeneity by education. Gender inequality in employment outcomes and economic opportunity differs across the educational distribution. Understanding the associated differences in socio-emotional skills could therefore have important policy implications.

Table 4 and Figure 3 report estimates of gender- and education-related differences in socio-emotional skills while allowing for different associations between education and socio-emotional skills for men and women, following equation (3). Column 1 in Panel A reports results using our overall aggregate index measure of socio-emotional skills. The coefficient on the women indicator is -0.121, indicating that among uneducated people, women's level of socio-emotional skills is 0.121 standard deviations lower than men's on average. This is more than four times the difference associated with completing an additional year of education. Education is associated with similar gains in overall socio-emotional skills levels for men and women, the gender difference in education returns is statistically insignificant (Panel A, Column 1). Columns 2 and 3 in Panel A separately report estimates for aggregate indices of intrapersonal and interpersonal skills. For people with no formal schooling, the gender gap for intrapersonal skills is significant at 0.129, while the gender gap in interpersonal skills is not. Interestingly however, the gender

gap in interpersonal skills increases with educational attainment. Women gain less from education than men in terms of interpersonal skills, so that the gap in interpersonal skills is only significant for more educated women (with three years of education or more).

Panel B individually reports estimates for each intrapersonal skill, while Panel C similarly reports estimates for each interpersonal skill. Among people with no formal schooling, gender differences are statistically significant at the 1-percent level for perseverance (-0.128), personal initiative (-0.125) problem-solving and decision making (-0.126), while women conversely display significantly higher self-control (0.101) and expressiveness (0.172) levels than men.

For each individual interpersonal skill, as well as for emotional regulation and self-control, the gender gap increases with educational attainment. Women's marginal returns to education are more than half those of men for emotional regulation, empathy and teamwork, while women's levels of expressiveness do not even correlate with educational attainment.

Taken together, this analysis suggests that the gender gap persists even with education. Education actually explains little of the overall gender gap, since both men's and women's socio-emotional skills increase with education. However, looking into individual skills, the relationship between socio-emotional skills and education varies by gender. An alternative possibility is that men and women equally acquire these skills, but their persistence over time decreases more for women, potentially due to gender norms.

4.3 Correlations with earnings

Our analysis so far has established that men have significantly higher levels of socio-emotional skills and that these skills differences persist even among men and women with formal education. To understand implications for gender differences in economic outcomes, we now turn to examine the relationship between socio-emotional skills and earnings. Figure 4 summarizes the main correlations, displaying regression coefficients from Table 5 with their confidence intervals and significance levels.

Average effects

We present estimates of equation (4) with monthly earnings as an outcome in Table 5. Here we restrict our sample to the 33,965 individuals for whom we have information on employment and earnings. Panel A indicates that women in our sample have almost 70% lower earnings than men, consistent with Arbache

et al. (2010).[10] This unconditional gender gap in earnings decreases to 56% after accounting for education and demographics. Both men and women experience positive returns to education.

In aggregate, socio-emotional skills are associated with higher earnings for both men and women in similar magnitude. The gender difference in the relationship between socio-emotional skills and earnings is statistically insignificant[11] (Panel B, Column1). We find some gender differences when we look separately at intrapersonal and interpersonal skills. For men, earnings correlate significantly with intrapersonal skills (0.081 standard deviations in Panel B, Column 2), while the correlation with interpersonal skills is insignificant (Panel B, Column 3). For women, earnings are significantly correlated with both intrapersonal and interpersonal skills, with coefficients of 0.075 and 0.061, respectively. Our results indicate that a 1 standard deviation increase in interpersonal skills (but not in intrapersonal skills) reduces the gender gap in earnings by about 7.8%.

Altogether, we find that one standard deviation increase in socio-emotional skills amounts a 6.8% gain in earnings for men, equivalent to the earnings gain from 2.72 more years of education (0.068/0.025). For women, one standard deviation increase in socio-emotional skills provides an 8.8% increase in earnings, the equivalent earning gain from 5.87 more years of education ((0.068+0.02)/(0.025-0.01)). Our results imply that conditional on similar levels of education for men and women, we would need to increase socio-emotional skills by 9.5 standard deviations (0.647/0.068) to close the gender gap in earnings.

Looking at individual intrapersonal skills (Panel C), we find that positive self-concept and perseverance are positively associated with earnings for both men and women, although two important gender differences arise in the magnitudes of these correlations. While high levels of positive self-concept are less associated with earnings for women than for men, perseverance has a significantly higher correlation with earnings for women. Strikingly again, for all other individual and aggregated skills, gender differences are statistically insignificant. These results potentially highlight the positive impacts of overcoming gender norms for women.

[10] We estimate a 33% earnings gap when we include men and women with non-zero earnings, which is similar to estimates from other studies.

[11] This result holds whether controlling for education levels or not and after controlling for occupation sector, using data from the Ghana and Kenya STEP surveys, which include information on occupation for a random sample drawn from a general urban population.

On interpersonal skills (Panel D), we find some positive returns for women only. Expressiveness and teamwork are the only interpersonal socio-emotional skills that are positively associated with earnings and we find this positive association for women but not for men. Future research should study why women get higher returns to these skills in the labor market, and whether this relates to the key differences observed between men's and women's networks (World Bank Group, 2019). These are also the two skills that are lower for more educated women, which implies that current education systems tend not to equip women with the socio-emotional skills that could benefit them the most in earnings. By contrast, skills for which the gender gap is lowest have lower returns in earnings (empathy, expressiveness, interpersonal relatedness). Interpersonal relatedness is the only skill with negative returns to earnings for men, and there are no returns for women. We find no significant returns to empathy, although this skill is still more positively associated with earnings for women than for men. Overall, our results suggest that teamwork is the skill most strongly correlated with earnings for women, as well as a skill with high gender gap in levels (although this skill also tends to be less precisely measured in our data).

Altogether, women are best rewarded for skills that align with gender stereotypes, but which are also those they gain the least through education, compared to men. The misfit between socio-emotional skills that women gain from schooling (or which schools retain) and those that have highest returns suggests the importance of investing in specific socio-emotional skills trainings to build those particular socio-emotional skills for which women have higher returns (interpersonal skills and perseverance).

We also examine differences in employment on the intensive margin, restricting our sample to the 23,387 individuals with positive earnings (Appendix Table A4). Here we again find that in aggregate, socio-emotional skills are associated with higher earnings for both men and women in similar magnitude. The gender difference in the relationship between socio-emotional skills and earnings is statistically insignificant (Panel A, Column1). When we look separately at intrapersonal and interpersonal skills our results differ somewhat. For men, earnings correlate significantly with intrapersonal skills (0.081 standard deviations in Panel A, Column 2), while the correlation with interpersonal skills is smaller but now marginally significant (0.031 standard deviations in Panel A, Column 3). For women, earnings are significantly correlated with both intrapersonal and interpersonal skills, with no significant gender difference.

Heterogeneity by education

We turn next to analyzing whether correlations between socio-emotional skills and earnings differ by educational attainment. Table 6 and Figure 5 present these results of estimating the specification outlined in equation (5). We find significant gender differences among workers with no formal education. Men with no formal schooling get positive returns to intrapersonal skills and negative returns to interpersonal skills. Women with no formal schooling get no returns to either skill, with significantly lower returns to intrapersonal skills and higher returns to interpersonal skills than men.

Education offsets the negative returns to interpersonal skills for men: in contrast to their non-educated counterparts, men with 14 years of education get null returns from these skills. Meanwhile, men with 14 years of education still get positive returns to intrapersonal skills. These results suggest the possibility that non-educated men may be more likely to operate in sectors where intrapersonal skills have positive returns and interpersonal skills have negative ones. Education significantly increases women's returns from intrapersonal skills, but not for interpersonal skills. Thus, while education increases men's returns to interpersonal skills, it increases women's returns to intrapersonal skills. Nonetheless, women with 14 years of education still have positive returns to interpersonal skills. Altogether, education is more transformative for women, and women with the highest education levels receive positive returns to both intrapersonal and interpersonal skills.

Looking at specific skills by education level, we find that gender stereotypical skills are more rewarded for non-educated men and women and this pattern lessens with education. In particular, non-educated men and women both get negative returns to emotional regulation and positive returns to self-control. However, non-educated men get positive returns from PSC, while non-educated women get positive returns to perseverance and teamwork and get significantly more returns than men to empathy, expressiveness, and interpersonal relatedness (even though the overall returns for these latter skills are not significant). Moreover, while non-educated men get negative returns from expressiveness and interpersonal relatedness, women do not. Education increases returns to emotional regulation for both men and women, while it decreases returns to self-control. Furthermore, education lowers men's returns to PSC and increases men's returns to expressiveness and interpersonal relatedness, effectively reversing the negative returns for these interpersonal skills for men. Both men and women with 14 years of education get positive returns from emotional regulation, perseverance, PSDM and expressiveness. In

addition, women with 14 years of education get positive returns from teamwork, positive self-concept, and personal initiative.

Heterogeneity across types of employment

Finally, we turn to analyzing how these results vary based on employment type, and especially based on whether the respondent is self-employed in the non-agricultural sector or wage employed. Results are reported in Table 7. One caveat to drawing direct comparisons here is that the two subsamples do not derive from the same population. We however observe the following patterns.

Women have significantly lower levels of earnings than men in all sectors. While socio-emotional skills are significantly correlated with earnings in non-agricultural self-employment and in wage employment for men, as in our main results, there is no significant difference by gender (Panel A). Socio-emotional skills are not significantly correlated with earnings in wage employment for women. In both sectors, intrapersonal skills appear to have higher returns than interpersonal skills for both men and women.

We move next to examining skill specific differences within the non-agricultural self-employment and wage employment sectors. In the non-agricultural self-employment sector (Panel B), positive self-concept, PSDM, and self-control are associated with higher earnings for men. While women yield insignificant returns from positive self-concept and self-control, women's earnings are positively associated with PSDM, perseverance, personal initiative, and teamwork.

Panel C shows correlations for wage workers. Interpersonal relatedness and teamwork are negatively associated with earnings for men, whereas these negative associations are offset for women. Altogether, these results suggest that socio-emotional skills may be especially valuable for non-agricultural self-employment relative to the wage employment sector.

5. Robustness Checks

The previous sections have documented gender differences in socio-emotional skills and their associations with economic outcomes. This section reinforces our interpretation of our results, by showing robustness to i) alternative measurement of the gender gap, ii) alternative measurement of skills, iii) differences in self-assessments of skills, iv) controls for school transitions, v) heterogeneity across studies.

5.1 Alternative measurement of the gender gap

To contrast our results with alternative approaches to quantify differences between subpopulations, we present the standardized difference between men and women's socio-emotional skills means in Appendix Table A5 in the form of Cohen's *d*, reported for the full sample and disaggregated by study as well as by age and education categories. In a large majority of studies, we find higher levels of all socio-emotional skills among men, except for self-control, which is consistent with our main results. A comparison between Table 8, which describes coefficients across studies, and Appendix Table A5 demonstrates that this alternative methodology occasionally yields different results. Some large effect sizes based on regression results fall below the minimal threshold of 0.2 from Cohen's *d* results (Hyde, 2005). Similarly, some larger values for Cohen's *d* do not result in significant or large effect sizes after controlling for age and education. Nonetheless, the overall pattern of a gender gap predominantly in favor of men remains the same.

5.2 Alternative measurement of skills

In our baseline results, we construct skill measures by combining study variables assigned to a given skill. When initial studies include few variables for a given skill, the resulting skill measures combine a low number of contributing items. To address the concern that measures based on less than three items might not provide a robust assessment of the underlying skills (Marsh et al., 1998), we restrict our analysis to socio-emotional skills captured by at least three items in an individual survey. Our sample size reduces to 40,761 observations for the gender differences in the aggregate index. The resulting estimates for gender differences in socio-emotional skills remain largely unchanged (Appendix Table A6, columns 1 and 2). We only observe a change in significance for empathy, for which we keep less than 14% of observations in this robustness check. Now turning to heterogeneity in socio-emotional skills by education in Appendix Table A7, results are also mainly unchanged. The main difference is that we find higher levels of interpersonal skills for women among the non-educated population, notably for expressiveness (similar to Table 4) and interpersonal relatedness. Lastly, we estimate correlations between socio-emotional skills and earnings based on this restricted sample in Appendix Table A8. We find a robust, even stronger, correlation of aggregate and intrapersonal socio-emotional skills with earnings with no gender differences in these correlations (Panel A). As in our main specification, we find that the association between interpersonal socio-emotional skills and earnings is significantly higher for women than for men, for whom the negative correlation with earnings is here significant. Results on the correlation between disaggregated skills and earnings are very similar to those described in subsection 4.3.

5.3 Controlling for positive self-concept

Higher levels of positive self-concept may bias self-reported measures of socio-emotional skills by creating a gap between self-assessments of skills and actual skill levels. Moreover, this overestimation may be tied to gender norms (Correll, 2004). We indeed find a 0.060 standard deviation difference in positive self-concept, favorable to men (Table 3). On the other hand, positive self-concept may be foundational for the formation of other socio-emotional skills, and some correlation between skills may be expected. Still, we examine whether our previous findings are retained, limited to a sub-sample of 25,551 for which a measure of positive self-concept is available. We find that self-concept has a significant positive association with all other socio-emotional skills for individuals in this sub-sample (Appendix Table A9, column 4). Controlling for self-concept attenuates the gender gap in socio-emotional skills, from -0.151 to -0.115 (Appendix Table A9, columns 1 and 3). The gender gap in intrapersonal and interpersonal skills both fall slightly but remain statistically significant, suggesting that the difference in skills we observe does not fully stem from differences in self-concept but partly reflects an underlying difference in skills. For interpersonal skills, the only robust gender difference is found for teamwork, while for other individual skills, the gender difference is not significant. The fact that coefficients change signals the importance of considering gender differential biases in self-reported measures of socio-emotional skills.

The gender-specific association between socio-emotional skills and education is widely unchanged once we control for self-concept (Appendix Table A9). We then estimate the correlation between socio-emotional skills and economic outcomes controlling for positive self-concept (Appendix Table A10). Using two-stage residual inclusion estimation, we estimate residuals for each skill after controlling for positive self-concept. We then run our usual specification (Equation 3) using these residuals instead of our initial index. Results on the correlation with earnings are consistent with our main estimation. A one standard deviation change in the aggregate socio-emotional skills measure is associated with a 6.4% increase in earnings for women and a 4.9% increase for men, compared to 8.8% and 6.8% in the main specification. We also find that intrapersonal skills continue to be more strongly associated with earnings than interpersonal skills for men, and that interpersonal skills are more strongly associated with economic outcomes for women than for men.

5.4 Controlling for school transitions

To better understand whether the relationships we observe between skills and gender are rather driven by people sorting on socio-emotional skills to enter and remain in formal education, or by people building

socio-emotional skills in school, we run the same analysis as in Table 4 and estimate model (3) but now augmented with controls for transition years in educational attainment (in the form of dummies for ever entering lower secondary, senior secondary or higher education). In Appendix Table A11, we make the assumption that indicator variables for transition years account for any sorting mechanism which might be at play, and that our coefficients on years of education thus provide a conservative estimate of socio-emotional skills building in formal education. Our main results largely remain. Women's returns to education overall do not substantially change once we control for this sorting mechanism. Men get lower returns than before from interpersonal skills, but they are still positive and statistically significant.

Overall, men with higher socio-emotional skills are less likely to enter lower secondary but more likely to transition into senior secondary. We do not find any significant correlation between women's level of socio-emotional skills and their transition into higher levels of education, which suggests that there is less sorting into education based on socio-emotional skills for women.

5.5 Heterogeneity across studies

To uncover differential correlations between socio-emotional skills and economic outcomes across samples, we report estimates of correlations with earnings disaggregated at the study-level in Table 8. We find significantly lower aggregate levels of socio-emotional skills among women in all but three of the thirteen studies (Panel A). The three exceptions (Cote d'Ivoire PSAC, Facebook, and Togo PI) include samples restricted to working individuals – as farmers, business entrepreneurs, or employees, which may explain the statistically insignificant differences in socio-emotional skills levels among men and women in the selected samples. Altogether, gender differences in socio-emotional skills levels disfavor women across all studies and skills except for self-control, of which women display significantly higher levels in both the Mozambique and Togo PI studies (selecting farmers and entrepreneurs), and except for emotional regulation and PSDM being higher for women in the Facebook study. Turning to correlations with earnings (Panel B), we generally find insignificant gender differences except for two cases in which women display a significantly higher correlation between aggregate socio-emotional skills and earnings than men (in the Ghana GADCO and Kenya STEP studies). The overall female advantage in the correlation between interpersonal skills with earnings is driven by the Cote d'Ivoire Pro-Jeunes and Kenya STEP studies (both urban samples), along with positive although statistically insignificant gender gaps favoring women in most of the other studies. Most studies indicate high and statistically significant correlations of all types of socio-emotional skills with earnings for women. Taken together, these results indicate

consistent patterns of lower socio-emotional skills levels for women but positive associations with earnings across studies, and with interpersonal skills being more strongly correlated with earnings for women than for men.

6. Conclusion

This paper investigates gender differences in a wide range of socio-emotional skills, at different education levels, as well as how these skills correlate with earnings and whether this correlation differs for men and women. We exploit a rich and unique combination of datasets encompassing 41,873 individuals across 17 Sub-Saharan African countries. We use standardized measures of socio-emotional skills covering six intrapersonal and four interpersonal skills by aggregating self-reported items across studies.

While results may not be applicable to all settings, this study is the first to examine gender differences in a large variety of socio-emotional skills, separating out intra- and interpersonal skills, and for an extensive number of African countries. We find a significant gender gap disfavoring women by about 0.151 standard deviations, across most socio-emotional skills, equivalent to the gap induced by 5.6 years of education. The largest gap is observed in problem-solving and decision-making while the gap in empathy is the smallest. Self-control is the only skill for which women do not exhibit significantly lower levels than men. We hypothesize that gender norms play an important role in explaining gender differences in socio-emotional skills. More work is needed to better understand and estimate this role.

The gender gap in socio-emotional skills is only partially explained by lower education levels among women. Closing the gender gap in education would close about 17% of the socio-emotional skills gender gap. Overall, women and men experience similar returns to education in terms of aggregate socio-emotional skills levels. However, we observe differences at a more disaggregated level. Indeed, the gender gap in interpersonal skills, emotional regulation and self-control is wider at higher education levels. In general, these results are suggestive rather than definitive, as two important considerations arise in the measurement of each skill. First, self-reported measures may reflect gender-specific biases in assessments of skills. In complementary work, we are developing observation-based measures of skills, that will help address this issue. Second, this study is based on available data, and measures were not validated for this division of skills. In addition, larger efforts were spent on measuring intrapersonal skills (75% of socio-emotional skills items) than interpersonal skills across studies. Thus, measures of interpersonal skills suffer

from relying on a lower number of observations and from lower reliability. This calls for further data collection and analysis on the relative importance of interpersonal skills.

Another central contribution of this paper is in highlighting which skills correlate most with economic empowerment. While we lack a source of exogenous variation in socio-emotional skills acquisition and thus cannot infer causality, we do not find evidence of differential associations of our aggregate socio-emotional skills measures with economic outcomes across gender. Socio-emotional skills are robustly associated with higher earnings for men and women. However, digging deeper into separate skills, we find evidence supporting the hypothesis that the specific skills associated with the highest earnings differ for men and women. Notably, while women seem to gain less interpersonal skills than men from education, we find interpersonal skills to be more strongly correlated with earnings for women than for men. More research is needed to understand why women get higher returns from interpersonal skills, and especially teamwork. Given the positive correlation we find between socio-emotional skills - especially interpersonal skills for women - and economic outcomes, taken together with the fact that higher levels of education are associated with higher gender gaps in interpersonal skills, public interventions aiming to equip women with these highly rewarded skills may provide an effective pathway to reduce gender disparities in the labor market.

In terms of differences by educational attainment, we find that non-educated women have null returns to either type of socio-emotional skills, which disaggregates into higher returns to interpersonal skills than men and lower returns to intrapersonal skills, which they lack most compared to men. Interestingly, while education increases men's returns to expressiveness and interpersonal relatedness as well as the gender gap in these skills levels, it increases women's returns to positive self-concept and teamwork more than men's. Finally, we examine differences by occupational sector and find that socio-emotional skills are significantly correlated with earnings in non-agricultural self-employment for both men and women, as in our main results, but are not significantly correlated with earnings in wage employment for women. In both sectors, intrapersonal skills appear to have higher returns than interpersonal skills for men. Contrastingly, women in wage employment only get significant returns from interpersonal skills, not from intrapersonal skills. Perseverance and personal initiative are associated with higher earnings for women in non-agricultural self-employment. For wage workers, interpersonal relatedness and teamwork are negatively associated with earnings for men, whereas these negative associations are offset for women.

Overall, our results suggest that programs aiming at reducing the gender gap in earnings would benefit from including socio-emotional skills building components specifically targeting interpersonal skills such as teamwork, expressiveness and interpersonal relatedness.

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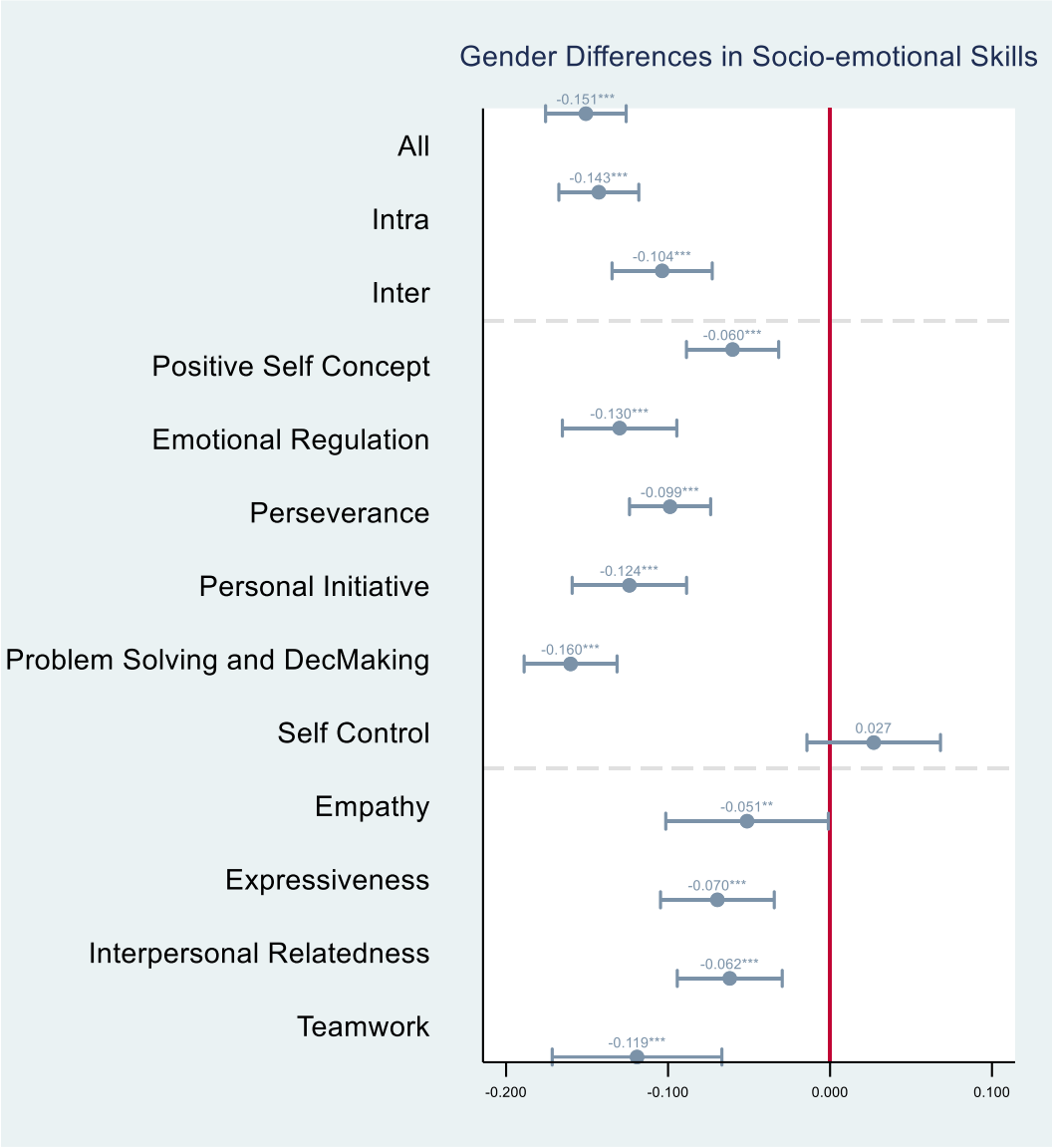
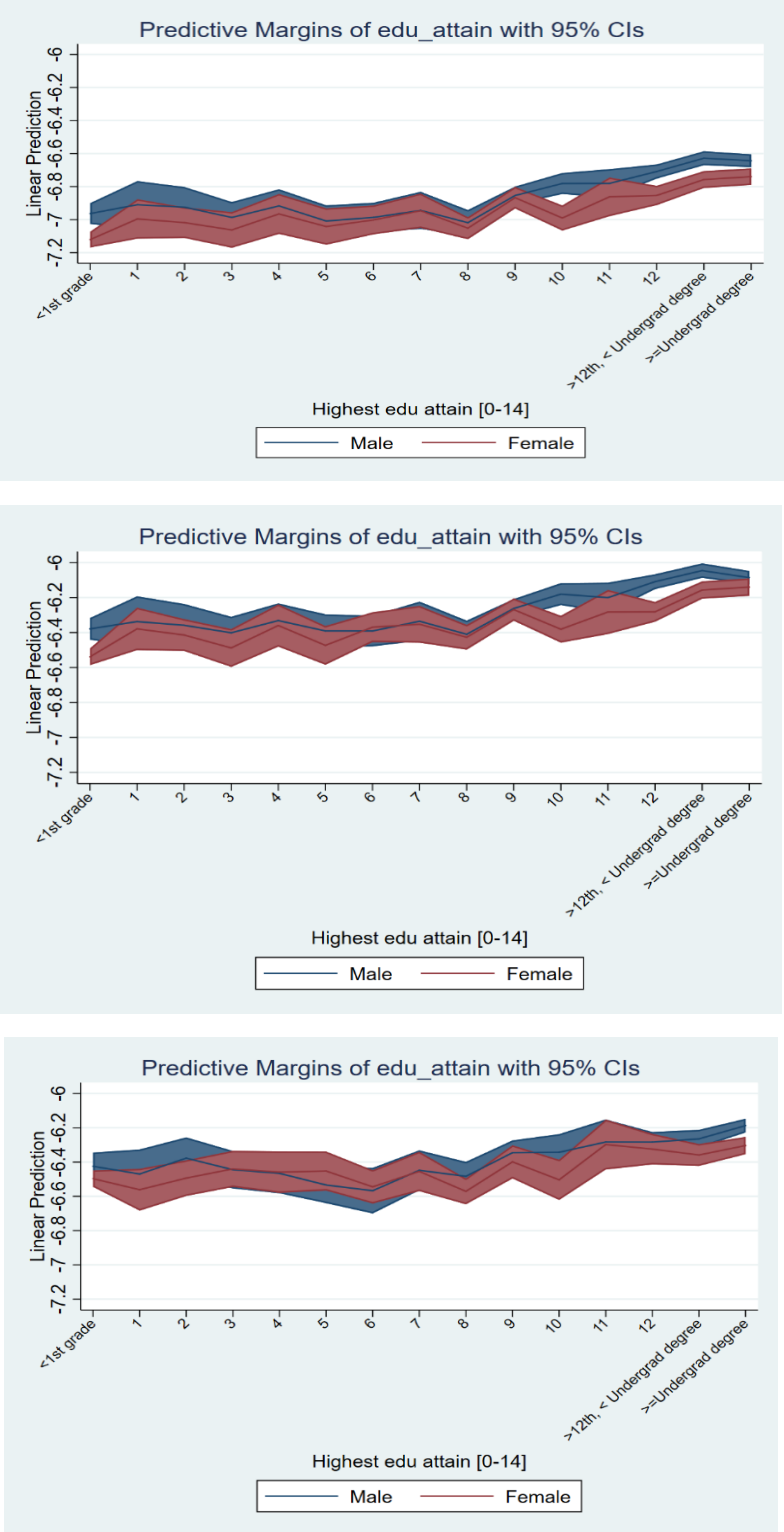
Figures and Tables

Figure 2: Gender differences in socio-emotional skills



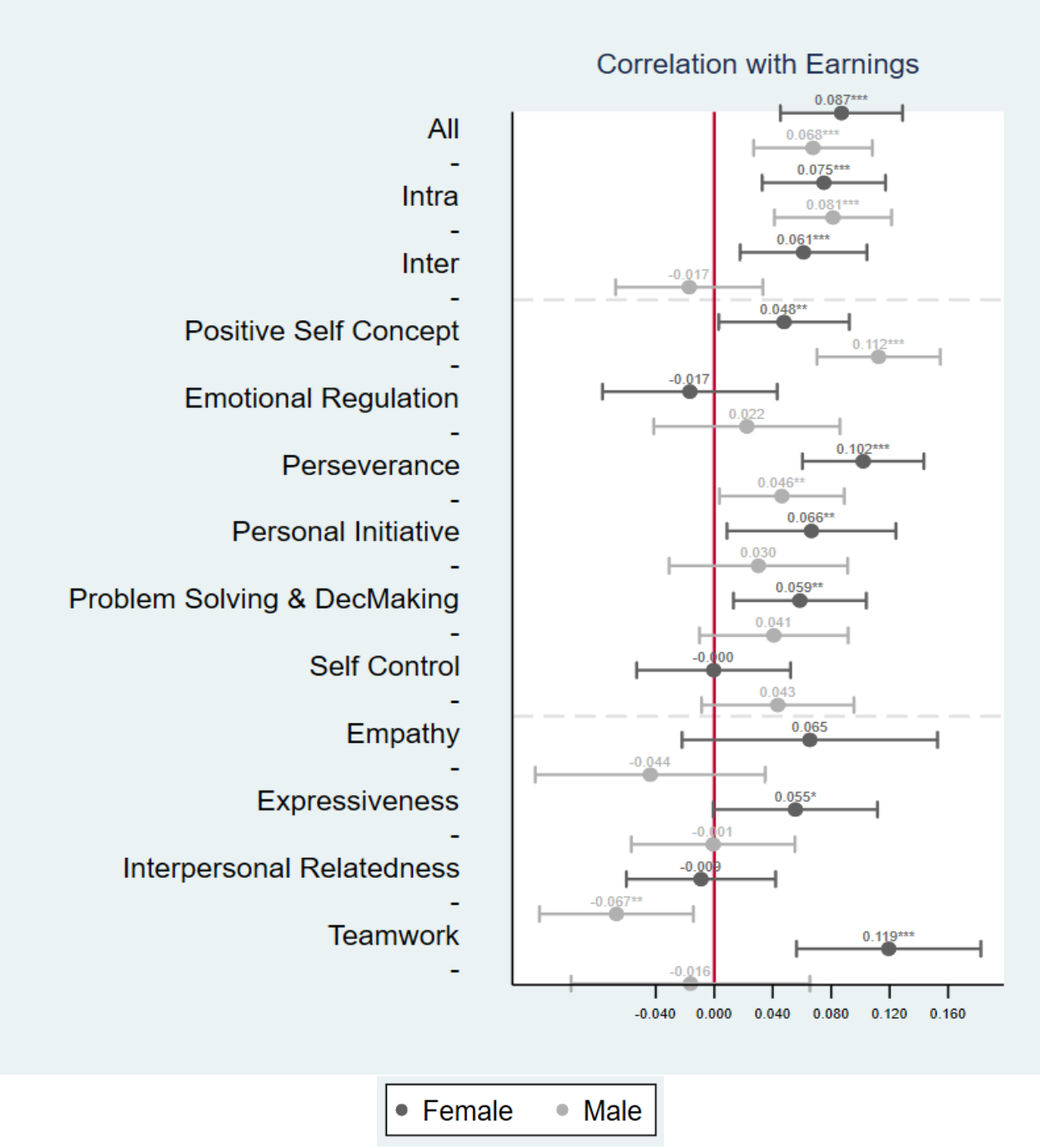
Note: Each skill measure is displayed on the y-axis. The regression coefficients on Women in Table 3 (Model D) are displayed with their confidence intervals and significance levels.

Figure 3: Education heterogeneity for gender differences in socio-emotional skills



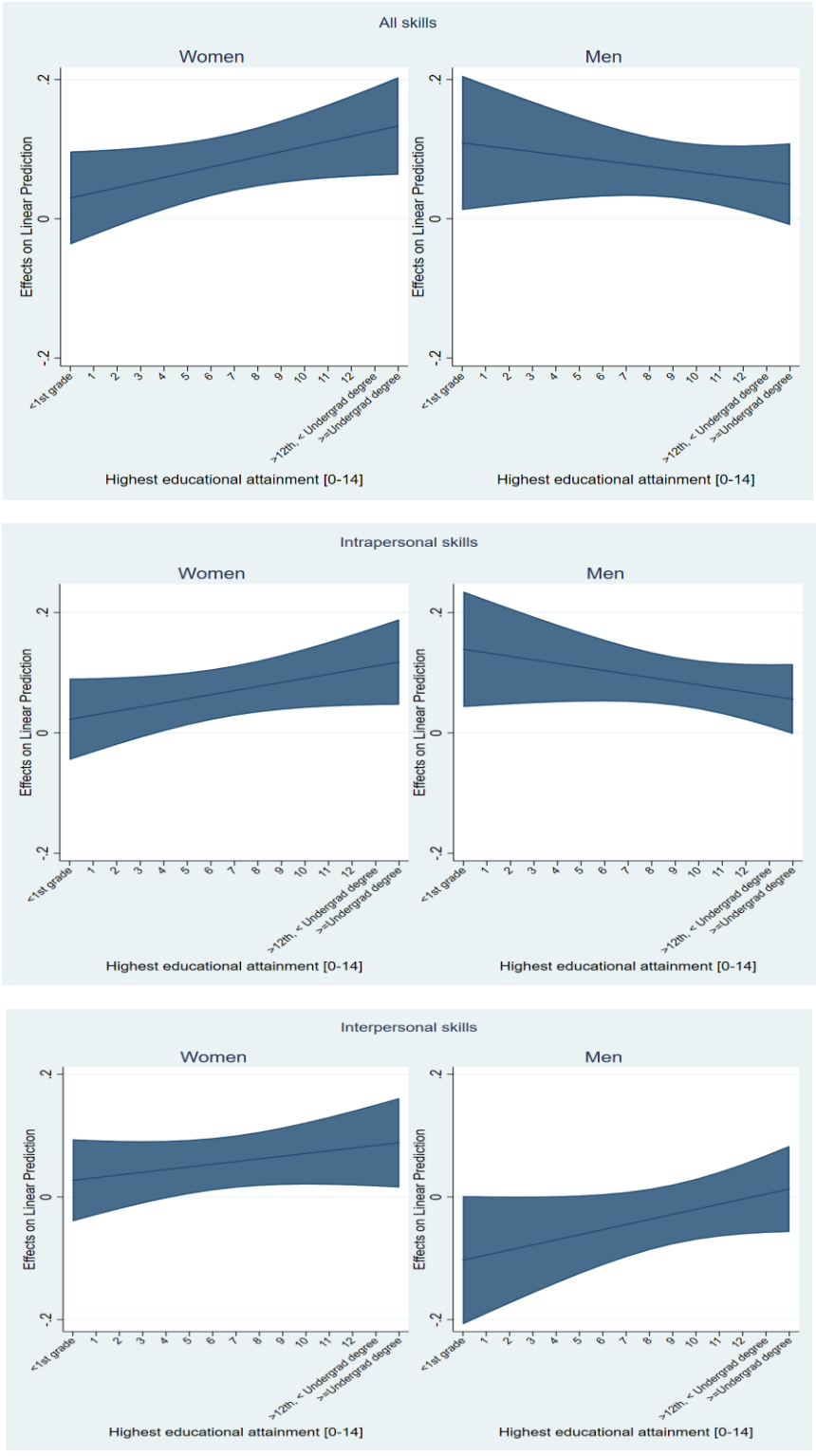
Note: Each year of education is desplayed on the X-axis. The graph desplays the gender difference on socio-emotional skills at different years of education based on the estimation results of equation (3).

Figure 4: Correlations with earnings



Note: Each skill measure is displayed on the y-axis. The regression coefficients of Table 5 ("SE skills" for men's correlations and "SE skills +Women*SE skills" for women's correlations) are displayed with their confidence intervals and significance levels. Dark markers indicate the correlation between women's socio-emotional skills and their earnings, while light ones are for men.

Figure 5: Education heterogeneity in the correlation between socio-emotional skills and earnings



Note: Each year of education is displayed on the X-axis. The graph shows the linear relationship between socio-emotional skills and earning for each year of education based on the estimation results of equation (5).

Table 1: Project Demographics

Project	Woman	Age	Education	Married /Cohabitating	Paid Work	Monthly Earnings (USD)
Full Sample	0.427 (0.495)	35.54 (12.512)	9.646 (4.756)	0.573 (0.495)	0.745 (0.436)	137.756 (435.165)
	41873	41873	41873	41873	41478	33965
Women Sample	.	33.467 (11.860)	8.477 (5.239)	0.609 (0.488)	0.675 (0.469)	103.251 (368.243)
	.	17880	17880	17880	17725	16225
Men Sample	.	37.084 (12.760)	10.517 (4.154)	0.546 (0.498)	0.797 (0.402)	169.315 (486.280)
	.	23993	23993	23993	23753	17740
t-test Women-Men	0.000	0.000	0.000	0.000	0.000	0.000
Benin: Youth Employment	0.63 (0.483)	26.231 (4.544)	3.987 (3.685)	0.687 (0.464)	0.766 (0.423)	41.910 (78.152)
	2967	2967	2967	2967	2967	2967
Congo: Skills Development Project for Employability	0.332 (0.471)	23.446 (3.116)	10.668 (1.657)	0.121 (0.326)	0.862 (0.345)	50.897 (71.17)
	3984	3984	3984	3984	3982	3978
Côte d'Ivoire: Factory Workers	0.490 (0.500)	24.895 (3.610)	10.179 (3.982)	0.138 (0.345)	0.567 (0.496)	73.968 (133.919)
	1126	1126	1126	1126	1126	1126
Côte d'Ivoire: ProJeunes	0.716 (0.451)	30.483 (9.184)	5.685 (5.079)	0.365 (0.482)	0.886 (0.318)	65.817 (46.692)
	1289	1289	1289	1289	1289	1289
Côte d'Ivoire: Support Project for the Agricultural Sector (PSAC)	0.185 (0.388)	46.292 (10.555)	6.253 (4.753)	0.992 (0.088)	0.815 (0.388)	280.135 (635.874)
	1539	1539	1539	1539	1539	1539
Facebook: Future of Business (FoB)	0.184 (0.387)	49.456 (7.765)	12.987 (1.944)	0.527 (0.499)	0.927 (0.26)	.
	7756	7756	7756	7756	7756	.
Ghana: Impact of Outgrower Contracts on Smallholder Farmers (GADCO)	0.355 (0.479)	45.602 (11.395)	9.678 (3.655)	0.814 (0.390)	0.466 (0.499)	108.950 (280.173)
	1464	1464	1464	1464	1464	1464
Ghana: Skills Towards Employability and Productivity (STEP)- Skills Measurement	0.482 (0.500)	30.890 (12.016)	10.081 (2.868)	0.411 (0.492)	0.663 (0.473)	504.492 (953.284)
	1922	1922	1922	1922	1922	1811
Kenya: Skills Towards Employability and Productivity (STEP)- Skills Measurement	0.523 (0.500)	29.363 (9.664)	9.991 (3.678)	0.523 (0.50)	0.633 (0.482)	474.013 (886.642)
	3822	3822	3822	3822	3822	3613
Mozambique: Impact Assessment Integrated Growth Pole Project (IGPP)	0.568 (0.495)	37.118 (14.645)	2.620 (2.894)	0.906 (0.293)	0.430 (0.495)	2.455 (6.019)
	5293	5293	5293	5293	5293	5293
Nigeria APPEALS	0.544 (0.498)	33.043 (7.925)	13.278 (1.365)	0.624 (0.485)	0.757 (0.429)	59.949 (115.800)
	5918	5918	5918	5918	5918	5918
Togo: Private Sector Development Project (PADSP)- Personal Initiative	0.525 (0.500)	41.260 (9.574)	8.443 (3.986)	0.812 (0.391)	0.978 (0.147)	145.878 (230.080)
	1468	1468	1468	1468	1456	1456
Togo: Youth Employment and Skills Development (AIDE)	0.321 (0.467)	31.226 (3.963)	13.190 (1.466)	0.474 (0.499)	0.820 (0.384)	131.421 (180.740)
	3325	3325	3325	3325	2944	2944

Note: The table reports the mean, standard deviation and number of observations for the whole sample as well as by project. Woman is a dummy variable equal to 1 if the respondent is a woman, 0 if a man. Age is a continuous variable for the respondent's age. Education stands for the highest educational attainment (completed) where 0=No education, 1=completed grade 1, 2=completed grade 2, … 12=completed high school, 13=completed certificate or diploma and 14=completed university degree or above. Married is a dummy variable equal to 1 if the respondent is married/cohabitating, 0 otherwise. Number of children is a continuous variable indicating the respondent's number of children. Paid Work is a dummy variable equal to 1 if the respondent earns any positive income. Monthly earnings indicate the respondent's monthly earnings in USD. The Facebook data is from the "Future of Business (FoB)" survey. Although it covers 97 countries across the world, this study includes only 15 Sub Saharan Africa (SSA) countries namely: Angola, Benin, Botswana, Côte d'Ivoire, Cameroon, Ethiopia, Ghana, Kenya, Mozambique, Nigeria, Senegal, Tanzania, Uganda, South Africa, and Zambia. http://documents1.worldbank.org/curated/en/734371558715932769/pdf/Tackling-the-Global-Profitarchy-Gender-and-the-Choice-of-Business-Sector.pdf.

Table 2: Descriptive Statistics on socio-emotional skills

		All	Intra	Inter	Positive Self Concept	Emotional Regulation	Perseverance	Personal Initiative	PSDM	Self Control	Empathy	Expressiveness	Interpersonal Relatedness	Teamwork
Panel A: Pooled Sample Data														
All	nbr items	323	228	95	39	31	40	48	54	16	14	26	37	18
	mean	0.076	0.067	0.067	0.032	0.038	0.056	0.060	0.068	-0.004	0.038	0.053	0.047	0.069
	sd	1.022	1.027	1.006	1.005	1.014	1.012	1.028	1.017	1.010	1.013	1.017	1.014	0.980
	obs	41873	41834	33658	25551	22573	39885	22052	31959	14835	8260	18866	26941	13115
Women	mean	0	0	0	0	0	0	0	0	0	0	0	0	0
	sd	1	1	1	1	1	1	1	1	1	1	1	1	1
	obs	17880	17870	15535	12129	9638	17495	8923	14726	7519	4192	9451	12470	6611
Men	mean	0.133	0.117	0.124	0.062	0.067	0.099	0.100	0.126	-0.009	0.078	0.107	0.088	0.139
	sd	1.036	1.045	1.008	1.009	1.024	1.019	1.045	1.029	1.021	1.026	1.032	1.025	0.955
	obs	23993	23964	18123	13422	12935	22390	13129	17233	7316	4068	9415	14471	6504
Panel B: Project-specific Data														
Benin: Youth Employment	nbr items	17	16	1	5	0	7	1	2	1	0	0	0	1
	mean	0.124	0.107	0.094	0.032	.	0.104	0.068	0.077	0.044	.	.	.	0.094
	sd	0.984	0.990	0.955	0.994	.	0.973	0.952	0.964	1.013	.	.	.	0.955
	obs	2967	2967	2965	2967	.	2967	2963	2967	2967	.	.	.	2965
	Cronbach's alpha	0.764	0.754	.	0.327	.	0.679	.	0.617	.	.	.	.	.
Congo: Skills Development Project for Employability	nbr items	12	11	1	3	0	5	0	0	3	0	0	0	1
	mean	0.108	0.106	0.052	0.069	.	0.126	.	.	0.007	.	.	.	0.052
	sd	1.029	1.040	0.920	1.028	.	0.970	.	.	0.999	.	.	.	0.920
	obs	3984	3984	407	3984	.	3984	.	.	3984	.	.	.	407
	Cronbach's alpha	0.454	0.435	.	0.350	.	0.495	.	.	0.636	.	.	.	.
Côte d'Ivoire: Factory Workers	nbr items	15	11	4	6	1	3	0	1	0	0	1	3	0
	mean	0.106	0.109	0.031	0.071	0.050	0.074	.	0.067	.	.	0.017	0.029	.
	sd	1.023	1.015	1.016	0.981	0.981	0.977	.	0.991	.	.	1.015	0.999	.
	obs	1289	1289	1289	1289	1289	1289	.	1289	.	.	1289	1289	.
	Cronbach's alpha	0.696	0.735	0.122	0.722	.	0.385	.	.	.	.	.	0.246	.
Côte d'Ivoire: ProJeunes	nbr items	85	47	38	0	9	7	10	13	8	10	6	12	10
	mean	0.095	0.097	0.075	.	0.055	0.043	0.090	0.038	0.097	0.048	0.065	0.059	0.067
	sd	1.066	1.031	1.079	.	1.059	1.050	1.039	1.057	0.945	1.050	1.030	1.063	1.066
	obs	1126	1126	1126	.	1126	1126	1126	1126	1126	1126	1126	1126	1126
	Cronbach's alpha	0.939	0.879	0.919	.	0.689	0.718	0.786	0.681	0.812	0.778	0.632	0.843	0.825
Côte d'Ivoire: Support Project for the Agricultural Sector (PSAC)	nbr items	5	5	0	3	0	0	0	2	0	0	0	0	0
	mean	0.035	0.035	.	-0.052	.	.	.	0.087	.	.	.	.	.
	sd	0.967	0.967	.	1.012	.	.	.	0.917	.	.	.	.	.
	obs	1539	1539	.	1539	.	.	.	1518	.	.	.	.	.
	Cronbach's alpha	0.392	0.392	.	0.304	.	.	.	0.415	.	.	.	.	.
Facebook: Future of Business (FoB)	nbr items	8	7	1	0	1	2	1	3	0	0	0	1	0
	mean	0.029	0.010	0.060	.	-0.057	0.036	0.047	-0.022	.	.	.	0.060	.
	sd	1.059	1.064	1.018	.	1.005	1.040	1.092	1.064	.	.	.	1.018	.
	obs	7756	7724	6125	.	7059	7338	6414	6645	.	.	.	6125	.
	Cronbach's alpha	0.680	0.648	.	.	.	0.374	.	0.276	.	.	.	.	.
Ghana: Impact of Outgrower Contracts on Smallholder Farmers (GADCO)	nbr items	6	6	0	0	0	2	4	0	0	0	0	0	0
	mean	0.085	0.085	.	.	.	0.056	0.093	.	.	.	.	.	.
	sd	0.977	0.977	.	.	.	0.977	1.009	.	.	.	.	.	.
	obs	1464	1464	.	.	.	1463	1464	.	.	.	.	.	.
	Cronbach's alpha	0.380	0.380	.	.	.	0.383	0.065	.	.	.	.	.	.
Ghana: Skills Towards Employability and Productivity (STEP)- Skills Measurement	nbr items	20	11	9	1	4	2	0	4	0	1	4	4	0
	mean	0.131	0.139	0.077	0.037	0.149	0.059	.	0.163	.	0.070	0.037	0.057	.
	sd	1.007	1.007	1.000	0.974	1.004	0.990	.	1.015	.	1.022	0.987	0.987	.
	obs	1922	1916	1921	1881	1894	1900	.	1914	.	1852	1919	1902	.
	Cronbach's alpha	0.620	0.496	0.459	.	0.218	0.273	.	0.416	.	.	0.121	0.419	.
Kenya: Skills Towards Employability and Productivity (STEP)- Skills Measurement	nbr items	20	11	9	1	4	2	0	4	0	1	4	4	0
	mean	0.082	0.090	0.044	0.046	0.082	0.018	.	0.099	.	0.026	0.052	0.022	.
	sd	0.983	0.999	0.983	0.981	0.996	1.006	.	0.988	.	0.990	1.006	0.993	.
	obs	3822	3821	3822	3807	3820	3820	.	3821	.	3814	3822	3820	.
	Cronbach's alpha	0.642	0.522	0.486	.	0.286	0.327	.	0.423	.	.	0.190	0.437	.
Mozambique: Impact Assessment Integrated Growth Pole Project (IGPP)	nbr items	33	29	4	5	0	5	11	5	3	0	0	2	2
	mean	0.047	0.042	0.039	0.006	.	0.052	0.056	0.045	-0.036	.	.	0.044	0.008
	sd	0.991	0.994	1.002	1.022	.	0.980	0.992	0.990	0.988	.	.	1.001	0.989
	obs	5293	5293	5293	5293	.	5293	5293	5293	5293	.	.	5293	5293
	Cronbach's alpha	0.838	0.830	0.117	0.596	.	0.641	0.834	0.725	0.638	.	.	0.494	
Nigeria APPEALS	nbr items	33	22	11	0	10	3	0	9	0	0	3	8	0
	mean	0.097	0.098	0.077	.	0.084	0.065	.	0.110	.	.	0.075	0.062	.
	sd	1.052	1.046	1.049	.	1.036	1.041	.	1.049	.	.	1.050	1.033	.
	obs	5918	5918	5918	.	5918	5918	.	5918	.	.	5918	5918	.
	Cronbach's alpha	0.941	0.911	0.901	.	0.837	0.604	.	0.847	.	.	0.719	0.900	.
Togo: Private Sector Development Project (PADSP)- Personal Initiative	nbr items	44	37	7	9	2	1	13	11	1	2	2	3	0
	mean	0.058	0.072	-0.004	0.099	0.032	0.061	0.100	0.167	-0.094	0.025	-0.040	0.008	.
	sd	1.026	1.024	1.014	0.997	0.985	1.001	1.001	1.010	1.144	1.032	0.994	1.030	.
	obs	1468	1468	1468	1467	1467	1464	1468	1468	1465	1468	1468	1468	.
	Cronbach's alpha	0.847	0.861	0.391	0.816	0.518	.	0.859	0.455	.	0.417	0.116	0.146	.
Togo: Youth Employment and Skills Development (AIDE)	nbr items	25	15	10	6	0	1	8	0	0	0	6	0	4
	mean	0.081	0.013	0.143	0.009	.	-0.005	0.040	.	.	.	0.077	.	0.146
	sd	1.034	1.064	0.958	1.011	.	1.065	1.039	.	.	.	0.991	.	0.959
	obs	3325	3325	3324	3324	.	3323	3324	.	.	.	3324	.	3324
	Cronbach's alpha	0.695	0.577	0.542	0.435	.	.	0.400	.	.	.	0.421	.	0.505

Note: nbr items stands for the number of items aggregated to construct the corresponding skills measure. sd stands for standard deviation and obs for the number of observations. Empty cells indicate that the project does not have data for the specified skill. PSDM stands for Problem Solving and Decision Making. The Facebook data is from the "Future of Business (FoB)" survey. This study includes only 15 Sub Saharan Africa (SSA) countries namely: Angola, Benin, Botswana, Cameroon, Côte d'Ivoire, Ethiopia, Ghana, Kenya, Mozambique, Nigeria, Senegal, Tanzania, Uganda, South Africa, and Zambia.
http://documents1.worldbank.org/curated/en/734371558715932769/pdf/Tackling-the-Global-Profitarchy-Gender-and-the-Choice-of-Business-Sector.pdf. Dark green color indicates if the Cronbach's alpha is above 0.7 while light green color is for values between 0.6 and 0.69.

Table 3: Gender differences in levels of socio-emotional skills

		Model A: No control	Model B: +age bins	Model C: +married	Model D: +edu dummies	Model E: +employment	F-test comparing coefficient on Woman for Model C and Model D	
		Coef. on Woman	Coef. on Woman	Coef. on Woman	Coef. on Woman	Coef. on Woman	P-value	N
All	coef.	-0.180***	-0.175***	-0.176***	-0.151***	-0.149***	0.000	41,873
	se	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)		
	R-squared	0.008	0.012	0.012	0.021	0.021		
Intra	coef.	-0.173***	-0.167***	-0.168***	-0.143***	-0.140***	0.000	41,834
	se	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)		
	R-squared	0.008	0.012	0.012	0.021	0.021		
Inter	coef.	-0.125***	-0.122***	-0.122***	-0.104***	-0.104***	0.009	33,658
	se	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)		
	R-squared	0.005	0.006	0.006	0.011	0.011		
Positive Self Concept	coef.	-0.092***	-0.086***	-0.086***	-0.060***	-0.057***	0.091	25,551
	se	(0.014)	(0.014)	(0.014)	(0.015)	(0.015)		
	R-squared	0.004	0.007	0.007	0.014	0.014		
Emotional Regulation	coef.	-0.145***	-0.143***	-0.143***	-0.130***	-0.130***	0.000	22,573
	se	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)		
	R-squared	0.008	0.011	0.011	0.013	0.013		
Perseverance	coef.	-0.125***	-0.120***	-0.121***	-0.099***	-0.095***	0.000	39,885
	se	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)		
	R-squared	0.005	0.007	0.007	0.012	0.012		
Personal Initiative	coef.	-0.145***	-0.141***	-0.141***	-0.124***	-0.122***	0.000	22,052
	se	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)		
	R-squared	0.005	0.007	0.007	0.015	0.015		
PSDM	coef.	-0.193***	-0.186***	-0.186***	-0.160***	-0.160***	0.000	31,959
	se	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)		
	R-squared	0.011	0.014	0.014	0.021	0.021		
Self Control	coef.	-0.007	-0.005	-0.005	0.027	0.028	0.199	14,835
	se	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)		
	R-squared	0.004	0.007	0.007	0.015	0.016		
Empathy	coef.	-0.083***	-0.085***	-0.084***	-0.051**	-0.053**	0.263	8,260
	se	(0.025)	(0.025)	(0.025)	(0.026)	(0.026)		
	R-squared	0.002	0.005	0.005	0.014	0.014		
Expressiveness	coef.	-0.080***	-0.081***	-0.080***	-0.070***	-0.069***	0.071	18,866
	se	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)		
	R-squared	0.003	0.003	0.003	0.007	0.007		
Interpersonal Relatedness	coef.	-0.088***	-0.087***	-0.087***	-0.062***	-0.067***	0.023	26,941
	se	(0.016)	(0.016)	(0.016)	(0.017)	(0.017)		
	R-squared	0.002	0.003	0.003	0.010	0.011		
Teamwork	coef.	-0.137***	-0.132***	-0.133***	-0.119***	-0.116***	0.618	13,115
	se	(0.026)	(0.026)	(0.026)	(0.027)	(0.027)		
	R-squared	0.007	0.009	0.009	0.012	0.013		

Note: OLS regression specifications include study fixed effects. All studies have equal weights. Woman is a dummy variable equal to 1 if the respondent is a woman, 0 otherwise. Age bins represent dummy variables equal to 1 if the respondent's age belongs to the age cohort which ranges from 15 to 65 with a 5 year gap, 0 otherwise. Married is a dummy variable equal to 1 if the respondent is married/cohabitating, 0 otherwise. Education dummies represent dummy variables equal to 1 if the respondent's highest educational attainment (completed) is 0, 1, ... or 14 where 0=No education, 1=completed grade 1, 2=completed grade 2, … 12=completed high school, 13=completed certificate or diploma and 14=completed university degree or above, 0 otherwise. Note that Nigeria & Facebook projects have only categorical variable for education and "completed primary" is coded as 9 and "completed secondary" is coded as 12. Employment is a dummy variable equal to 1 if the respondent is currently working, 0 otherwise. PSDM stands for Problem Solving and Decision Making. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

Table 4: Gender differences in levels of socio-emotional skills-Heterogeneity by education attainment

Panel A: Aggregate Skills			
	All	Intra	Inter
	(1)	(2)	(3)
Woman	-0.121***	-0.129***	-0.016
	(0.027)	(0.027)	(0.030)
Education attainment	0.027***	0.026***	0.022***
	(0.002)	(0.002)	(0.003)
Woman*Education attainment	-0.003	-0.002	-0.009***
	(0.003)	(0.003)	(0.003)
Observations	41,873	41,834	33,658
R-squared	0.019	0.019	0.009
P-val Woman+Woman*Edu Attain	0.000	0.000	0.363
P-val Edu Attain+Woman*Edu Attain	0.000	0.000	0.000
Mean SE skills for Men	0.133	0.117	0.124
Mean SE skills for Woman	0.000	0.000	0.000

Panel B: Intrapersonal Skills						
	Positive Self Concept	Emotional Regulation	Perseverance	Personal Initiative	PSDM	Self Control
	(1)	(2)	(3)	(4)	(5)	(6)
Woman	-0.022	-0.036	-0.128***	-0.125***	-0.126***	0.101***
	(0.029)	(0.053)	(0.028)	(0.030)	(0.027)	(0.034)
Education attainment	0.024***	0.015***	0.016***	0.021***	0.023***	0.027***
	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)	(0.004)
Woman*Education attainment	-0.005	-0.009**	0.003	0.001	-0.004	-0.009**
	(0.003)	(0.005)	(0.003)	(0.003)	(0.003)	(0.004)
Observations	25,551	22,573	39,885	22,052	31,959	14,835
R-squared	0.012	0.012	0.011	0.012	0.019	0.012
P-val Woman+Woman*Edu Attain	0.310	0.358	0.000	0.000	0.000	0.003
P-val Edu Attain+Woman*Edu Attain	0.000	0.085	0.000	0.000	0.000	0.000
Mean SE skills for Men	0.062	0.067	0.099	0.100	0.126	-0.009
Mean SE skills for Woman	0.000	0.000	0.000	0.000	0.000	0.000

Panel C: Interpersonal Skills				
	Empathy	Expressiveness	Interpersonal Relatedness	Teamwork
	(1)	(2)	(3)	(4)
Woman	0.105	0.172***	0.021	-0.029
	(0.074)	(0.058)	(0.035)	(0.035)
Education attainment	0.032***	0.025***	0.024***	0.020***
	(0.006)	(0.004)	(0.003)	(0.005)
Woman*Education attainment	-0.016**	-0.023***	-0.009***	-0.010**
	(0.007)	(0.005)	(0.003)	(0.004)
Observations	8,260	18,866	26,941	13,115
R-squared	0.011	0.006	0.007	0.011
P-val Woman+Woman*Edu Attain	0.187	0.005	0.696	0.208
P-val Edu Attain+Woman*Edu Attain	0.000	0.435	0.000	0.019
Mean SE skills for Men	0.078	0.107	0.088	0.139
Mean SE skills for Woman	0.000	0.000	0.000	0.000

Note: OLS regression specifications include study fixed effects. All studies have equal weights. Woman is a dummy variable equal to 1 if the respondent is a woman, 0 otherwise. Educational attainment stands for the highest educational attainment (completed) where 0=No education, 1=completed grade 1, 2=completed grade 2, … 12=completed highschool, 13=completed certificate or diploma and 14=completed university degree or above. Note that Nigeria and Facebook projects have only categorical variable for education and "completed primary is coded as 9" and "completed secondary" is coded as 12. Marital status and age bins are added as controls. Married is a dummy variable equal to 1 if the respondent is married/cohabitating, 0 otherwise. Age bins represent dummy variables equal to 1 if the respondent's age belongs to the age cohort which ranges from 15 to 65 with a 5 year gap, 0 otherwise. SE skills stands for Socio-emotional skills. PSDM stands for Problem Solving and Decision Making. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

Table 5: Correlations between socio-emotional skills and earnings

Panel A: Earnings by Gender

			Earnings		
	No control	Column 1 + controls	Column 2 + edu (Continuous)	Column 3 + Woman*edu (Continuous)	Column 2 + edu (dummies)
	(1)	(2)	(3)	(4)	(5)
Woman	-0.698***	-0.669***	-0.647***	-0.558***	-0.644***
	(0.032)	(0.031)	(0.032)	(0.060)	(0.032)
Education attainment			0.021***	0.027***	
			(0.005)	(0.006)	
Woman*Education attainment				-0.010	
				(0.006)	
Observations	33,965	33,965	33,965	33,965	33,965
R-squared	0.193	0.239	0.239	0.239	0.241
P-val Edu Attain+Woman*Edu Attain				0.002	
Mean Earnings for Men	169.3	169.3	169.3	169.3	169.3
Mean Earnings for Woman	103.2	103.2	103.2	103.2	103.2

Panel B: Aggregate Skills

	Earnings		
	All	Intra	Inter
	(1)	(2)	(3)
Woman	-0.550***	-0.553***	-0.633***
	(0.060)	(0.060)	(0.061)
SE skills	0.068***	0.081***	-0.017
	(0.021)	(0.020)	(0.026)
Woman*SE skills	0.020	-0.006	0.078**
	(0.030)	(0.030)	(0.034)
Education attainment	0.025***	0.024***	0.024***
	(0.006)	(0.006)	(0.007)
Woman*Education attainment	-0.010	-0.009	-0.009
	(0.006)	(0.006)	(0.006)
Observations	33,965	33,957	27,273
R-squared	0.240	0.241	0.283
P-val SE skills+Woman*SE skills=0	0.000	0.000	0.006
P-val Woman + Woman*SE skills=0	0.000	0.000	0.000
Mean monthly earnings for Men	169.3	169.3	185.5
Mean monthly earnings for Women	103.2	102.8	105.6

Panel C: Intrapersonal Skills

			Earnings			
	Positive Self Concept	Emotional Regulation	Perseverance	Personal Initiative	PSDM	Self Control
	(1)	(2)	(3)	(4)	(5)	(6)
Woman	-0.494***	-0.883***	-0.628***	-0.504***	-0.558***	-0.628***
	(0.059)	(0.127)	(0.061)	(0.068)	(0.061)	(0.065)
SE skills	0.112***	0.022	0.046**	0.030	0.041	0.043
	(0.022)	(0.032)	(0.022)	(0.031)	(0.026)	(0.027)
Woman*SE skills	-0.065**	-0.039	0.056*	0.036	0.018	-0.044
	(0.031)	(0.045)	(0.030)	(0.043)	(0.035)	(0.038)
Education attainment	0.044***	0.009	0.018***	0.004	0.032***	-0.011
	(0.006)	(0.011)	(0.007)	(0.009)	(0.007)	(0.009)
Woman*Education attainment	-0.026***	0.008	-0.006	-0.014	-0.015**	-0.007
	(0.007)	(0.012)	(0.006)	(0.009)	(0.007)	(0.009)
Observations	24,835	15,691	32,359	15,726	25,481	14,817
R-squared	0.284	0.203	0.248	0.281	0.290	0.354
P-val SE skills+Woman*SE skills=0	0.036	0.584	0.000	0.0240	0.0120	0.987
P-val Woman + Woman*SE skills=0	0.000	0.000	0.000	0.000	0.000	0.000
Mean monthly earnings for Men	202	272	160.8	81.16	203	55.01
Mean monthly earnings for Women	120.3	160	99.25	42.55	109.6	31.04

Panel D: Interpersonal Skills

		Earnings		
	Empathy	Expressiveness	Interpersonal Relatedness	Teamwork
	(1)	(2)	(3)	(4)
Woman	-0.686***	-0.832***	-0.555***	-0.668***
	(0.177)	(0.124)	(0.072)	(0.069)
SE skills	-0.044	-0.001	-0.067**	-0.016
	(0.040)	(0.029)	(0.027)	(0.042)
Woman*SE skills	0.109*	0.056	0.058	0.136***
	(0.060)	(0.040)	(0.037)	(0.053)
Education attainment	0.024*	0.014	0.035***	-0.008
	(0.014)	(0.010)	(0.008)	(0.011)
Woman*Education attainment	-0.028	-0.001	-0.019**	-0.011
	(0.018)	(0.011)	(0.008)	(0.009)
Observations	7,930	18,154	20,943	12,728
R-squared	0.245	0.162	0.324	0.318
P-val SE skills+Woman*SE skills=0	0.143	0.053	0.728	0.000
P-val Woman + Woman*SE skills=0	0.002	0.000	0.000	0.000
Mean monthly earnings for Men	452.1	257.8	209.5	73.87
Mean monthly earnings for Women	275.2	155.8	117.8	28.52

Note: OLS regression specifications include study fixed effects. Panel B, C and D include socio-emotional skills as controls. All studies have equal weights. Women is a dummy variable equal to 1 if the respondent is a woman, 0 otherwise. Earnings is the inverse hyperbolic sine (IHS) transformation of the respondent's monthly earnings in US dollars. Note that only business profit rather than total earnings is reported for Nigeria. Education, age bins and marital status are added as controls. Education stands for the highest educational attainment (completed) where 0=No education, 1=completed grade 1, 2=completed grade 2, … 12=completed highschool, 13=completed certificate or diploma and 14=completed university degree or above. Note that Nigeria and Facebook projects have only categorical variable for education and "completed primary is coded as 9" and "completed secondary" is coded as 12. Age bin represents dummy variables equal to 1 if the respondent's age belongs to the age cohort which ranges from 15 to 65 with a 5 year gap, o otherwise. Married is added as a control and defined as a dummy variable equal to 1 if the respondent is married/cohabitating, 0 otherwise. SE skills stands for Socio-emotional skills. PSDM stands for Problem Solving and Decision Making. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

Table 6: Correlations between socio-emotional skills and any earnings by education

Panel A: Aggregate Skills

	Earnings		
	All	Intra	Inter
	(1)	(2)	(3)
Woman	-0.548***	-0.550***	-0.641***
	(0.060)	(0.060)	(0.061)
Education attainment	0.025***	0.025***	0.023***
	(0.006)	(0.006)	(0.007)
Woman*Education attainment	-0.010	-0.010	-0.008
	(0.006)	(0.006)	(0.006)
SE skills	0.109**	0.139***	-0.103*
	(0.049)	(0.049)	(0.053)
Woman*SE skills	-0.079	-0.116*	0.130**
	(0.060)	(0.060)	(0.063)
Education attainment*SE skills	-0.004	-0.006	0.008
	(0.005)	(0.005)	(0.005)
Woman*Education attainment*SE skills	0.012*	0.013**	-0.004
	(0.006)	(0.006)	(0.007)
Observations	33,965	33,957	27,273
R-squared	0.240	0.241	0.283
P-val SE skills+Edu Attain*SE skills	0.02	0.003	0.052
P-val SE skills+14*Edu Attain*SE skills	0.098	0.058	0.713
P-val SE skills+Woman*SE skills	0.381	0.510	0.425
P-val SE skills+Woman*SE skills+Edu Attain*SE skills+Woman*Edu Attain*SE skills	0.230	0.347	0.309
P-val SE skills+Woman*SE skills+14*Edu Attain*SE skills+14*Woman*Edu Attain*SE skills	0.000	0.001	0.017
P-val Edu Attain*SE skills+Woman*Edu Attain*SE skills	0.064	0.092	0.280

Panel B: Intrapersonal Skills

	Earnings					
	Positive Self Concept	Emotional Regulation	Perseverance	Personal Initiative	PSDM	Self Control
	(1)	(2)	(3)	(4)	(5)	(6)
Woman	-0.493***	-0.902***	-0.632***	-0.505***	-0.565***	-0.631***
	(0.059)	(0.127)	(0.061)	(0.068)	(0.061)	(0.065)
Education attainment	0.045***	0.007	0.017**	0.004	0.031***	-0.011
	(0.006)	(0.011)	(0.007)	(0.009)	(0.007)	(0.009)
Woman*Education attainment	-0.026***	0.010	-0.005	-0.014	-0.014**	-0.007
	(0.007)	(0.012)	(0.006)	(0.009)	(0.007)	(0.009)
SE skills	0.244***	-0.163	0.004	0.029	-0.016	0.177***
	(0.046)	(0.109)	(0.053)	(0.063)	(0.052)	(0.054)
Woman*SE skills	-0.226***	-0.003	0.094	0.001	0.045	-0.105
	(0.058)	(0.126)	(0.063)	(0.072)	(0.063)	(0.065)
Education attainment*SE skills	-0.015***	0.017*	0.004	0.000	0.006	-0.015**
	(0.005)	(0.010)	(0.005)	(0.006)	(0.005)	(0.007)
Woman*Education attainment*SE skills	0.019***	0.000	-0.004	0.005	-0.002	0.003
	(0.007)	(0.012)	(0.006)	(0.009)	(0.007)	(0.009)
Observations	24,835	15,691	32,359	15,726	25,481	14,817
R-squared	0.285	0.204	0.248	0.281	0.290	0.355
P-val SE skills+Edu Attain*SE skills	0.000	0.142	0.865	0.611	0.838	0.001
P-val SE skills+14*Edu Attain*SE skills	0.320	0.104	0.047	0.506	0.077	0.481
P-val SE skills+Woman*SE skills	0.599	0.009	0.003	0.380	0.401	0.043
P-val SE skills+Woman*SE skills+Edu Attain*SE skills+Woman*Edu Attain*SE skills	0.467	0.011	0.001	0.245	0.292	0.057
P-val SE skills+Woman*SE skills+14*Edu Attain*SE skills+14*Woman*Edu Attain*SE skills	0.067	0.098	0.004	0.095	0.038	0.126
P-val Edu Attain*SE skills+Woman*Edu Attain*SE skills	0.326	0.007	0.897	0.354	0.351	0.047

Panel C: Interpersonal Skills

	Earnings			
	Empathy	Expressiveness	Interpersonal Relatedness	Teamwork
	(1)	(2)	(3)	(4)
Woman	-0.683***	-0.829***	-0.563***	-0.660***
	(0.178)	(0.123)	(0.072)	(0.070)
Education attainment	0.024*	0.013	0.034***	-0.007
	(0.014)	(0.010)	(0.008)	(0.011)
Woman*Education attainment	-0.028	-0.000	-0.018**	-0.012
	(0.018)	(0.011)	(0.008)	(0.009)
SE skills	-0.100	-0.263***	-0.224***	0.087
	(0.135)	(0.102)	(0.055)	(0.061)
Woman*SE skills	0.252	0.261**	0.170**	-0.010
	(0.173)	(0.121)	(0.070)	(0.070)
Education attainment*SE skills	0.005	0.023***	0.016***	-0.011
	(0.013)	(0.009)	(0.006)	(0.007)
Woman*Education attainment*SE skills	-0.015	-0.017	-0.010	0.017*
	(0.017)	(0.011)	(0.007)	(0.009)
Observations	7,930	18,154	20,943	12,728
R-squared	0.245	0.162	0.324	0.319
P-val SE skills+Edu Attain*SE skills	0.440	0.0110	0.000	0.166
P-val SE skills+14*Edu Attain*SE skills	0.688	0.0890	0.891	0.318
P-val SE skills+Woman*SE skills	0.162	0.974	0.206	0.028
P-val SE skills+Woman*SE skills+Edu Attain*SE skills+Woman*Edu Attain*SE skills	0.146	0.943	0.215	0.008
P-val SE skills+Woman*SE skills+14*Edu Attain*SE skills+14*Woman*Edu Attain*SE skills	0.816	0.029	0.542	0.016
P-val Edu Attain*SE skills+Woman*Edu Attain*SE skills	0.416	0.304	0.241	0.301

Note: OLS regression specifications control for age and include study fixed effects. All studies have equal weights. Woman is a dummy variable equal to 1 if the respondent is a woman, 0 otherwise. Earnings is the inverse hyperbolic sine (IHS) transformation of the respondent's monthly earnings in US dollars. Note that only business profit rather than total earnings is reported for Nigeria. Education, age bins and marital status are added as controls. Education stands for the highest educational attainment (completed) where 0=No education, 1=completed grade 1, 2=completed grade 2, … 12=completed highschool, 13=completed certificate or diploma and 14=completed university degree or above. Note that Nigeria and Facebook projects have only categorical variable for education and "completed primary is coded as 9" and "completed secondary" is coded as 12. Age bins are added as controls. Age bins represent dummy variables equal to 1 if the respondent's age belongs to the age cohort which ranges from 15 to 65 with a 5 year gap, 0 otherwise. Married is a dummy variable equal to 1 if the respondent is married/cohabitating, 0 otherwise. SE skills stands for Socio-emotional skills. PSDM stands for Problem Solving and Decision Making. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

Table 7: Correlations between socio-emotional skills and earnings - Heterogeneity along Employment type

Panel A: Aggregate Skills

	Earnings					
	NonAgr SE			Wage		
	All	Intra	Inter	All	Intra	Inter
	(1)	(2)	(3)	(4)	(5)	(6)
Woman	-0.488***	-0.492***	-0.515***	-0.736***	-0.738***	-0.776***
	(0.083)	(0.082)	(0.080)	(0.156)	(0.156)	(0.122)
SE skills	0.088***	0.084***	0.041	0.135*	0.124*	0.047
	(0.030)	(0.029)	(0.034)	(0.077)	(0.067)	(0.080)
Woman*SE skills	0.007	0.002	0.027	-0.072	-0.100	0.058
	(0.041)	(0.042)	(0.043)	(0.083)	(0.074)	(0.086)
Education attainment	0.039***	0.039***	0.046***	0.024	0.024	0.009
	(0.008)	(0.008)	(0.008)	(0.019)	(0.018)	(0.017)
Woman*Education attainment	-0.007	-0.007	-0.012	0.038**	0.038**	0.036***
	(0.009)	(0.009)	(0.009)	(0.015)	(0.015)	(0.014)
Observations	10,953	10,950	8,311	14,233	14,232	11,856
R-squared	0.436	0.436	0.501	0.629	0.628	0.674
P-val SE skills+Woman*SE skills=0	0.001	0.005	0.010	0.136	0.551	0.005
P-val Woman + Woman*SE skills=0	0.000	0.000	0.000	0.000	0.000	0.000
Mean monthly earnings for Men	269.9	269.9	304.9	143.7	143.7	172.7
Mean monthly earnings for Women	177.7	176.6	196.3	76.85	76.85	80.64

PANEL B: NON-AGRICULTURAL SELF-EMPLOYMENT

	Earnings									
	Positive Self Concept	Emotional Regulation	Perseverance	Personal Initiative	Problem Solving & DecMaking	Self Control	Empathy	Expressiveness	Interpersonal Relatedness	Teamwork
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Woman	-0.528***	-0.534***	-0.471***	-0.286***	-0.559***	-0.376***	-0.094	-0.497***	-0.485***	-0.510***
	(0.081)	(0.156)	(0.085)	(0.097)	(0.079)	(0.082)	(0.188)	(0.161)	(0.098)	(0.095)
SE skills	0.114***	-0.015	0.014	0.016	0.075***	0.053*	-0.030	0.046	-0.002	0.018
	(0.030)	(0.040)	(0.032)	(0.050)	(0.028)	(0.028)	(0.049)	(0.041)	(0.033)	(0.056)
Woman*SE skills	-0.088**	0.004	0.098**	0.133**	-0.009	-0.052	0.079	-0.002	0.010	0.101
	(0.043)	(0.058)	(0.042)	(0.067)	(0.041)	(0.043)	(0.067)	(0.056)	(0.047)	(0.072)
Education attainment	0.042***	0.047***	0.046***	0.042***	0.037***	0.051***	0.071***	0.048***	0.052***	0.045***
	(0.007)	(0.011)	(0.009)	(0.012)	(0.007)	(0.011)	(0.015)	(0.012)	(0.008)	(0.014)
Woman*Education attainment	-0.011	0.000	-0.013	-0.034***	0.006	-0.026**	-0.043**	-0.015	-0.004	-0.030**
	(0.010)	(0.015)	(0.009)	(0.013)	(0.009)	(0.011)	(0.019)	(0.015)	(0.010)	(0.013)
Observations	8,692	4,611	10,559	6,050	7,939	6,492	3,153	5,033	5,781	4,033
R-squared	0.527	0.474	0.432	0.225	0.554	0.33	0.408	0.438	0.593	0.298
P-val SE skills+Woman*SE skills=0	0.405	0.783	0.000	0.001	0.026	0.989	0.290	0.249	0.796	0.008
P-val Woman + Woman*SE skills=0	0.000	0.001	0.000	0.205	0.000	0.000	0.938	0.003	0.000	0.000
Mean monthly earnings for Men	301.2	521.3	256.5	100.9	343.7	85.11	671.4	484.2	381	64.86
Mean monthly earnings for Women	202	310	171.1	72.84	208.8	57.49	452.1	297.9	267.9	41.15

PANEL C: WAGE EMPLOYMENT

	Earnings									
	Positive Self Concept	Emotional Regulation	Perseverance	Personal Initiative	Problem Solving & DecMaking	Self Control	Empathy	Expressiveness	Interpersonal Relatedness	Teamwork
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Woman	-0.653***	-0.932***	-0.759***	-0.863***	-0.845***	-0.927***	-0.984***	-0.887***	-0.479***	-0.798***
	(0.168)	(0.238)	(0.109)	(0.131)	(0.177)	(0.157)	(0.337)	(0.231)	(0.134)	(0.113)
SE skills	0.008	0.047	0.163	-0.078	0.096	0.139	0.141	0.155	-0.124**	-0.118**
	(0.067)	(0.102)	(0.117)	(0.081)	(0.071)	(0.146)	(0.129)	(0.106)	(0.062)	(0.051)
Woman*SE skills	0.023	-0.087	-0.105	0.145	-0.053	-0.208	0.038	-0.070	0.167**	0.195***
	(0.096)	(0.110)	(0.116)	(0.102)	(0.081)	(0.155)	(0.147)	(0.112)	(0.069)	(0.069)
Education attainment	0.044**	-0.009	0.010	-0.010	0.016	-0.018	-0.002	-0.004	0.016	0.009
	(0.022)	(0.023)	(0.014)	(0.020)	(0.022)	(0.026)	(0.028)	(0.023)	(0.019)	(0.016)
Woman*Education attainment	0.037**	0.054**	0.033***	0.026	0.053***	0.030	0.054*	0.044**	0.015	0.004
	(0.018)	(0.022)	(0.012)	(0.017)	(0.019)	(0.025)	(0.033)	(0.021)	(0.015)	(0.013)
Observations	11,089	5,406	14,135	8,117	9,871	6,917	2,701	6,934	9,221	7,242
R-squared	0.581	0.71	0.663	0.509	0.674	0.494	0.554	0.658	0.759	0.487
P-val SE skills+Woman*SE skills=0	0.626	0.368	0.047	0.220	0.312	0.271	0.051	0.080	0.242	0.097
P-val Woman + Woman*SE skills=0	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.001	0.030	0.000
Mean monthly earnings for Men	179.6	269.3	143.9	72.91	171.5	35.34	448.2	261	180.4	83.95
Mean monthly earnings for Women	93.64	151.2	76.56	24.27	75.03	8.467	325	150.7	78.22	25.06

Note: OLS regression specifications include study fixed effects. All studies have equal weights. Woman is a dummy variable equal to 1 if the respondent is a woman, 0 otherwise. Earnings is the inverse hyperbolic sine (IHS) transformation of the respondent's monthly earnings in US dollars. Note that only business profit rather than total earnings is reported for Nigeria. Education, age bins and marital status are added as controls. Education stands for the highest educational attainment (completed) where 0=No education, 1=completed grade 1, 2=completed grade 2, … 12=completed highschool, 13=completed certificate or diploma and 14=completed university degree or above. Note that Nigeria and Facebook projects have only categorical variable for education and "completed primary is coded as 9" and "completed secondary" is coded as 12. Married is a dummy variable equal to 1 if the respondent is married/cohabitating, 0 otherwise. Age bin represents dummy variables equal to 1 if the respondent's age belongs to the age cohort which ranges from 15 to 65 with a 5 year gap, 0 otherwise. SE skills stands for Socio-emotional skills. PSDM stands for Problem Solving and Decision Making. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

Table 8: Summary of Results - Pooled Sample and By Project

Project	All	Intra	Inter	Positive Self Concept	Emotional Regulation	Perseverance	Personal Initiative	PSDM	Self Control	Empathy	Expressiveness	Interpersonal Relatedness	Teamwork
Panel A: Gender differences in levels of socio-emotional skills: Coeff on Women													
All	**-0.151*** **	**-0.143*** **	**-0.104*** **	**-0.06*** **	**-0.13*** **	**-0.099*** **	**-0.124*** **	**-0.16*** **	**0.027**	**-0.051** **	**-0.07*** **	**-0.062*** **	**-0.119*** **
Benin: Youth Employment	-0.281***	-0.238***	-0.224***	-0.051	.	-0.226***	-0.13***	-0.187***	-0.12***	.	.	.	-0.224***
Congo: Skills Development Project for Employability	-0.169***	-0.166***	-0.137	-0.104***	.	-0.191***	.	.	-0.019	.	.	.	-0.137
Cote D'Ivoire: Factory Workers	-0.153**	-0.143**	-0.068	-0.108	-0.069	-0.086	.	-0.083	.	.	-0.084	0.008	.
Cote D'Ivoire: ProJuenes	-0.137**	-0.146**	-0.102	.	-0.081	-0.075	-0.149**	-0.072	-0.116**	-0.064	-0.114*	-0.059	-0.086
Côte D'Ivoire: Support Project for the Agricultural Sector (PSAC)	-0.081	-0.081	.	0.018	.	.	.	-0.121*	.	.	.	.	.
Facebook: Future of Business (FoB)	-0.001	0.025	-0.061*	.	0.112***	-0.006	-0.054	0.058*	.	.	.	-0.061*	.
Ghana: Impact of Outgrower Contracts on Smallholder Farmers (GADCO)	-0.106*	-0.106*	.	.	.	-0.054	-0.141**	.	.	.	.	.	.
Ghana: Skills Towards Employability and Productivity (STEP)- Skills Measurement	-0.18***	-0.211***	-0.083*	-0.042	-0.262***	-0.08*	.	-0.262***	.	-0.091*	-0.043	-0.04	.
Kenya: Skills Towards Employability and Productivity (STEP)- Skills Measurement	-0.117***	-0.142***	-0.045	-0.071**	-0.164***	-0.016	.	-0.145***	.	-0.02	-0.072**	-0.016	.
Mozambique: Impact Assessment Integrated Growth Pole Project (IGPP)	-0.087***	-0.075**	-0.077**	0.031	.	-0.107***	-0.126***	-0.104***	0.086***	.	.	-0.11***	0.016
Nigeria APPEALS	-0.205***	-0.208***	-0.163***	.	-0.188***	-0.138***	.	-0.222***	.	.	-0.162***	-0.126***	.
Togo: Private Sector Development Project (PADSP)- Personal Initiative	0.029	0.028	0.012	-0.041	-0.024	-0.012	-0.061	-0.228***	0.258***	-0.021	0.058	-0.015	.
Togo: Youth Employment and Skills Development (AIDE)	-0.16***	-0.064	-0.227***	-0.071*	.	0	-0.118***	.	.	.	-0.142***	.	-0.217***
Panel B: Gender differences in levels of socio-emotional skills-Heterogeneity by education													
Gender Diff for those with no formal education: Coeff on Women													
All	**-0.121*** **	**-0.129*** **	**-0.016**	**-0.022**	**-0.036**	**-0.128*** **	**-0.125*** **	**-0.126*** **	**0.101*** **	**0.105**	**0.172*** **	**0.021**	**-0.029**
Benin: Youth Employment	-0.175***	-0.146**	-0.144**	-0.089	.	-0.151**	-0.104*	-0.094	-0.03	.	.	.	-0.144**
Congo: Skills Development Project for Employability	0.102	0.085	-0.59	0.12	.	0.169	.	.	-0.1	.	.	.	-0.59
Cote D'Ivoire: Factory Workers	-0.187	-0.192	-0.054	-0.173	-0.076	0.022	.	-0.202	.	.	-0.129	0.106	.
Cote D'Ivoire: ProJuenes	0.201	0.131	0.236	.	0.13	-0.004	0.006	0.194	0.146	0.268	0.095	0.152	0.233
Côte D'Ivoire: Support Project for the Agricultural Sector (PSAC)	0.09	0.09	.	0.069	.	.	.	0.08	.	.	.	.	.
Facebook: Future of Business (FoB)	-0.595**	-0.486**	-0.322	.	-0.271	-0.334	-0.458	-0.222	.	.	.	-0.322	.
Ghana: Impact of Outgrower Contracts on Smallholder Farmers (GADCO)	-0.096	-0.096	.	.	.	-0.122	-0.016	.	.	.	.	.	.
Ghana: Skills Towards Employability and Productivity (STEP)- Skills Measurement	-0.078	-0.167	0.055	-0.187	-0.068	-0.081	.	-0.119	.	0.045	0.244	-0.104	.
Kenya: Skills Towards Employability and Productivity (STEP)- Skills Measurement	0.055	-0.007	0.12	0.073	-0.003	-0.043	.	-0.081	.	0.084	0.066	0.111	.
Mozambique: Impact Assessment Integrated Growth Pole Project (IGPP)	-0.105**	-0.105**	-0.067	0.001	.	-0.155***	-0.139***	-0.112***	0.096**	.	.	-0.117***	0.041
Nigeria APPEALS	0.747*	0.995**	0.295	.	0.701	0.857**	.	1.036**	.	.	0.569	-0.057	.
Togo: Private Sector Development Project (PADSP)- Personal Initiative	0.257*	0.279*	0.061	-0.029	0.355**	0.285*	-0.021	-0.189	0.236	-0.12	0.207	0.045	.
Togo: Youth Employment and Skills Development (AIDE)	0.05	0.122	-0.082	-0.092	.	0.364	-0.351	.	.	.	0.12	.	-0.213
Gender Diff with each additional year of education: Coeff on Women*Edu Attain													
All	**-0.003**	**-0.002**	**-0.009*** **	**-0.005**	**-0.009** **	**0.003**	**0.001**	**-0.004**	**-0.009** **	**-0.016** **	**-0.023*** **	**-0.009*** **	**-0.01** **
Benin: Youth Employment	-0.025**	-0.021**	-0.02**	0.008	.	-0.017*	-0.007	-0.021**	-0.019*	.	.	.	-0.02**
Congo: Skills Development Project for Employability	-0.025	-0.023	0.048	-0.02	.	-0.034*	.	.	0.008	.	.	.	0.048
Cote D'Ivoire: Factory Workers	-0.01	-0.009	-0.006	-0.003	-0.005	-0.029**	.	0.009	.	.	0.006	-0.021	.
Cote D'Ivoire: ProJuenes	-0.032*	-0.026	-0.032*	.	-0.021	-0.006	-0.014	-0.025	-0.023	-0.031*	-0.021	-0.02	-0.03*
Côte D'Ivoire: Support Project for the Agricultural Sector (PSAC)	-0.023	-0.023	.	-0.006	.	.	.	-0.027**	.	.	.	.	.
Facebook: Future of Business (FoB)	0.044**	0.038**	0.02	.	0.028	0.023	0.031	0.021	.	.	.	0.02	.
Ghana: Impact of Outgrower Contracts on Smallholder Farmers (GADCO)	-0.002	-0.002	.	.	.	0.006	-0.013	.	.	.	.	.	.
Ghana: Skills Towards Employability and Productivity (STEP)- Skills Measurement	-0.011	-0.005	-0.015	0.014	-0.019	0	.	-0.015	.	-0.015	-0.029*	0.005	.
Kenya: Skills Towards Employability and Productivity (STEP)- Skills Measurement	-0.018**	-0.014	-0.018**	-0.015*	-0.016*	0.003	.	-0.008	.	-0.012	-0.015*	-0.013	.
Mozambique: Impact Assessment Integrated Growth Pole Project (IGPP)	0.007	0.011	-0.001	0.008	.	0.017*	0.006	0.005	-0.004	.	.	0.005	-0.008
Nigeria APPEALS	-0.071**	-0.09***	-0.034	.	-0.066**	-0.074**	.	-0.094***	.	.	-0.055*	-0.005	.
Togo: Private Sector Development Project (PADSP)- Personal Initiative	-0.023	-0.026*	-0.004	-0.001	-0.041***	-0.031**	-0.002	-0.004	0.003	0.012	-0.015	-0.007	.
Togo: Youth Employment and Skills Development (AIDE)	-0.015	-0.014	-0.011	0.001	.	-0.027	0.017	.	.	.	-0.019	.	0

Table 8 (cont'd): Summary of Results - Pooled Sample and By Project

Project	All	Intra	Inter	Positive Self Concept	Emotional Regulation	Perseverance	Personal Initiative	PSDM	Self Control	Empathy	Expressiveness	Interpersonal Relatedness	Teamwork
Panel C: Earnings													
Gender Diff in Correlations (Earnings): Coeff on SE skills*Women													
All	**0.020**	**-0.006**	**0.078****	**-0.065****	**-0.039**	**0.056***	**0.036**	**0.018**	**-0.044**	**0.109***	**0.056**	**0.058**	**0.136****
Benin: Youth Employment	-0.062	-0.053	-0.024	-0.064	.	0.055	-0.127	-0.012	-0.030	.	.	.	-0.024
Congo: Skills Development Project for Employability	-0.075	-0.072	0.132	-0.046	.	-0.078	.	.	-0.053	.	.	.	0.132
Cote D'Ivoire: Factory Workers	-0.155	-0.196*	0.012	-0.220**	-0.102	-0.006	.	-0.162	.	.	0.063	-0.091	.
Cote D'Ivoire: ProJuenes	0.192	0.101	0.263*	.	0.101	0.195	0.072	0.072	-0.091	0.209	0.232	0.066	0.361**
Côte D'Ivoire: Support Project for the Agricultural Sector (PSAC)	0.055	0.055	.	0.130	.	.	.	-0.021	.	.	.	.	.
Facebook: Future of Business (FoB)	.	.	.	.	.	.	.	.	.	.	.	.	.
Ghana: Impact of Outgrower Contracts on Smallholder Farmers (GADCO)	0.328**	0.328**	.	.	.	0.426***	0.057	.	.	.	.	.	.
Ghana: Skills Towards Employability and Productivity (STEP)- Skills Measurement	-0.150	-0.223*	0.016	-0.149	-0.095	-0.091	.	-0.197	.	-0.013	-0.007	0.103	.
Kenya: Skills Towards Employability and Productivity (STEP)- Skills Measurement	0.171*	0.096	0.191*	0.082	-0.098	0.089	.	0.129	.	0.113	0.191*	0.096	.
Mozambique: Impact Assessment Integrated Growth Pole Project (IGPP)	0.005	-0.003	0.018	-0.104***	.	0.068**	0.068**	0.055*	-0.073**	.	.	0.051*	-0.041
Nigeria APPEALS	0.046	0.030	0.055	.	0.009	0.04	.	0.024	.	.	0.045	0.050	.
Togo: Private Sector Development Project (PADSP)- Personal Initiative	-0.013	-0.010	-0.016	-0.156*	0.049	0.031	-0.014	0.088	-0.031	0.029	-0.090	0.027	.
Togo: Youth Employment and Skills Development (AIDE)	-0.008	-0.060	0.071	0.082	.	-0.180*	0.135	.	.	.	-0.022	.	0.123
Correlations for Men (Earnings): Coeff on SE skills													
All	**0.068*****	**0.081*****	**-0.017**	**0.112*****	**0.022**	**0.046****	**0.030**	**0.041**	**0.043**	**-0.044**	**-0.001**	**-0.067****	**-0.016**
Benin: Youth Employment	0.307***	0.299***	0.126*	0.200***	.	0.254***	0.185***	0.235***	0.111**	.	.	.	0.126*
Congo: Skills Development Project for Employability	0.135***	0.131***	-0.046	0.082**	.	0.319***	.	.	-0.071**	.	.	.	-0.046
Cote D'Ivoire: Factory Workers	0.088	0.084	0.040	0.144	0.024	0.015	.	0.067	.	.	-0.015	0.110	.
Cote D'Ivoire: ProJuenes	-0.182*	-0.190*	-0.153	.	-0.141	-0.138	-0.169*	-0.108	-0.08	-0.141	-0.102	-0.118	-0.161*
Côte D'Ivoire: Support Project for the Agricultural Sector (PSAC)	0.172**	0.172**	.	0.180**	.	.	.	0.087	.	.	.	.	.
Facebook: Future of Business (FoB)	.	.	.	.	.	.	.	.	.	.	.	.	.
Ghana: Impact of Outgrower Contracts on Smallholder Farmers (GADCO)	0.019	0.019	.	.	.	-0.101	0.178**	.	.	.	.	.	.
Ghana: Skills Towards Employability and Productivity (STEP)- Skills Measurement	-0.006	0.065	-0.092	0.137	0.057	0.000	.	-0.017	.	-0.025	-0.018	-0.17*	.
Kenya: Skills Towards Employability and Productivity (STEP)- Skills Measurement	-0.027	0.048	-0.101	-0.012	0.094	0.035	.	0.039	.	-0.006	-0.082	-0.141*	.
Mozambique: Impact Assessment Integrated Growth Pole Project (IGPP)	0.049**	0.053**	0.020	0.100***	.	-0.042*	-0.074***	-0.039*	0.163***	.	.	-0.048**	0.103***
Nigeria APPEALS	0.101***	0.113***	0.071*	.	0.087**	0.078**	.	0.133***	.	.	0.074**	0.054	.
Togo: Private Sector Development Project (PADSP)- Personal Initiative	0.186***	0.185***	0.081	0.175***	0.025	0.109*	0.203***	0.099*	0.065	0.029	0.128**	0.004	.
Togo: Youth Employment and Skills Development (AIDE)	0.025	0.025	0.012	0.006	.	0.055	-0.060	.	.	.	0.010	.	0.009
Correlations for Women (Earnings): Coeff on SE skills+ SE skills*Women													
All	**0.087*****	**0.075*****	**0.061*****	**0.048****	**-0.017**	**0.102*****	**0.067****	**0.059****	**0.000**	**0.065**	**0.055***	**-0.009**	**0.119*****
Benin: Youth Employment	0.245***	0.246***	0.102**	0.136***	.	0.310***	0.058	0.224***	0.082*	.	.	.	0.102**
Congo: Skills Development Project for Employability	0.060	0.059	0.086	0.036	.	0.241***	.	.	-0.124**	.	.	.	0.086
Cote D'Ivoire: Factory Workers	-0.068	-0.112**	0.052	-0.076	-0.078	0.009	.	-0.095*	.	.	0.048	0.020	.
Cote D'Ivoire: ProJuenes	0.010	-0.089	0.110	.	-0.040	0.057	-0.097	-0.036	-0.171	0.068	0.131	-0.052	0.200*
Côte D'Ivoire: Support Project for the Agricultural Sector (PSAC)	0.227	0.227	.	0.310**	.	.	.	0.066	.	.	.	.	.
Facebook: Future of Business (FoB)	.	.	.	.	.	.	.	.	.	.	.	.	.
Ghana: Impact of Outgrower Contracts on Smallholder Farmers (GADCO)	0.347***	0.347***	.	.	.	0.324***	0.235*	.	.	.	.	.	.
Ghana: Skills Towards Employability and Productivity (STEP)- Skills Measurement	-0.156*	-0.158*	-0.076	-0.013	-0.039	-0.091	.	-0.214**	.	-0.037	-0.024	-0.067	.
Kenya: Skills Towards Employability and Productivity (STEP)- Skills Measurement	0.143**	0.145**	0.091	0.070	-0.004	0.124*	.	0.168**	.	0.106	0.109	-0.045	.
Mozambique: Impact Assessment Integrated Growth Pole Project (IGPP)	0.053***	0.051**	0.038*	-0.004	.	0.025	-0.006	0.016	0.089***	.	.	0.002	0.061***
Nigeria APPEALS	0.147***	0.142***	0.126***	.	0.096**	0.118***	.	0.157***	.	.	0.119***	0.104***	.
Togo: Private Sector Development Project (PADSP)- Personal Initiative	0.173***	0.175***	0.065	0.018	0.074	0.140**	0.189***	0.186***	0.035	0.058	0.038	0.031	.
Togo: Youth Employment and Skills Development (AIDE)	0.017	-0.035	0.083	0.088	.	-0.124	0.075	.	.	.	-0.011	.	0.132

Note: OLS regression specifications and study level analysis with the aggregate results(ALL) at the top of each section. The aggregated(All) regressions include study fixed effect. Panel A shows the gender difference in SE skills while panel B represents the heterogeneity of gender difference in SE skills by education. Panel C shows the correlation between SE skills and earnings for men and women. Woman is a dummy variable equal to 1 if the respondent is a woman, 0 otherwise. Earnings is the inverse hyperbolic sine (IHS) transformation of the respondent's monthly earnings in US dollars. Note that only business profit rather than total earnings is reported for Nigeria. All of the regressions include education, age bins and marital status as controls. Education stands for the highest educational attainment (completed) where 0=No education, 1=completed grade 1, 2=completed grade 2, ... 12=completed highschool, 13=completed certificate or diploma and 14=completed university degree or above. Note that Nigeria and Facebook projects have only categorical variable for education and "completed primary is coded as 9" and "completed secondary" is coded as 12. Age bin represents dummy variables equal to 1 if the respondent's age belongs to the age cohort which ranges from 15 to 65 with a 5 year gap, o otherwise. Married is added as a control and defined as a dummy variable equal to 1 if the respondent is married/cohabitating, 0 otherwise. SE skills stands for Socio-emotional skills. PSDM stands for Problem Solving and Decision Making. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

Appendix

Appendix Table A1: Existing literature on Gender Differences in Socio-Emotional skills

SE skills	Associated Concept: Gender Difference (Source)	Key considerations
Positive Self-Concept	**Self-Esteem:** • **F>M** (Robins et al., 2002; Kling, Hyde, Showers, & Buswell, 1999; Twenge & Campbell, 2001; Bleidorn et al., 2015; Gentile et al., 2009) • **F=M** (Erol & Orth, 2011) **Self-Efficacy: Entrepreneurial F<M** (Wilson et al., 2007 ; Newman et al., 2019) **Self-Concept: Academic F<M** (Skaalvik & Skaalvik, 2004)	Gender difference arises in adolescence and persists; differences change direction with specific domain and norms Self-esteem trajectory may be moderated by Big 5 personality
Emotional Regulation	**Emotional Stability (opp of Neuroticism): F<M** (Hyde 2005: Feingold 1994; Lynn & Martin, 1997; Costa, Terracciano, & McCrae 2001; Schmitt et al., 2008; Cunningham et al., 2016; Gunewardena et al., 2018) **Rumination & Negative inferences: F>M** (Alloy et al., 2000; Hankin & Abramson, 2001/2002; Nolen-Hoeksema 2001; Nolen-Hoeksema 2012; Hyde, Mezulis, Abramson, 2008; McRae et al., 2008) **Biological Emotional Reactivity: F=M** (McRae et al., 2008) **Cognitive Reappraisal: F=M ; Expressive Suppression: F>M** (Gross & John, 2003) **Physical aggression: F<M**, but gender difference falls with deindividuation (Hyde, 2005; Hyde 2013)	Expressive suppression and physical aggression tied to social norms Tied to anxiety, depression, alcohol use
Perseverance	**Conscientiousness: F>M** (Cobb-Clark & Tan, 2010; Schmitt et al., 2008) **Conscientiousness (achievement striving facet): F=M** (Costa et al., 2001) **Grit (Consistency of interest + Perseverance)**: • **F>M** (Christenson & Knezek, 2014) • **F=M** (Crede, 2017; Bazelais et al., 2016) **GRIT Perseverance subscale: F>M** (Christenson & Knezek, 2014); F<M (Cunningham et al., 2016) **CAQ Persistence: F=M** (Christenson & Knezek, 2014)	Differentiates between steady effort and persisting until a challenge is complete Persistence in interpersonal situations varies with social hierarchy
Personal Initiative	**Personal Initiative: Relationship & Task-oriented F=M** (Hahn et al., 2012) **Proactivity**: **F=M** (Runyan et al., 2006) **Future-orientation: F>M** (Steinberg et al., 2009) **Personal Growth Initiative: F>M** (Robitscheck & Cook, 1999)	Concept sometimes tied to risk-taking, which is often higher among men Other terms include Achievement/Goal Orientation

Problem Solving & Decision-Making	**Positive Problem Orientation : F<M** (D'Zurilla et al., 1998) **Innovative/Creativity**: F=M (Runyan et al., 2006)	
Self-Control	**Self-Control: F>M** (Duckworth & Segilman, 2006; Silverman, 2003; Gibson et al., 2010; Hyde, 2013; Nakhaie et al., 2000) **Impulsivity:** • **F=M** (Feingold 1994) • **F<M** (Shulman et al., 2015) **Self-Discipline, Delay of gratification: F>M** (Duckworth & Segilman, 2006) **Inhibitory control & Attention: F>M** (Hyde, 2013) **Sensation seeking: F<M** (Cross et al., 2011; Shulman et al., 2015) **Punishment sensitivity: F>M** (Cross et al., 2011) **Disruptive behavior (classroom): F<M** (Kenney-Benson et al., 2006; DiPrete & Jennings, 2012)	Tied to risk taking, obesity, substance abuse, depression, anxiety, parenting, future orientation, effort and task performance especially among deleted participants
Empathy	**Affective and Cognitive Empathy: F>M** (Mestre et al., 2009; Toussaint & Webb, 2005; Obrien et al, 2013) **Facial expression processing: F>M** (McClure, 2000)	Differs with gender of the interacting individual (Stuijfzand et al., 2016) Size of gender difference varies with focus on affective or cognitive empathy
Expressiveness	**Assertive communication:** • **F<M, small magnitudes** (Feingold, 1994) • **F=M, gender difference has small magnitude favoring men, or no gender difference** (Leaper & Ayres, 2007; Costa et al., 2001; Park et al., 2016) **Affiliative language: F>M** (Park et al., 2016) **Tentative, hedging, descriptive language: F>M** (Leaper & Ayres, 2007 ; Newman et al., 2008; Mulac et al., 2001) **Clarity in expression of emotions: F>M** (Wagner, 1993)	Differs with age (Onyeizugbo, 2003) and whether women are advocating for themselves or others, and whether they expect returns to assertive behavior (Amanatullah & Morris, 2010), and the gender of the interacting individual (Bowles, 2010).

Interpersonal Relatedness	**Agreeableness**: F>M (Costa et al., 2001; Cobb-Clark & Tan, 2010; Feingold 1994; Mueller & Plug 2006; Schmitt et al., 2008; Gunewardena et al., 2018) **Extraverson:** • F<M (Cunningham et al., 2016) in 30/37 countries (Lynn & Martin, 1997) • F>M (Schmitt et al., 2008), F>M in 4/9 countries (Gunewardena et al., 2018) • Warmth facet of Extroversion: F>M (Costa et al., 2001) • Gregariousness facet of Extroversion: F>M (Costa et al., 2001) **Altruism**: F>M (Croson & Gneezy, 2009) **Forgiveness**: F>M (Miller et al., 2008) **Charitable giving:** F>M (Willer et al., 2015) **Trust & Reciprocity:** F=M, no diff, sometimes higher for women (Ashraf et al., 2006; Croson & Buchan, 1999; Buchan et al., 2008) **Network size:** F=M (Mengel, 2020) **Socializing:** F<M (Forret & Dougherty, 2001)	Differences in trust and trustworthiness are moderated by social value orientation (Kanagaretnam et al., 2009), expectations of return, and unconditional kindness (Ashraf et al., 2006) and not risk aversion Self-esteem is a moderator of differences in networking (Forret & Dougherty, 2001) Gender differences found in types of networks formed (Lindelaub; Mengel, 2020). Male decision-makers more likely to reward network neighbors (Mengel, 2020)
Collaboration	**Cooperation:** Mixed results and large variation with setting : F=M overall (Balliet et al., 2011; Anthony & Horne, 2003) F>M (Cunningham et al., 2016) F>M if mixed-sex interactions (Balliet et al., 2011) F>M if being observed by peers (Charness & Rustichini, 2011) F<M if same-sex interactions, but small effect size (Balliet et al., 2011) F<M if intergroup competition (Vugt et al., 2007) F<M if repeat interaction (Balliet et al., 2011) **Leadership :** F>M (Paola et al., 2018)	Gender differences vary with whether interactions are with the same sex, observed by the same sex, repeated, large, or involve intergroup competition (Balliet et al., 2011; Anthony & Horne, 2003; Charness & Rustichini, 2011; Vugt et al., 2007). However, collaboration improves with the presence of women in the group (Bear & Woolley, 2011; Sustein & Hastie, 2014)

Note: We also include work on personality traits when evidence on socio-emotional skills is lacking. SE skills stands for socio-emotional skills.

Appendix Table A2: Sample Selection Criteria

Study	Benin: Youth Employment	Congo: Skills development project for employability	Côte D'Ivoire: Factory Workers	Côte D'Ivoire: ProJeunes	Côte D'Ivoire: Support project for the agricultural sector(PSAC)	Facebook: Future of Business (FoB)	Ghana: Impact of Outgrower Contracts on Smallholder Farmers(GADCO)	Ghana: Skills Towards Employability and Productivity (STEP)- Skills Measurement	Kenya: Skills Towards Employability and Productivity (STEP)- Skills Measurement	Mozambique: Impact Assessment Integrated Growth Pole Project (IGPP)	Nigeria: APPEALS	Togo: Private Sector Development Project (PADSP)- Personal Initiative	Togo: Youth Employment and Skills Development (AIDE)
Sample size	3585	4023	1294	1126	1544	12372	1615	2987	3894	5431	6782	1500	4597
Age	18-35	17-35	18-70	15-24	no restriction	30-60	No	15-64	15-64	No	18-40 (men) 18+ (women)	not restricted	18-40
Rural/Urban	Both	Urban	Urban	Urban	Rural	Both	Rural	Urban	Urban	Rural	Both	Urban	Both, though most are urban
Geography (e.g. particular states)	5 departements of the South: Atlantique, Couffo, Mono, Oueme, Plateau, 3 communes in each departement	Pointe Noire and Brazzaville	4 towns: Dimbokro , Toumodi, Djekanou, M'batto	2 towns: Abidjan, Bassam	three regions in the south (Gbokle, La Me et Sud-Comoe) and seven regions in the center (Belier, Goh, Haut-Sassandra, Iffou, Marahoue, Moronou et N'Zi)	97 countries	Kpong Irrigation Project (KIP) in the Greater Accra Region, in Shai Osudoku District and Weta Irrigation Project (WIP) in the Volta Region, in Ketu North District	10 regions	4 geographic areas (Nairobi, Other Large Cities (over 100,000 households), Medium cities (60,000 to 100,000 households), other urban areas)	Tsangano, Angónia, Macanga, Chifunde and Chiúta districts of Tete province	5 states: Kaduna, Kano, Kogi, Lagos, Cross River	Greater Lome area	All country, though heavy concentration in Lome
Education	Max schooling: completed junior high school (9th grade) or short vocational training, not currently in school	Completed primary; but did not complete high school		No restriction	No restriction	Levels of education	No	No	No	No	Secondary School Complete	All levels, concentration of low levels	Minimum CAP (technical training degree) through masters
Applicants to a program?	Yes, to the YE	Yes	No	Yes	Yes, to PSAC improved rubber seedlings	No	No	No	No	No	Yes	Yes	Yes
Employment type?	Not a criteria	No formal employment		Not a criteria	Farmers	Business owners and employees	Farmers who are the primary cultivators (PCs) of plots within the Kpong and Weta irrigation projects	No	No	Farmers	Agribusiness (Farming, Processing, Marketing)	entrepreneurs whose businesses are not formally registered	Supposed to be of unemployed; however, way of defining unemployed is tricky. Applicants to an internship program with the national employment agency
Marital status	All	All		All	married / in a couple	All	No	All	All	No	No	Both	No restrictions
Any differences between male sample and female sample at point of selection? (e.g. male respondents only selected because they were husbands of selected females)	No, but larger sample of women for power	No		No	No restriction	Yes	Yes, for sample balance, all women fulfilling selection criteria were added to the sample and then a stratified random selection was done to add male respondents.	No	No	Yes, Males respondents only selected because they were husbands of selected females.	No	No	No
Other criteria?		Out of school for at least a year		No	Farmers with less than two hectares of rubber cultivated pre-program	They should have a business page in facebook	No				Interviewed for two minutes by program team	operating in all sectors ofactivity except agriculture, in operation for at least one year and can prove it at time of application, have less than 50 employees, not registered formally	Sample was selected based on the demand of companies for youth with specific profiles (for example, if companies requested interns with a CAP in mechanics but no company requested interns with a Masters in psychology, we would have youth with CAP in mechanics in the sample but no youth with masters in psychology.
Language	French	French/English	French	French	French	English and Spanish	English	English	English	Portuguese	English	English	French/English
Country	Benin	Congo	Côte d'Ivoire	Côte d'Ivoire	Côte d'Ivoire	na,Kenya,Mozai	Ghana	Ghana	Kenya	Mozambique	Nigeria	Togo	Togo
Date	2017	2015	2016	2020	2016	2018	2013	2013	2013	2016	2020	2017	2013
Source	GIL	GIL	GIL	GIL	GIL	WB	GIL	WB	WB	GIL	GIL	GIL	GIL

Note: WB stands for World Bank while GIL stands for the World Bank's Gender Innovation Lab.

Appendix Table A3: Socio-emotional skills categories - Definitions and example items

Skill	Category	Definition	*Togo: Private Sector Development Project (PADSP)- Personal Initiative*	*Kenya: Skills Towards Employability and Productivity (STEP)- Skills Measurement*
Positive Self Concept (Originally Self-Awareness)	Intrapersonal	The ability to identify and interpret one's own thoughts and behaviors and to evaluate one's strengths and weakness and knowing your preferences, values and biases.	It would be easy for me to find another job	Do you work very well and quickly?
Emotional Regulation	Intrapersonal	The ability to maintain or change one's own emotions by controlling one's thoughts and behavioral responses.	I get frequent mood swings (My mood changes quickly)	Are you relaxed during stressful situations?
Perseverance	Intrapersonal	The ability to sustain effort despite setbacks.	I don't lose sight of my goal, even if I make mistakes	Do you finish whatever you begin?
Personal Initiative	Intrapersonal	The ability to develop long-term goals, to seek opportunities to improve one's self and to be motivated to put these plans and goals into action.	I take the initiative immediately even when others don't	
PSDM	Intrapersonal	The ability to approach a problem by gathering information, generating a number of solutions and evaluating the consequences of these solutions before acting.	As soon as a problem arises, I look for an immediate solution	Do you think about how the things you will do affect you in the future?
Self Control	Intrapersonal	The ability to focus one's attention, stay on task, break habits, restrain impulses and keep good self-discipline.	I do my work without delay	
Empathy	Interpersonal	The ability to understand another's viewpoint or thoughts and have emotional concern for another's situation or experience.	I sense the feelings of others	Do you think about how the things you will do will affect others?
Expressiveness	Interpersonal	The ability to explain ideas in a way that others will understand and openly express one's opinion.	I tend to hold back	Do you ask for help when you don't understand something?
Interpersonal Relatedness	Interpersonal	The ability to take actions intended to build trust and benefit others, initiate and maintain relationships and be respectful, encouraging and caring towards others.	I amuse people at parties	Are you outgoing and sociable, for example, do you make friends very easily?
Teamwork (Originally Collaboration)	Interpersonal	The ability to take other's perspective, listen and communicate in groups of two or more people, identify situations involving group problem-solving and decision-making, and organizing and coordinate team members to create shared plans and goals.	Example from *Mozambique: Impact Assessment Integrated Growth Pole Project (IGPP)* : In a job, I always try to do my work alone	

Note: Categorization was based in the definitions of socio-emotional skills above. Some items were categorized when they aligned with socio-emotional skills definitions but were not precisely included in the definition. For example, "Are you relaxed during stressful situations" was categorized under "Emotional regulation" even though an individual could still exhibit strong emotional regulation skills if they were not relaxed, but took steps to become relaxed. Similarly, "Positive self concept" mostly included questions on self esteem and generalized self efficacy. However, sometimes domain-specific self-efficacy questions were also included if they were key to the population of the study. The framework used for this study also included Emotional Awareness, Listening, Interpersonal Influence, and Negotiation. However, sufficient items were not found that fell into these categories. The framework also used Self-Awareness and Collaboration rather than Positive Self Concept and Teamwork, respectively. However, the items found in each study were more specifically focused on the latter concepts. Unlike Self-Awareness, Positive Self Concept incorporated items that measure self-esteem, which is sometimes considered a belief rather than a skill.

Table A4: Correlations between socio-emotional skills and positive earnings

Panel A: Aggregate Skills

	Earnings		
	All	Intra	Inter
	(1)	(2)	(3)
Woman	-0.315***	-0.315***	-0.391***
	(0.042)	(0.042)	(0.042)
SE skills	0.084***	0.082***	0.031*
	(0.013)	(0.013)	(0.016)
Woman*SE skills	-0.009	-0.006	0.014
	(0.019)	(0.019)	(0.022)
Education attainment	0.038***	0.038***	0.035***
	(0.004)	(0.004)	(0.004)
Woman*Education attainment	-0.006	-0.007	-0.004
	(0.004)	(0.004)	(0.004)
Observations	23,387	23,383	18,394
R-squared	0.445	0.445	0.488
P-val SE skills+Woman*SE skills=0	0.000	0.000	0.004
P-val Woman + Woman*SE skills=0	0.000	0.000	0.000
Mean monthly earnings for Men	232.3	232.3	257.4
Mean monthly earnings for Women	160.2	159.6	167.2

Panel B: Intrapersonal Skills

	Earnings					
	Positive Self Concept	Emotional Regulation	Perseverance	Personal Initiative	PSDM	Self Control
	(1)	(2)	(3)	(4)	(5)	(6)
Woman	-0.304***	-0.076	-0.353***	-0.441***	-0.335***	-0.470***
	(0.043)	(0.069)	(0.041)	(0.053)	(0.043)	(0.051)
SE skills	0.084***	0.035**	0.050***	0.038*	0.091***	0.036**
	(0.015)	(0.017)	(0.014)	(0.021)	(0.015)	(0.017)
Woman*SE skills	-0.042*	-0.009	0.035*	0.027	-0.025	-0.015
	(0.021)	(0.024)	(0.019)	(0.031)	(0.021)	(0.027)
Education attainment	0.043***	0.054***	0.039***	0.032***	0.037***	0.037***
	(0.004)	(0.006)	(0.004)	(0.006)	(0.004)	(0.006)
Woman*Education attainment	-0.010**	-0.026***	-0.006	-0.002	-0.002	-0.005
	(0.005)	(0.006)	(0.004)	(0.006)	(0.004)	(0.006)
Observations	17,553	11,040	22,110	9,706	16,839	10,038
R-squared	0.486	0.441	0.472	0.367	0.550	0.440
P-val SE skills+Woman*SE skills=0	0.007	0.118	0.000	0.005	0.000	0.311
P-val Woman + Woman*SE skills=0	0.000	0.243	0.000	0.000	0.000	0.000
Mean monthly earnings for Men	260.5	380	222.4	122.2	289.1	73.87
Mean monthly earnings for Women	190.7	231	154.6	74.92	175.7	50.71

Panel C: Interpersonal Skills

	Earnings			
	Empathy	Expressiveness	Interpersonal Relatedness	Teamwork
	(1)	(2)	(3)	(4)
Woman	0.006	-0.066	-0.241***	-0.676***
	(0.102)	(0.069)	(0.050)	(0.051)
SE skills	0.041*	0.023	0.021	0.009
	(0.022)	(0.017)	(0.016)	(0.028)
Woman*SE skills	0.028	-0.026	0.016	0.063
	(0.036)	(0.024)	(0.022)	(0.040)
Education attainment	0.068***	0.055***	0.047***	0.020***
	(0.007)	(0.006)	(0.005)	(0.007)
Woman*Education attainment	-0.031***	-0.031***	-0.013***	0.013*
	(0.010)	(0.006)	(0.005)	(0.007)
Observations	5,382	13,470	13,320	7,975
R-squared	0.420	0.341	0.622	0.411
P-val SE skills+Woman*SE skills=0	0.016	0.847	0.015	0.013
P-val Woman + Woman*SE skills=0	0.759	0.213	0.000	0.000
Mean monthly earnings for Men	601.9	329.9	310.1	103.3
Mean monthly earnings for Women	452.2	221.6	195.6	52.72

Note: OLS regression specifications include study fixed effects. All studies have equal weights. Women is a dummy variable equal to 1 if the respondent is a woman, 0 otherwise. Earnings is the inverse hyperbolic sine (IHS) transformation of the respondent's monthly earnings in US dollars, conditional on earnings being strictly positive. Note that only business profit rather than total earnings is reported for Nigeria. Education, age bins and marital status are added as controls. Education stands for the highest educational attainment (completed) where 0=No education, 1=completed grade 1, 2=completed grade 2, … 12=completed highschool, 13=completed certificate or diploma and 14=completed university degree or above. Note that Nigeria and Facebook projects have only categorical variable for education and "completed primary is coded as 9" and "completed secondary" is coded as 12. Age bin represents dummy variables equal to 1 if the respondent's age belongs to the age cohort which ranges from 15 to 65 with a 5 year gap, o otherwise. Married is added as a control and defined as a dummy variable equal to 1 if the respondent is married/cohabitating, 0 otherwise. SE skills stands for Socio-emotional skills. PSDM stands for Problem Solving and Decision Making. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

Appendix Table A5: Cohen's D

	Sub-sample	All	Intra	Inter	Positive Self Concept	Emotional Regulation	Perseverance	Personal Initiative	PSDM	Self Control	Empathy	Expressiveness	Interpersonal Relatedness	Teamwork
Pooled sample	All	0.130	0.115	0.123	0.062	0.066	0.098	0.098	0.124	-0.008	0.076	0.105	0.087	0.141
	Old	0.209	0.200	0.147	0.095	0.219	0.159	0.123	0.214	0.025	0.072	0.125	0.131	0.100
	Young	0.106	0.088	0.114	0.047	0.034	0.079	0.093	0.100	-0.027	0.078	0.099	0.076	0.150
	Didn't CP	0.132	0.135	0.087	0.029	0.132	0.130	0.180	0.128	-0.029	0.124	-0.122	0.086	0.015
	CP	0.122	0.103	0.125	0.049	0.063	0.085	0.086	0.117	-0.013	0.072	0.109	0.087	0.158
Benin: Youth Employment	All	0.345	0.296	0.267	0.088	.	0.292	0.195	0.217	0.116	.	.	.	0.267
	Old	0.313	0.283	0.197	0.012	.	0.338	0.167	0.212	0.126	.	.	.	0.197
	Young	0.357	0.297	0.307	0.132	.	0.254	0.211	0.215	0.108	.	.	.	0.307
	Didn't CP	0.270	0.234	0.212	0.111	.	0.240	0.184	0.134	0.068	.	.	.	0.212
	CP	0.396	0.322	0.333	0.043	.	0.307	0.168	0.293	0.151	.	.	.	0.333
Congo: Skills Development Project for Employability	All	0.157	0.152	0.079	0.100	.	0.196	.	.	0.010	.	.	.	0.079
	Old	0.171	0.167	0.069	0.120	.	0.195	.	.	0.017	.	.	.	0.069
	Young	0.146	0.143	0.085	0.075	.	0.212	.	.	0.002	.	.	.	0.085
	Didn't CP	-0.165	-0.059	.	-0.983	.	1.418	.	.	0.150	.	.	.	.
	CP	0.157	0.153	0.083	0.103	.	0.194	.	.	0.010	.	.	.	0.083
Côte d'Ivoire: Factory Workers	All	0.371	0.383	0.107	0.258	0.179	0.267	.	0.241	.	.	0.060	0.101	.
	Old	0.714	0.633	0.336	0.504	0.221	0.324	.	0.455	.	.	0.191	0.304	.
	Young	0.239	0.278	0.023	0.154	0.154	0.235	.	0.149	.	.	0.010	0.026	.
	Didn't CP	0.348	0.378	0.064	0.336	0.193	0.123	.	0.255	.	.	0.135	-0.099	.
	CP	0.309	0.304	0.119	0.216	0.123	0.314	.	0.139	.	.	0.048	0.147	.
Côte d'Ivoire: ProJeunes	All	0.176	0.185	0.137	.	0.102	0.081	0.171	0.070	0.202	0.089	0.123	0.109	0.123
	Old	0.137	0.136	0.116	.	0.145	0.041	0.061	0.073	0.150	0.050	0.144	0.063	0.124
	Young	0.212	0.231	0.154	.	0.068	0.112	0.260	0.069	0.260	0.122	0.107	0.148	0.121
	Didn't CP	0.034	0.026	0.035	.	-0.043	0.228	0.238	0.043	-0.254	0.015	0.168	0.120	-0.180
	CP	0.169	0.181	0.128	.	0.117	0.058	0.164	0.084	0.202	0.088	0.114	0.085	0.130
Côte D'Ivoire: Support Project for the Agricultural Sector (PSAC)	All	0.044	0.044	.	-0.064	.	.	.	0.116	.	.	.	.	.
	Old	.	.	.	.	.	.	.	.	.	.	.	.	.
	Young	0.044	0.044	.	-0.064	.	.	.	0.116	.	.	.	.	.
	Didn't CP	-0.063	-0.063	.	-0.085	.	.	.	-0.030	.	.	.	.	.
	CP	0.094	0.094	.	-0.039	.	.	.	0.168	.	.	.	.	.
Facebook: Future of Business (FoB)	All	0.034	0.012	0.072	.	-0.070	0.042	0.052	-0.025	.	.	.	0.072	.
	Old	0.247	0.220	0.487	.	0.219	0.256	0.587	0.118	.	.	.	0.487	.
	Young	0.032	0.010	0.067	.	-0.074	0.040	0.047	-0.025	.	.	.	0.067	.
	Didn't CP	0.277	0.194	0.202	.	0.042	0.484	-0.063	0.159	.	.	.	0.202	.
	CP	0.028	0.008	0.069	.	-0.072	0.035	0.050	-0.028	.	.	.	0.069	.
Ghana: Impact of Outgrower Contracts on Smallholder Farmers (GADCO)	All	0.138	0.138	.	.	.	0.092	0.145	.	.	.	.	.	.
	Old	-0.287	-0.287	.	.	.	-0.543	0.053	.	.	.	.	.	.
	Young	0.135	0.135	.	.	.	0.088	0.143	.	.	.	.	.	.
	Didn't CP	0.124	0.124	.	.	.	0.155	0.028	.	.	.	.	.	.
	CP	0.139	0.139	.	.	.	0.081	0.162	.	.	.	.	.	.
Ghana: Skills Towards Employability and Productivity (STEP)- Skills Measurement	All	0.253	0.270	0.145	0.074	0.290	0.115	.	0.314	.	0.126	0.073	0.107	.
	Old	0.210	0.237	0.093	0.151	0.191	0.027	.	0.281	.	0.068	0.049	0.068	.
	Young	0.269	0.275	0.176	0.010	0.337	0.155	.	0.328	.	0.155	0.092	0.135	.
	Didn't CP	0.389	0.193	0.454	0.080	0.340	-0.042	.	0.215	.	0.547	-0.518	0.398	.
	CP	0.248	0.273	0.136	0.074	0.290	0.119	.	0.318	.	0.117	0.088	0.098	.
Kenya: Skills Towards Employability and Productivity (STEP)- Skills Measurement	All	0.173	0.184	0.094	0.094	0.173	0.037	.	0.208	.	0.053	0.111	0.048	.
	Old	0.207	0.210	0.129	0.077	0.238	0.025	.	0.261	.	0.067	0.137	0.087	.
	Young	0.149	0.166	0.070	0.102	0.133	0.041	.	0.173	.	0.041	0.094	0.021	.
	Didn't CP	-0.045	0.046	-0.146	-0.053	0.072	0.131	.	-0.001	.	-0.060	-0.198	-0.084	.
	CP	0.190	0.195	0.114	0.108	0.181	0.026	.	0.225	.	0.064	0.136	0.058	.
Mozambique: Impact Assessment Integrated Growth Pole Project (IGPP)	All	0.110	0.097	0.091	0.013	.	0.124	0.132	0.104	-0.085	.	.	0.102	0.019
	Old	0.048	0.042	0.041	-0.014	.	0.081	0.078	0.099	-0.112	.	.	0.063	-0.017
	Young	0.122	0.107	0.100	0.020	.	0.129	0.138	0.107	-0.077	.	.	0.108	0.029
	Didn't CP	0.115	0.098	0.101	-0.001	.	0.128	0.153	0.120	-0.109	.	.	0.125	0.006
	CP	0.041	0.033	0.039	-0.018	.	0.052	0.059	0.033	-0.026	.	.	0.045	0.007
Nigeria: APPEALS	All	0.203	0.207	0.162	.	0.179	0.137	.	0.232	.	.	0.157	0.132	.
	Old	0.280	0.262	0.257	.	0.253	0.194	.	0.248	.	.	0.151	0.307	.
	Young	0.192	0.199	0.149	.	0.168	0.128	.	0.229	.	.	0.157	0.108	.
	Didn't CP				.			.		.	.			.
	CP	0.202	0.206	0.162	.	0.181	0.135	.	0.231	.	.	0.156	0.132	.
Togo: Private Sector Development Project (PADSP)- Personal Initiative	All	0.124	0.155	-0.007	0.216	0.075	0.127	0.216	0.354	-0.170	0.056	-0.090	0.018	.
	Old	0.210	-0.075	0.731	-0.331	0.063	0.154	0.021	0.108	-0.323	0.432	0.196	0.685	.
	Young	0.122	0.160	-0.020	0.227	0.075	0.127	0.221	0.360	-0.168	0.047	-0.095	0.005	.
	Didn't CP	-0.083	-0.034	-0.137	0.033	-0.134	0.011	0.020	0.312	-0.143	-0.037	-0.047	-0.208	.
	CP	0.060	0.081	-0.013	0.136	0.082	0.087	0.146	0.297	-0.205	0.019	-0.077	0.038	.
Togo: Youth Employment and Skills Development (AIDE)	All	0.118	0.023	0.219	0.018	.	-0.003	0.057	.	.	.	0.114	.	0.223
	Old	-0.434	-0.595	0.022	-0.352	.	-0.577	-0.309	.	.	.	-0.025	.	0.060
	Young	0.129	0.035	0.222	0.026	.	0.008	0.063	.	.	.	0.117	.	0.225
	Didn't CP	.	.	.	.	.	.	.	.	.	.	.	.	.
	CP	0.118	0.023	0.219	0.018	.	-0.003	0.057	.	.	.	0.114	.	0.223

Note: Cohen's d is used to indicate the standardised difference between two means. Old is a dummy Variable equal to 1 if the respondent is 25 years old or older, 0 otherwise. Young is a dummy Variable equal to 1 if the respondent is 24 years old or young, 0 otherwise. CP stands for completed primary school and is define as a dummy variable equal to 1 if the respondent completed primary school, 0 otherwise. Didn't CP is defined as a dummy variable equal to 1 if the respondent didn't complete primary school, 0 otherwise. The blue color (light blue=small effect size and dark blue=medium effect size) indicates positive effectsizes while orage (light orange=small effect size and dark orange=medium or large effect sizes) represents negative values.

Table A6: Gender differences in levels of socio-emotional skills

		Coef on Women	Coef on Women (Atl 3)	Coef on Women (PSC)	Coef on PSC
		(1)	(2)	(3)	(4)
All	coef.	-0.151***	-0.106***	-0.115***	0.578***
	se	(0.013)	(0.010)	(0.012)	(0.007)
	obs	41,873	40,761	25,551	25,551
	R-squared	0.021	0.020	0.357	0.357
Intra	coef.	-0.143***	-0.123***	-0.102***	0.640***
	se	(0.013)	(0.010)	(0.011)	(0.006)
	obs	41,834	40,752	25,551	25,551
	R-squared	0.021	0.023	0.423	0.423
Inter	coef.	-0.104***	-0.078***	-0.085***	0.137***
	se	(0.016)	(0.016)	(0.019)	(0.010)
	obs	33,658	18,868	20,433	20,433
	R-squared	0.011	0.015	0.036	0.036
Positive Self Concept	coef.	-0.060***	-0.058***		
	se	(0.015)	(0.017)		
	obs	25,551	19,863		
	R-squared	0.014	0.015		
Emotional Regulation	coef.	-0.130***	-0.175***	-0.146***	0.051***
	se	(0.018)	(0.022)	(0.024)	(0.012)
	obs	22,573	12,758	8,433	8,433
	R-squared	0.013	0.017	0.020	0.020
Perseverance	coef.	-0.099***	-0.142***	-0.079***	0.276***
	se	(0.013)	(0.018)	(0.014)	(0.008)
	obs	39,885	20,577	24,004	24,004
	R-squared	0.012	0.015	0.094	0.094
Personal Initiative	coef.	-0.124***	-0.122***	-0.087***	0.279***
	se	(0.018)	(0.022)	(0.019)	(0.011)
	obs	22,052	12,675	13,047	13,047
	R-squared	0.015	0.021	0.105	0.105
PSDM	coef.	-0.160***	-0.157***	-0.171***	0.218***
	se	(0.015)	(0.017)	(0.017)	(0.009)
	obs	31,959	26,185	18,220	18,220
	R-squared	0.021	0.026	0.077	0.077
Self Control	coef.	0.027	-0.009	0.060***	0.102***
	se	(0.021)	(0.024)	(0.022)	(0.010)
	obs	14,835	10,403	13,709	13,709
	R-squared	0.015	0.025	0.016	0.016
Empathy	coef.	-0.051**	-0.064	-0.035	0.135***
	se	(0.026)	(0.065)	(0.026)	(0.014)
	obs	8,260	1,126	7,108	7,108
	R-squared	0.014	0.023	0.033	0.033
Expressiveness	coef.	-0.070***	-0.104***	-0.034	0.109***
	se	(0.018)	(0.019)	(0.021)	(0.011)
	obs	18,866	16,109	11,767	11,767
	R-squared	0.007	0.011	0.021	0.021
Interpersonal Relatedness	coef.	-0.062***	-0.051**	-0.028	0.154***
	se	(0.017)	(0.020)	(0.020)	(0.010)
	obs	26,941	15,523	13,737	13,737
	R-squared	0.010	0.015	0.037	0.037
Teamwork	coef.	-0.119***	-0.157***	-0.122***	0.099***
	se	(0.027)	(0.039)	(0.029)	(0.014)
	obs	13,115	4,450	11,989	11,989
	R-squared	0.012	0.018	0.027	0.027

Note: OLS regression specifications include study fixed effects. All studies have equal weights. Women is a dummy variable equal to 1 if the respondent is a woman, 0 otherwise. Age bins, marital status and education dummies are added as controls in all regressions. Coulmn 3 has PSC (Positive Self Concept) as additional control variable. Age bin represents dummy variables equal to 1 if the respondent's age belongs to the age cohort which ranges from 15 to 65 with a 5 year gap, 0 otherwise. Married is a dummy variable equal to 1 if the respondent is married/cohabitating, 0 otherwise. Education dummies represent dummy variables equal to 1 if the respondent's highest educational attainment (completed) is 0, 1, ... or 14 where 0=No education, 1=completed grade 1, 2=completed grade 2, … 12=completed high school, 13=completed certificate or diploma and 14=completed university degree or above, 0 otherwise. Note that Nigeria & Facebook projects have only categorical variable for education and "completed primary" is coded as 9 and "completed secondary" is coded as 12. PSDM stands for Problem Solving and Decision Making. 'Atl 3' stands for atleast 3 and it represents socio-emotional skills captured by at least three items in an individual survey. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

Appendix Table A7: Gender differences in levels of socio-emotional skills - At least 3

Panel A: Aggregate Skills

	All	Intra	Inter
	(1)	(2)	(3)
Women	-0.051**	-0.072***	0.176***
	(0.022)	(0.023)	(0.053)
Education attainment	0.023***	0.024***	0.035***
	(0.002)	(0.002)	(0.004)
Women*Education attainment	-0.006***	-0.005**	-0.024***
	(0.002)	(0.002)	(0.005)
Observations	40,761	40,752	18,868
R-squared	0.018	0.021	0.013
P-val Women+Women*Edu Attain	0.005	0.000	0.002
P-val Edu Attain+Women*Edu Attain	0.000	0.000	0.000
Mean SE skills for Men	0.083	0.091	0.119
Mean SE skills for Women	0.000	0.000	0.000

Panel B: Intrapersonal Skills

	Positive Self Concept	Emotional Regulation	Perseverance	Personal Initiative	PSDM	Self Control
	(1)	(2)	(3)	(4)	(5)	(6)
Women	-0.020	0.028	-0.101***	-0.084**	-0.096***	0.156***
	(0.030)	(0.078)	(0.031)	(0.039)	(0.035)	(0.040)
Education attainment	0.024***	0.021***	0.020***	0.027***	0.033***	0.046***
	(0.003)	(0.006)	(0.004)	(0.004)	(0.004)	(0.005)
Women*Education attainment	-0.005	-0.019***	-0.005	-0.003	-0.006*	-0.019***
	(0.003)	(0.007)	(0.003)	(0.004)	(0.003)	(0.005)
Observations	19,863	12,758	20,577	12,675	26,185	10,403
R-squared	0.013	0.016	0.015	0.016	0.022	0.020
P-val Women+Women*Edu Attain	0.381	0.897	0.000	0.014	0.001	0.000
P-val Edu Attain+Women*Edu Attain	0.000	0.571	0.000	0.000	0.000	0.000
Mean SE skills for Men	0.0550	0.190	0.167	0.121	0.119	-0.010
Mean SE skills for Women	-0.001	0.000	0.000	-0.001	0.000	0.000

Panel C: Interpersonal Skills

	Empathy	Expressiveness	Interpersonal Relatedness	Teamwork
	(1)	(2)	(3)	(4)
Women	0.268	0.165**	0.172***	0.144
	(0.179)	(0.077)	(0.059)	(0.159)
Education attainment	0.042***	0.037***	0.037***	0.039***
	(0.014)	(0.005)	(0.005)	(0.011)
Women*Education attainment	-0.031*	-0.024***	-0.022***	-0.025**
	(0.016)	(0.006)	(0.005)	(0.013)
Observations	1,126	16,109	15,523	4,450
R-squared	0.014	0.010	0.011	0.015
P-val Women+Women*Edu Attain	0.149	0.045	0.006	0.422
P-val Edu Attain+Women*Edu Attain	0.253	0.004	0.000	0.108
Mean SE skills for Men	0.093	0.125	0.094	0.198
Mean SE skills for Women	0.000	0.000	0.000	0.001

Note: OLS regression specifications control for age and include study fixed effects. The sample is restricted to socio-emotional skills captured by at least three items in an individual survey. All studies have equal weights. Women is a dummy variable equal to 1 if the respondent is a woman, 0 otherwise. Education stands for the highest educational attainment (completed) where 0=No education, 1=completed grade 1, 2=completed grade 2, ... 12=completed highschool, 13=completed certificate or diploma and 14=completed university degree or above. Note that Nigeria and Facebook projects have only categorical variable for education and "completed primary is coded as 9" and "completed secondary" is coded as 12. Marital status and age bins are added as controls. Married is a dummy variable equal to 1 if the respondent is married/cohabitating, 0 otherwise. Age bins represent dummy variables equal to 1 if the respondent's age belongs to the age cohort which ranges from 15 to 65 with a 5 year gap, o otherwise. SE skills stands for Socio-emotional skills. PSDM stands for Problem Solving and Decision Making. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

Appendix Table A8 (At least 3) : Correlations between socio-emotional skills and earnings

Panel A: Aggregate Skills

	Earnings		
	All	Intra	Inter
	(1)	(2)	(3)
Women	-0.553***	-0.556***	-0.816***
	(0.060)	(0.060)	(0.124)
SE skills	0.108***	0.123***	-0.055*
	(0.029)	(0.026)	(0.032)
Women*SE skills	0.027	-0.013	0.089**
	(0.041)	(0.038)	(0.045)
Education attainment	0.024***	0.024***	0.015
	(0.006)	(0.006)	(0.010)
Women*Education attainment	-0.009	-0.009	-0.003
	(0.006)	(0.006)	(0.011)
Observations	33,896	33,887	18,155
R-squared	0.241	0.241	0.162
P-val SE skills+Women*SE skills=0	0.000	0.000	0.279
P-val Women + Women*SE skills=0	0.000	0.000	0.000
Mean Monthly Earnings for Men	169.9	169.8	257.8
Mean Monthly Earnings for Women	103.3	102.9	155.8

Panel B: Intrapersonal Skills

	Earnings					
	Positive Self Concept	Emotional Regulation	Perseverance	Personal Initiative	PSDM	Self Control
	(1)	(2)	(3)	(4)	(5)	(6)
Women	-0.494***	-1.590***	-0.853***	-0.350***	-0.473***	-0.651***
	(0.059)	(0.218)	(0.060)	(0.085)	(0.077)	(0.086)
SE skills	0.122***	0.013	0.077***	0.017	0.007	-0.003
	(0.022)	(0.040)	(0.028)	(0.035)	(0.030)	(0.039)
Women*SE skills	-0.087***	-0.013	0.045	0.051	0.070*	-0.048
	(0.032)	(0.058)	(0.036)	(0.050)	(0.041)	(0.055)
Education attainment	0.022***	-0.024	-0.022***	0.018*	0.036***	-0.015
	(0.007)	(0.015)	(0.008)	(0.010)	(0.009)	(0.014)
Women*Education attainment	-0.011	0.055***	0.023***	-0.026***	-0.029***	-0.012
	(0.007)	(0.019)	(0.007)	(0.010)	(0.008)	(0.012)
Observations	19,464	12,439	20,571	12,282	19,707	10,397
R-squared	0.322	0.214	0.268	0.291	0.344	0.298
P-val SE skills+Women*SE skills=0	0.122	0.992	0.000	0.059	0.007	0.195
P-val Women + Women*SE skills=0	0.000	0.000	0.000	0.002	0.000	0.000
Mean Monthly Earnings for Men	99.15	315	53.53	90.41	214.2	40.38
Mean Monthly Earnings for Women	46.89	180.8	31.63	46.09	123.6	15.57

Panel C: Interpersonal Skills

	Earnings			
	Empathy	Expressiveness	Interpersonal	Teamwork
	(1)	(2)	(3)	(4)
Women	-1.219***	-1.479***	-0.854***	-0.968**
	(0.459)	(0.209)	(0.128)	(0.387)
SE skills	-0.141	-0.029	-0.063**	-0.090
	(0.100)	(0.034)	(0.031)	(0.061)
Women*SE skills	0.209	0.103**	0.049	0.271***
	(0.148)	(0.051)	(0.044)	(0.096)
Education attainment	-0.054	-0.016	0.013	-0.034
	(0.034)	(0.014)	(0.011)	(0.026)
Women*Education attainment	0.009	0.042**	0.004	-0.012
	(0.042)	(0.017)	(0.012)	(0.031)
Observations	1,126	15,409	15,191	4,069
R-squared	0.061	0.185	0.182	0.086
P-val SE skills+Women*SE skills=0	0.530	0.048	0.650	0.014
P-val Women + Women*SE skills=0	0.041	0.000	0.000	0.084
Mean Monthly Earnings for Men	103.7	273.2	288.5	139
Mean Monthly Earnings for Women	43.02	171.3	161.4	74.16

Note: OLS regression specifications include study fixed effects. The sample is restricted to socio-emotional skills captured by at least three items in an individual survey. All studies have equal weights. Women is a dummy variable equal to 1 if the respondent is a woman, 0 otherwise. Earnings is the inverse hyperbolic sine (IHS) transformation of the respondent's monthly earnings in US dollars. Note that only business profit rather than total earnings is reported for Nigeria. Education dummies, age bins and marital status are added as controls. Education stands for the highest educational attainment (completed) where 0=No education, 1=completed grade 1, 2=completed grade 2, … 12=completed highschool, 13=completed certificate or diploma and 14=completed university degree or above. Note that Nigeria and Facebook projects have only categorical variable for education and "completed primary is coded as 9" and "completed secondary" is coded as 12. Age bin represents dummy variables equal to 1 if the respondent's age belongs to the age cohort which ranges from 15 to 65 with a 5 year gap, o otherwise. Married is added as a control and defined as a dummy variable equal to 1 if the respondent is married/cohabitating, 0 otherwise. SE skills stands for Socio-emotional skills. PSDM stands for Problem Solving and Decision Making. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

Appendix Table A9: Gender differences in levels of socio-emotional skills - Positive Self-Concept

Panel A: Aggregate Skills

	All- If Pos Self Conc nonmissing	All- Control for Pos Self Conc	Intra- If Pos Self Conc nonmissing	Intra- Control for Pos Self Conc	Inter- If Pos Self Conc nonmissing	Inter- Control for Pos Self Conc
	(1)	(2)	(3)	(4)	(5)	(6)
Women	-0.094***	-0.082***	-0.105***	-0.091***	-0.014	-0.010
	(0.029)	(0.023)	(0.028)	(0.022)	(0.030)	(0.030)
Positive Self Concept		0.579***		0.640***		0.137***
		(0.007)		(0.006)		(0.010)
Education attainment	0.034***	0.020***	0.032***	0.017***	0.022***	0.018***
	(0.003)	(0.002)	(0.003)	(0.002)	(0.003)	(0.003)
Women*Education attainment	-0.007**	-0.004	-0.004	-0.001	-0.009**	-0.008**
	(0.003)	(0.002)	(0.003)	(0.002)	(0.004)	(0.003)
Observations	25,551	25,551	25,551	25,551	20,433	20,433
R-squared	0.025	0.356	0.025	0.423	0.010	0.031
P-val Women+Women*Edu Attain		0.000		0.000		0.502
P-val Edu Attain+Women*Edu Attain		0.000		0.000		0.001
Mean SE skills for Men	0.161	0.161	0.143	0.143	0.135	0.135
Mean SE skills for Women	0.000	0.000	0.001	0.001	0.000	0.000

Panel B: Intrapersonal Skills

	Emotional Regulation- If Pos Self Conc nonmissing	Emotional Regulation- Control for Pos Self Conc	Perseverance- If Pos Self Conc nonmissing	Perseverance- Control for Pos Self Conc	Personal Initiative- If Pos Self Conc nonmissing	Personal Initiative- Control for Pos Self Conc	PSDM- If Pos Self Conc nonmissing	PSDM- Control for Pos Self Conc	Self Control- If Pos Self Conc nonmissing	Self Control- Control for Pos Self Conc
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Women	0.048	0.052	-0.094***	-0.088***	-0.060*	-0.060**	-0.118***	-0.112***	0.041	0.042
	(0.060)	(0.060)	(0.029)	(0.027)	(0.031)	(0.029)	(0.028)	(0.027)	(0.034)	(0.034)
Positive Self Concept		0.050***		0.278***		0.282***		0.218***		0.102***
		(0.012)		(0.008)		(0.011)		(0.009)		(0.010)
Education attainment	0.025***	0.024***	0.024***	0.017***	0.037***	0.027***	0.028***	0.023***	0.006	0.003
	(0.005)	(0.005)	(0.003)	(0.003)	(0.004)	(0.004)	(0.003)	(0.003)	(0.005)	(0.005)
Women*Education attainment	-0.021***	-0.021***	-0.001	0.001	-0.003	-0.002	-0.009***	-0.008**	0.002	0.003
	(0.006)	(0.006)	(0.003)	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)	(0.005)	(0.005)
Observations	8,433	8,433	24,004	24,004	13,047	13,047	18,220	18,220	13,709	13,709
R-squared	0.017	0.020	0.016	0.092	0.021	0.101	0.026	0.074	0.005	0.015
P-val Women+Women*Edu Attain		0.569		0.000		0.021		0.000		0.141
P-val Edu Attain+Women*Edu Attain		0.461		0.000		0.000		0.000		0.171
Mean SE skills for Men	0.183	0.183	0.119	0.119	0.123	0.123	0.192	0.192	-0.026	-0.026
Mean SE skills for Women	0.003	0.003	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000

Panel C: Interpersonal Skills

	Empathy- If Pos Self Conc nonmissing	Empathy- Control for Pos Self Conc	Expressiveness- If Pos Self Conc nonmissing	Expressiveness- Control for Pos Self Conc	Interpers. Relatedness- If Pos Self Conc nonmissing	Interpers. Relatedness- Control for Pos Self Conc	Teamwork- If Pos Self Conc nonmissing	Teamwork- Control for Pos Self Conc
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Women	0.040	0.055	0.170***	0.177***	0.029	0.031	-0.058*	-0.058*
	(0.078)	(0.077)	(0.061)	(0.061)	(0.037)	(0.036)	(0.033)	(0.033)
Positive Self Concept		0.133***		0.110***		0.154***		0.097***
		(0.014)		(0.011)		(0.010)		(0.014)
Education attainment	0.028***	0.023***	0.025***	0.022***	0.023***	0.019***	0.013**	0.010*
	(0.006)	(0.006)	(0.005)	(0.005)	(0.004)	(0.004)	(0.006)	(0.006)
Women*Education attainment	-0.009	-0.010	-0.021***	-0.021***	-0.008*	-0.007*	-0.008*	-0.008*
	(0.007)	(0.007)	(0.005)	(0.005)	(0.004)	(0.004)	(0.005)	(0.005)
Observations	7,108	7,108	11,767	11,767	13,737	13,737	11,989	11,989
R-squared	0.012	0.028	0.006	0.018	0.007	0.030	0.011	0.024
P-val Women+Women*Edu Attain		0.513		0.005		0.467		0.026
P-val Edu Attain+Women*Edu Attain		0.004		0.611		0.000		0.604
Mean SE skills for Men	0.074	0.074	0.079	0.079	0.076	0.076	0.139	0.139
Mean SE skills for Women	0.002	0.002	-0.001	-0.001	0.001	0.001	0.000	0.000

Note: OLS regression specifications include study fixed effects and control for positive self-concept. All studies have equal weights. Women is a dummy variable equal to 1 if the respondent is a woman, 0 otherwise. Education stands for the highest educational attainment (completed) where 0=No education, 1=completed grade 1, 2=completed grade 2, … 12=completed highschool, 13=completed certificate or diploma and 14=completed university degree or above. Note that Nigeria and Facebook projects have only categorical variable for education and "completed primary is coded as 9" and "completed secondary" is coded as 12. Marital status and age bins are added as controls. Married is a dummy variable equal to 1 if the respondent is married/cohabitating, 0 otherwise. Age bins represent dummy variables equal to 1 if the respondent's age belongs to the age cohort which ranges from 15 to 65 with a 5 year gap, 0 otherwise. SE skills stands for Socio-emotional skills. PSDM stands for Problem Solving and Decision Making. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

Appendix Table A10 : Correlations between socio-emotional skills and earnings - Positive Self-Concept

Panel A: Aggregate Skills

	All- 2SRI	Intra- 2SRI	Inter- 2SRI
	(1)	(2)	(3)
Women	-0.487***	-0.485***	-0.521***
	(0.059)	(0.059)	(0.058)
SE skills residual	0.049*	0.073***	-0.027
	(0.027)	(0.028)	(0.030)
Women*SE skills residual	0.005	-0.016	0.065*
	(0.038)	(0.039)	(0.039)
Education attainment	0.047***	0.047***	0.045***
	(0.006)	(0.006)	(0.007)
Women*Education attainment	-0.027***	-0.027***	-0.021***
	(0.007)	(0.007)	(0.007)
Observations	24,835	24,835	19,717
R-squared	0.283	0.283	0.319
P-val SE skills+Female*SE skills	0.044	0.041	0.117
P-val Female+Female*SE skills	0.000	0.000	0.000
Mean monthly earnings for Men	202.000	202.000	229.400
Mean monthly earnings for Women	120.300	120.300	126.200

Panel B: Intrapersonal Skills

	Emotional Regulation- 2SRI	Perseverance- 2SRI	Personal Initiative- 2SRI	Problem Solving & DecMaking- 2SRI	Self Control- 2SRI
	(1)	(2)	(3)	(4)	(5)
Women	-0.601***	-0.525***	-0.465***	-0.467***	-0.596***
	(0.130)	(0.055)	(0.053)	(0.061)	(0.053)
SE skills residual	0.038	0.072***	0.009	0.020	0.045**
	(0.039)	(0.024)	(0.029)	(0.030)	(0.022)
SE skills residual*Women	-0.064	0.006	0.057	0.020	-0.006
	(0.054)	(0.033)	(0.038)	(0.040)	(0.031)
Education attainment	0.047***	0.044***	0.021***	0.051***	-0.004
	(0.011)	(0.006)	(0.008)	(0.007)	(0.007)
Women*Education attainment	-0.023*	-0.028***	-0.030***	-0.027***	0.006
	(0.014)	(0.007)	(0.008)	(0.008)	(0.007)
Observations	8,104	23,288	12,654	17,891	13,691
R-squared	0.194	0.307	0.425	0.332	0.465
P-val SE skills+Female*SE skills	0.472	0.001	0.008	0.115	0.073
P-val Female+Female*SE skills	0.000	0.000	0.000	0.000	0.000
Mean monthly earnings for Men	473.100	193.700	80.480	260.800	50.850
Mean monthly earnings for Women	259.100	116.300	37.470	134.300	30.090

Panel C: Interpersonal Skills

	Empathy- 2SRI	Expressiveness- 2SRI	Interpers. Relatedness- 2SRI	Teamwork- 2SRI
	(1)	(2)	(3)	(4)
Women	-0.609***	-0.589***	-0.356***	-0.601***
	(0.168)	(0.123)	(0.068)	(0.061)
SE skills residual	-0.030	-0.003	-0.096***	0.027
	(0.039)	(0.032)	(0.030)	(0.045)
SE skills residual*Women	0.051	0.014	0.058	0.067
	(0.060)	(0.047)	(0.042)	(0.053)
Education attainment	0.051***	0.048***	0.067***	0.008
	(0.013)	(0.010)	(0.008)	(0.011)
Women*Education attainment	-0.027	-0.028**	-0.044***	-0.005
	(0.017)	(0.012)	(0.009)	(0.009)
Observations	6,780	11,057	13,408	11,602
R-squared	0.278	0.167	0.394	0.403
P-val SE skills+Female*SE skills	0.636	0.755	0.195	0.001
P-val Female+Female*SE skills	0.002	0.000	0.000	0.000
Mean monthly earnings for Men	512.600	358.600	294.200	70.850
Mean monthly earnings for Women	312.700	230.300	154.400	27.170

Note: OLS regression specifications include study fixed effects and control for positive self-concept. All studies have equal weights. Earnings is the inverse hyperbolic sine (IHS) transformation of the respondent's monthly earnings in US dollars. Women is a dummy variable equal to 1 if the respondent is a woman, 0 otherwise. Age is a continuous variable for the respondent's age. Education stands for the highest educational attainment (completed) where 0=No education, 1=completed grade 1, 2=completed grade 2, … 12=completed highschool, 13=completed certificate or diploma and 14=completed university degree or above. Note that Nigeria and Facebook projects have only categorical variable for education and "completed primary is coded as 9" and "completed secondary" is coded as 12. Marital status and age bins are added as controls. Married is a dummy variable equal to 1 if the respondent is married/cohabitating, 0 otherwise. Age bins represent dummy variables equal to 1 if the respondent's age belongs to the age cohort which ranges from 15 to 65 with a 5 year gap, 0 otherwise. SE skills stands for Socio-emotional skills. PSDM stands for Problem Solving and Decision Making. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

Appendix Table A11: Gender differences in levels of socio-emotional skills-Heterogeneity by transition years in educational attainment

	All	Intra	Inter	Positive Self Concept	Emotional Regulation	Perseverance	Personal Initiative	PSDM	Self Control	Empathy	Expressiveness	Interpersonal Relatedness	Teamwork
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Women	-0.140***	-0.145***	-0.042	-0.064*	-0.060	-0.122***	-0.139***	-0.134***	0.066*	-0.026	0.109	-0.004	-0.088**
	(0.029)	(0.029)	(0.032)	(0.033)	(0.060)	(0.030)	(0.032)	(0.029)	(0.038)	(0.095)	(0.076)	(0.037)	(0.043)
Education attainment	0.028***	0.028***	0.014***	0.008	0.019***	0.022***	0.021***	0.021***	0.012	0.014	0.001	0.018***	-0.010
	(0.004)	(0.004)	(0.004)	(0.006)	(0.005)	(0.004)	(0.005)	(0.004)	(0.009)	(0.012)	(0.011)	(0.004)	(0.012)
Women*Education attainment	-0.002	0.001	-0.006	0.009	-0.000	0.002	-0.003	-0.003	0.006	0.000	-0.014	-0.010*	0.024*
	(0.005)	(0.005)	(0.005)	(0.008)	(0.007)	(0.005)	(0.006)	(0.005)	(0.012)	(0.015)	(0.013)	(0.006)	(0.014)
Ever entered lower secondary	-0.094***	-0.087***	-0.018	0.061	-0.084*	-0.060**	-0.116***	-0.050	0.065	-0.047	0.082	-0.081**	0.236***
	(0.029)	(0.029)	(0.035)	(0.045)	(0.043)	(0.030)	(0.039)	(0.034)	(0.070)	(0.071)	(0.063)	(0.041)	(0.083)
Ever entered senior secondary	0.090***	0.086***	0.045	0.124***	0.077	0.046	0.128***	0.084**	0.016	0.084	0.114**	0.087*	0.066
	(0.028)	(0.028)	(0.041)	(0.032)	(0.047)	(0.029)	(0.043)	(0.037)	(0.047)	(0.063)	(0.054)	(0.046)	(0.075)
Ever entered higher education	-0.003	-0.042	0.084**	0.006	-0.067*	-0.101***	-0.031	-0.006	0.252***	0.159***	0.067*	0.062	0.116**
	(0.027)	(0.026)	(0.033)	(0.031)	(0.039)	(0.027)	(0.038)	(0.036)	(0.068)	(0.055)	(0.037)	(0.039)	(0.055)
Women*Ever entered lower secondary	0.038	0.031	-0.041	-0.065	-0.020	0.027	0.111*	0.012	-0.157*	0.026	-0.033	0.036	-0.335***
	(0.043)	(0.043)	(0.051)	(0.060)	(0.060)	(0.045)	(0.059)	(0.048)	(0.092)	(0.090)	(0.081)	(0.056)	(0.110)
Women*Ever entered senior secondary	-0.041	-0.072*	0.086	-0.055	-0.125*	-0.046	-0.106	-0.065	0.077	-0.032	0.016	0.068	0.025
	(0.043)	(0.043)	(0.062)	(0.049)	(0.067)	(0.044)	(0.067)	(0.056)	(0.072)	(0.083)	(0.073)	(0.066)	(0.117)
Women*Ever entered higher education	-0.000	0.035	-0.081*	-0.056	0.061	0.048	0.121**	0.070	-0.083	-0.162**	-0.033	-0.061	-0.149*
	(0.037)	(0.036)	(0.049)	(0.048)	(0.052)	(0.036)	(0.057)	(0.049)	(0.101)	(0.078)	(0.049)	(0.054)	(0.087)
Observations	41,873	41,834	33,658	25,551	22,573	39,885	22,052	31,959	14,835	8,260	18,866	26,941	13,115
R-squared	0.019	0.020	0.010	0.013	0.013	0.011	0.013	0.019	0.015	0.013	0.007	0.008	0.013
P-val Education+Female*Education	0.000	0.000	0.0760	0.002	0.002	0.000	0.001	0.000	0.0240	0.126	0.0620	0.102	0.119
P-val Lower Secondary+Lower Secondary*Female	0.115	0.122	0.153	0.941	0.030	0.384	0.916	0.324	0.138	0.730	0.365	0.296	0.198
P-val Senior Secondary+Senior Secondary*Female	0.149	0.673	0.005	0.059	0.329	0.998	0.679	0.654	0.092	0.343	0.008	0.001	0.322
P-val Higher+Higher*Female	0.927	0.823	0.949	0.199	0.884	0.098	0.068	0.131	0.037	0.959	0.371	0.990	0.621
Mean SE skills for Men	0.133	0.117	0.124	0.062	0.0670	0.099	0.100	0.126	-0.009	0.078	0.107	0.088	0.139
Mean SE skills for Women	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Note: OLS regression specifications control for age and include study fixed effects. All studies have equal weights. Women is a dummy variable equal to 1 if the respondent is a woman, 0 otherwise. Education stands for the highest educational attainment (completed) where 0=No education, 1=completed grade 1, 2=completed grade 2, … 12=completed highschool, 13=completed certificate or diploma and 14=completed university degree or above. Note that Nigeria and Facebook projects have only categorical variable for education and "completed primary is coded as 9" and "completed secondary" is coded as 12. Ever entered lower secondary, senior secondary and higher education, is a dummy variable equal to 1 if the respondent ever entered the respective grades, 0 otherwise. Age bins and marital status are added as controls. Married is a dummy variable equal to 1 if the respondent is married/cohabitating, 0 otherwise. Age bins are added as controls. Age bins represent dummy variables equal to 1 if the respondent's age belongs to the age cohort which ranges from 15 to 65 with a 5 year gap, o otherwise. SE skills stands for Socio-emotional skills. PSDM stands for Problem Solving and Decision Making. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.