Supportive Relationships Promote Social-Emotional Skills and Work Readiness Among Rural Out-of-School African Youth

PETER C. SCALES[1], NIKHIT D'S.A[2], ED.D., ELIEL T. GEBRU[3], DENVER AND CHEN-YU WU[4]

ABSTRACT

Improving the work readiness of youth in the developing world is a crucial international priority. The current study examined how youths' experience of supportive developmental relationships can contribute to that goal. We examined how relationships and social-emotional skills were related to work readiness and socioeconomic outcomes in a multi-year positive youth economic development program for youth ages 12-18 in rural Burkina Faso, Egypt, Ethiopia, Malawi, and Uganda. Nearly all work readiness and socioeconomic outcomes in each country improved from pretest to posttest. Structural equation modeling and multiple regression analyses showed that youth with better developmental relationships with parents, peers, and other adults had higher post-program levels of internal social-emotional strengths (e.g., commitment to learning, positive identity). These in turn were related to higher post-program levels of work readiness skills (e.g., literacy, numeracy, financial literacy, self-employment skills) and some socioeconomic outcomes (savings and access to credit). These results suggest that youths' access to supportive relationships may have contributed to increases in their work readiness and socioeconomic condition.

Key words: positive youth development, developmental relationships, work readiness, African youth, socioeconomic outcomes

[1] Peter C. Scales, Ph.D., Search Institute*, Minneapolis, MN USA, 940 Chestnut Ridge Road, Manchester, MO 63021; scalespc@search-institute.org
[2] Nikhit D'Sa, Ed.D., University of Notre Dame, IN USA
[3] Eliel T. Gebru, Colorado Health Foundation, Denver, CO, MN USA
[4] Chen-Yu Wu, Search Institute, Minneapolis, MN USA

Introduction

About 89 million youth between the ages of 12-24 are part of a growing cohort of out-of-school youth, approximately half of whom live in Sub-Saharan Africa (Inoue, Di Gropello, Taylor, & Gresham, 2015). However, many out-of-school rural youth face limited formal socioeconomic opportunities, are often unable to access systems and structures (such as quality formal education or the formal economy; J-PAL, 2013), and lack foundational skills and supports that could help them to pursue the futures they envisage for themselves (UNESCO, 2012). In rural contexts, many young people have significant responsibilities in their homes, family farms, or family businesses; they may also move in and out of different informal experiences and seek income from a variety of sources. However, many of these youth are unable to find pathways out of poverty or are unable to explore social and economic opportunities to realize their goals (ILO, 2015).

Youth under the age of 18 are especially vulnerable; being under the recognized age of majority in most countries, they are often at risk of being engaged in hazardous work (FAO, 2016). However, this stage in life is typically decisive in how youth will transition from school to work and for the likelihood of transiting out of poverty. Many youth in the majority world are already out of school and are trying to provide for themselves and their families (International Labour Organization, 2017).

These dynamics operate to a considerable degree in the five countries that are the focus of the current paper: Burkina Faso, Egypt, Ethiopia, Malawi, and Uganda. For example, Burkina Faso is home to a young population; about 33% of the population is between 10-24 years with the median age being 17 years (UNFPA, 2020). A majority of the population in Burkina Faso live in rural areas of the country, and a majority of employed youth work in the agricultural sector (Unpublished market assessment,

Save the Children, 2015). In Ethiopia, 40% of the ~90 million Ethiopians are under the age of 15 years while ~70% of the populations is under the age of 30 years (UNFPA, 2020b). And this youth bulge is projected to remain at this level as the population grows to ~127 million by 2037. This youth bulge is accompanied by a low rate of unemployment of youth (15-24 years) in Ethiopia, with some projections noting a youth unemployment rate of 4% in 2014 (World Bank, 2020). Youth unemployment is more prevalent in urban areas compared to rural areas; however, the youth unemployment rates in rural areas is confounded by the high rates of underemployment for rural youth (LIO, 2015b). Similarly, Egypt has a very young population; 26% of the population is between 10-24 years of age (UNFPA, 2020c). Additionally, the unemployment rate among youth between the ages of 15-24 was close to 30% (World Bank, 2020b). In Malawi and Uganda, the figures are even more striking: Both countries are home to young populations; two-thirds of the population is each country is under 25 years and approximately 35% of the population is between 10-24 years (UNFPA, 2020d). Additionally, in Uganda, decades-long armed conflict through 2007 has created a long-lasting impact, especially in Northern Uganda, of early school dropout or irregular attendance (especially among girls), mental and physical health problems in families, and poverty rates from 25%-50% depending on the region of the country (Atim et al., 2019).

Drawing on ecological systems theory from developmental science (Bronfenbrenner, 1977; Bronfenbrenner & Morris, 1988), youth work readiness researchers, practitioners, and policymakers have started focusing on the settings that support youth to develop positively, enabling them to experience and navigate decent work. This research is concerned not only with young people acquiring transferable skills, but also how to strengthen the *contexts* in which young people develop, particularly the quality of *relationships* young people experience

in their families, schools, communities, and peer groups (Benson et al., 2011; Scales et al., 2017). From this developmental perspective, workforce readiness is not simply a matter of preparing the individual with skills, but also involves shaping environments to promote broad well-being that supports the acquisition and/or development of particular skills relevant for work success, such as social-emotional skills. These realizations about the need to better align youth workforce readiness efforts and developmental science are an inherent part of the United Nation's 2030 Agenda and its articulation of 17 Sustainable Development Goals (D'Sa et al., 2018; Verma & Petersen, 2018).

In addition, contemporary approaches to youth work readiness increasingly recognize the need to leverage youth strengths rather than only focusing on deficits holding youth back. From a human development perspective, this draws on the framework of Positive Youth Development (PYD). PYD developed as a response by practitioners who believed that only addressing deficits ignored the developmental strengths that individuals possessed; they wanted to "focus on young people's strengths, skills, and possibilities" (Benson et al.,2006, p.1). PYD is not intended to replace a problem-reduction approach, but rather to supplement it and provide a broader, more universal strength-building perspective in which specific prevention and problem-reduction actions can become even more effective. A PYD approach assumes that all youth, not just those considered "at-risk," are inherently capable of positive growth and development, and should be part of programming (Benson et al., 2006). More importantly, youth are considered resources to be tapped for advancing their own positive development, not simply passive receivers of prevention programs or policies.

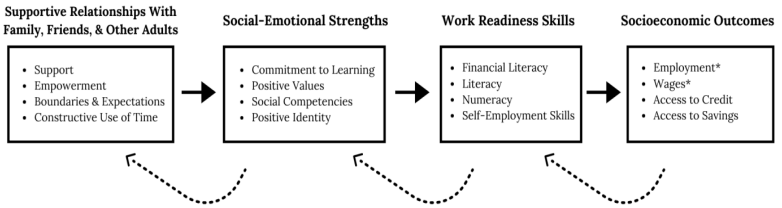
A primary feature of a supportive and enabling environment is youths' experience of *developmental relationships* (Pekel et al., 2018; Scales et al., 2019). Developmental relationships are close

connections through which young people discover who they are (their identity), cultivate abilities to shape their own lives (agency), and engage with and contribute to the world around them (contributions and connections to community). Specifically, in these relationships, young people experience care and support, are challenged to grow and improve, are helped to expand their possibilities, and are empowered to influence the course of their own lives (Pekel et al., 2018).

In this paper, we examined whether the developmental relationships of African youth participants in a youth economic development program helped them to build skills that could potentially improve their socioeconomic condition. Considerable research has confirmed the critical importance of these relationships in and outside the family in young people's lives (Heckman & Kautz, 2013; Li & Julian, 2012; Pekel et al., 2018). However, most of the research has been conducted in Western countries, and how relationships affect the work readiness and socioeconomic condition of youth has not been as well studied as the effect of positive relationships on academic achievement, and social and psychological well-being (see Pekel et al., 2018, and Scales et al., 2019 for more). Our study thus contributes to the literature by looking at the associations of supportive relationships with key work readiness skills, including social-emotional competencies, foundational academic skills, financial awareness and competence, and self-employment skills, among a large sample of rural, out of school, poor African youth. Our primary interest was in the relationships among those variables over time, and not in evaluating the impact of the youth economic development program in which those youth were enrolled.

Figure 1 displays our theoretical framework. In this framework, the quality of young people's supportive relationships with family, peers, and other adults outside the family (e.g., teachers, mentors, neighbors) is seen as indirectly affecting their

Figure 1. *Theoretical Model Linking Supportive Relationships with Socioeconomic Outcomes*



*Changes in employment and wages could not be measured in this longitudinal study because, by design, Youth in Action participants overwhelmingly were unemployed at the start of the program. Thus, access to credit and savings were the two socioeconomic outcomes measured.
Note: The dotted arrows represent recursive paths that are part of the theoretical model but not investigated in this paper.

socioeconomic condition. These developmentally-influential relationships are theorized to have such effects by enhancing young people's social-emotional strengths, such as positive values (for example, the importance of responsibility, or being a caring person) and social competencies (for example, communication skills, and planning and decision-making skills). Those social-emotional strengths are conceptualized to have a positive effect on young people's work readiness skills (including financial literacy and positive assessment of one's self-employment readiness), which more directly then affect socioeconomic outcomes such as employment, and access to credit and savings. Previous research has shown that youths' internal, social-emotional strengths are related to the effort they expend on school and learning, developing stronger supportive relationships with others, and being more effective problem solvers (e.g., Durlak et al., 2011), all of which should positively affect youth acquiring the various work readiness skills.

Although the program described in this paper, the Youth in Action initiative (YiA), did not explicitly focus on strengthening youths' relationships as a program priority, the structure did still provide

multiple opportunities for participants' supportive social ecology to be strengthened, as well as for the youth to acquire individual work readiness skills.

The Youth in Action Program

YiA was a six-year program implemented by Save the Children in partnership with MasterCard Foundation, from 2013-2019. The goal of YiA was to improve the socioeconomic status of around 40,000 out-of-school young people (12-18 years), both girls and boys, in rural Burkina Faso, Egypt, Ethiopia, Malawi, and Uganda. The program's intent was to achieve this goal by enhancing youths' foundational skills and social assets, facilitating their action in livelihoods opportunities, and building key partnerships to remove barriers to youth's participation in their economies and communities. The countries were selected because they have very young populations (roughly 60%-80% under age 30) and high unemployment among youth ages 15-24, as well as under-employment among rural youth (UNFPA, 2013).

YiA supported youth to identify and explore livelihood opportunities through a combination of non-formal education and practice-oriented learning experiences. For many youth, these livelihood opportunities are grounded in agricultural value chains or agri-business. While there is a wide array of programs focusing on education for out of school youth or on youth employment, very few incorporate employability, social relationship assets, literacy, numeracy, financial literacy, and real-life experience. YiA integrated all of those into a participatory learning cycle, designed to increase livelihoods opportunities of youth in these Low and Middle-Income Countries (LMICs) through the acquisition of a broad spectrum of foundational and work-readiness skills and enhancing how supportive young people's relational environments are for their acquisition of such skills.

Table 1

Overview of YiA Program across Countries

	Burkina Faso	Egypt	Ethiopia	Malawi	Uganda
Phases	Selection, Learning, Action	Selection, Learning, Action	Selection, Learning, Action	Selection, Learning, Action	Selection, Learning, Action
Cohort Duration	7 months	8 months	9 months	7 months	8 months
Target Ages	14-18	12-18	14-18	15-18	12-18
Target Number of Youth	4,500	8,200	9,050	7,050	11,050
Financial Stipend Distributed	US $94/youth	US $100 for youth ages 15 - 18; US $70 for youth ages 12 - 14	Us $230/youth	US $90/youth	US $94/youth
Pretest	March-June 2017	Sept.-Aug. 2016	March-June 2016	March 2017	April-May 2016
Posttest	Oct. 2017	April-May 2017	April-May 2017	Oct. 2017	Feb.-March 2017

Table 1 summarizes some of the key program features in each of the countries. In each country, local community advisory groups established by Save the Children and its local partners helped recruit and select youth into the program. Each country followed a three-phase plan. Phase 1 was participant selection, followed by Phase 2, a several-month long curriculum focusing on foundational literacy and numeracy, financial literacy, and transferable skills ranging from business planning to social competencies, and choosing typically either a self-employment or apprenticeship pathway. Phase 3 was the final several-month phase of putting their learning into action as they expanded or started a business.

In each country, there was heavy reliance on connecting youth with successful adults and peers. Creating mentoring relationships was an explicit part of the program in all countries, both with adults who could help them in their business pathway, and with recent YiA program graduates for peer support. Local

facilitators helped them shape their business plans, and youth met numerous adults on field trips to business and through being linked to local village savings and loan associations. Thus, even though YiA did not name "relationships" as a target, the building and strengthening of relationships with positive adults and peers, with a business and entrepreneurship focus, was an integral and pervasive aspect of the program in all countries.

Research Questions

The aim of this study was to understand what changes occurred in a sample of youth who attended the program at a point in the project cycle when the YiA program was functioning as the program designers intended. Thus, we studied cohorts of youth in each country, at a point when the program was at a mature implementation stage, typically, after a half-dozen or more cohorts had gone through the program. Our focus was on three broad questions:

- Were there significant changes in both work readiness and socioeconomic outcomes among YiA program youth?
- How were youths' levels of and changes in developmental relationships associated with work readiness and socioeconomic outcomes?
- Did change in work readiness outcomes predict socioeconomic outcomes?

Method

Participants

Each country implemented multiple cohorts of YiA. In each country, the baseline data were collected from cohorts roughly toward the final third of the total number of cohorts. Matched pre-post samples comprised 804 youth in Burkina Faso (pretest=850),

798 in Egypt (pretest=934), 634 in Ethiopia (pretest=790), 579 in Malawi (pretest=790), and 688 in Uganda (pretest=810). $\bar{X}_{age}$=17 in all countries but Egypt, where $\bar{X}_{age}$=15, with the percentage female ranging from 43% in Malawi to 67% in Burkina Faso. In each country, nearly 100% of youth had last attended schooling more than five months ago, and the majorities (from 58% in Uganda to 92% in Burkina Faso) had neither significant material possessions, nor a job that lasted more than one month over the last year (<30% in all countries). The great majority of the youth said that preschool or primary was the highest level of schooling they had completed. There were no significant differences on these demographic variables between youth in the full pretest samples and those in the matched pre-post samples.

In each country, program recruitment and data collection were complex, both to approximate face validity (albeit not statistical) representativeness, and because of the rural nature of the country and the regions targeted. We use Ethiopia as an example.

The Ethiopia country team used a process of stratified non-random sampling to ensure that the sample contained a representative number of males and females from the four woredas (districts)—Gidan, Guba Lafto, Haburu, and Raya Kobo—in the Amhara Region of Ethiopia where the program was implemented. Additionally, in each woreda, the program mapped the villages and tried to ensure that the YiA learning centers that were selected for the study were from representative villages within that woreda. In each woreda, the team chose representative villages that allowed assessors to collect data in a timely manner and to follow-up with youth who did not show up for data collection. This allowed the team to ensure reasonably high retention in the data collection between pre- and post-testing. Similar complex considerations were present for the recruitment and data collection in the other countries.

Measures

Developmental Relationships. "External," i.e., environmental developmental assets (Benson et al., 2006) served as the operationalized measure for developmental relationships. They are positive experiences, relationships, and encouragement and support young people receive from peers, parents, teachers, neighbors, and other adults in the community. These relational assets include positive role models, boundaries and expectations set for the youth by important others, and opportunities others give youth to play useful roles (examples: "I have good neighbors who care about me," "I feel safe in the village where I live," "I have friends who are good role models for me," "I am engaged in creative activities such as music, or theater, or art"). Alpha reliabilities for the external assets scale ranged from .82 (Egypt) to .94 (Uganda).

Social-Emotional Strengths. "Internal" assets are values, skills, and self-perceptions that reflect positive social-emotional and psychological development in young people. They include strengths such as positive values, positive identity, social competencies, and commitment to learning (examples: "I enjoy reading or being read a book or story," "I help in making my community a better place," "I can plan early and make the right decisions," "When I face challenges or difficulties I overcome it in positive ways"). These social-emotional strengths are "higher-order cognitive and non-cognitive skills that individuals can use to be successful in different situations in work and in life" (Brown, Rankin, Picon, & Cameron, 2015). Also, these skills are malleable and change over time in an individual; they can be taught and learned (Pellegrino & Hilton, 2012). Alpha reliabilities for the internal asset scale ranged from .87 (Egypt) to .95 (Uganda).

Both external and internal assets were measured with the

Developmental Assets Profile (DAP). The DAP contains 58 items, evenly divided between external (relational) and internal assets. The DAP has been shown to have acceptable reliability and validity in numerous studies with youth samples from 30 countries, most in the developing world (Scales, 2011; Scales et al., 2017). Higher DAP scores are consistently correlated with better academic, psychological, social-emotional, and behavioral well-being (Scales et al., 2017).

Work Readiness Outcomes

Financial Literacy. The financial literacy measure was created by Save the Children staff. The score gives an overall sense of youths' comfort managing money, and their perception of their budgeting and saving skills. The financial literacy score is the sum of youth's responses to five questions that focus on how youth budget their money, methods they use to save money and their overall comfort in managing their money. This measure was an index using multiple response sets, not a scale, and so alpha reliability is not relevant.

Literacy. Youth in Action promoted the development of literacy skills for youth at all skill levels, supporting those at the lowest levels with targeted phonics and word-recognition activities, and embedding reading and writing into the duration of the learning sessions. They were also encouraged to seek peer support as well as support from facilitators. Read-alouds and shared reading were regular activities during the learning phase, designed to both foster interests in reading and to allow for practice. In addition, youth had daily, free access to Book Banks. All literacy work was directly linked to the life skills and livelihoods work that formed the foundation of the YiA learning phase. All youth completed a literacy assessment designed and used worldwide by Save the Children when they first entered the program. The assessment measured four components to create an index: the number of

letters the youth could correctly identify, the number of words the youth read correctly within one minute, the percent of a reading passage that the youth read correctly, and the number of comprehension questions the youth answered correctly.

Numeracy. Since financial literacy—namely budgeting and saving—was seen as an important livelihood competency for youth, building youths' capacity to conduct basic numeric functions was seen as necessary for youth to keep budgets and manage their own money. Through the YiA curriculum, youth were helped in building their foundational numeracy skills—counting and numeric functions like addition, subtraction, multiplication, and division. Youth were given opportunities to use these skills through hypothetical and real examples that deal with market interactions and budgeting.

Youth's foundational numeracy was assessed by measures used by Save the Children worldwide that covered the following skills to create an index: Counting (shown 6 numbers and asked to write down the number that comes before or after each number), Oral Counting (same exercise out loud), Operations (addition, subtraction, multiplication, and division questions correctly done within one minute), and Word Problems: single- and multi-step problems that were phrased to reflect livelihood and budgeting issues that youth would be likely to experience in the agricultural labor market.

Self-Employment Skills. Self-employment skills consisted of four questions that asked youth about their perceptions of their ability to identify and develop a viable business plan, their comfort in business negotiations, and their confidence in being able to run a profitable business (examples: “I am able to develop a business plan,” “I am comfortable negotiating prices when buying or selling items”). Alpha reliabilities ranged from .79 (Egypt) to .85 (Ethiopia).

Socioeconomic Outcomes

By design, since the YiA program focused on under-resourced youth, low numbers of youth reported having a job at pretest. This meant that we had limited sample sizes to predict changes in most socioeconomic outcomes between pretest and posttest, because many of those outcomes were based on youth having a job (e.g., hourly wages, and whether work was hazardous or not, etc.). The two outcomes not explicitly dependent on having a job were having adequate savings and access to credit, and so most of the socioeconomic results refer to those two outcomes.

Adequate Savings and Adequate Credit Access. Adequate savings measured youths' self-reported level of savings to cover basic expenses such as groceries, school supplies, clothes, and incidentals, as well as having startup capital to develop a business. Adequate credit access measured youths' ability to obtain adequate credit or loans from either formal or non-formal institutions to cover basic expenses and incidentals, or as startup capital to develop a business. Adequate Savings and Adequate Credit Access are both scales comprised of five items each that were added together (examples: Savings: "I have enough savings to buy the necessary materials to start or develop a business"; Credit: "I can get a formal or informal loan to buy the books or tools necessary for the school"). Alpha reliabilities for Adequate Savings ranged from .79 (Uganda) to .87 (Ethiopia), and for Adequate Access to Credit ranged from .86 (Egypt, Ethiopia, and Uganda) to .90 (Burkina Faso).

Procedure

Surveys were translated from English into the appropriate local language, and back-translated to ensure the original meanings were retained (see AUTHOR (2017) for a detailed description of adaptation and translation processes). Surveys were administered by trained local assessors in Dioula in Burkina Faso, Arabic in

Egypt, Amharic in Ethiopia, Chichewa in Malawi, and Lhukonzo in Uganda. The posttest data were collected between 6-9 months after the pretest data, depending on the country (see Table 1). The baseline data were collected before youth started their full engagement with YiA.

Analysis Plan

The current study used a one-group pre-post design. In consultation with local leaders, the research team determined that it would not be practically or ethically feasible to construct traditional control groups who did not participate in YiA. Thus, to examine how levels of and changes in youths' supportive relationships were related to changes in the work readiness and socioeconomic outcomes, we used two primary forms of analysis.

First, we conducted multiple regressions using change in the work readiness variables to predict the socioeconomic outcomes. A traditional change score (post minus pre score) was entered into the regressions to investigate the impact of increases in work readiness on post-program socioeconomic outcomes. We attempted to enter sex and age as controls in those models but this resulted in models in several countries that could not be run statistically. As an alternative, to determine whether the overall models differed by sex and age groups, we compared the regressions for each country without controls, with regressions then conducted separately within each country's sample for females and males, and, in Egypt (the only country including much younger youth), for youth ages 12-14 and 15-18.

Second, we used Structural Equation Modeling (run in Mplus 7.2; Muthén & Muthén, 2014) to examine the usefulness of models that predicting that the level of youths' developmental relationships (and in the second model, change in relationships scores) would be associated with internal social-emotional strengths, which would predict the work readiness outcomes, and

Table 2

Model fit indices for Path Models Testing Link between Levels of Developmental Relationships to Social Emotional Strengths, Work Readiness Outcomes, and Socioeconomic Outcomes

	Burkina Faso	Egypt	Ethiopia	Malawi	Uganda
χ^2	630.06***	368.24	346.56	332.58	495.11
(df)	(62)	(62)	(62)	(62)	(62)
RMSEA	.11	.08	.09	.09	.10
(90% CI)	(.10 - .11)	(.07 - .09)	(.08 - .09)	(.08 - .10)	(.09 - .11)
CFI	.87	.91	.92	.92	.88
TLI	.75	.83	.85	.84	.78
SRMR	.08	.06	.06	.06	.07

in turn, the socioeconomic outcomes. Path models were tested separately for each country. Given the multiple tests, a stringent significance level of $p \leq .01$ was used.

Results

Overall, Table 2 shows that the levels of developmental relationships predicted social-emotional strengths, which in turn predicted work readiness skills and socioeconomic outcomes, in all countries but Burkina Faso. The strongest results across several fit indexes, including CFI, RMSEA, and SRMR, were found in Egypt, Ethiopia, and Malawi, followed by Uganda.

Were There Significant Changes in Relationships, Work Readiness, and Socioeconomic Outcomes?

Table 3 shows that in all five countries, there were significant improvements in nearly all of the relationships, work readiness, and socioeconomic outcomes from pre- to –post-testing, on most of which youth in every country had low pre-program levels. Developmental relationships and social-emotional strengths significantly increased in each country. In addition, financial literacy, numeracy, self-employment skills, having adequate savings, and having adequate access to credit all improved significantly in each of the five countries. Foundational literacy improved in every country but Uganda.

Table 3

Pre -Post Changes in Youth in Action Means (SDs) for Key Variables

	Burkina Faso		Egypt		Ethiopia		Malawi		Uganda	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Developmental Relationships/ External Assets	19.40 (3.94)	20.61* (3.55)	21.56 (3.80)	24.19* (3.04)	15.23 (5.06)	20.56* (3.92)	21.99 (4.09)	23.04* (3.75)	20.24 (5.62)	23.43* (3.48)
Social -Emotional Strengths/ Internal Assets	21.35 (3.76)	22.38* (3.11)	22.37 (3.94)	24.98* (3.10)	17.01 (5.47)	22.70* (3.72)	22.00 (3.87)	22.86* (3.76)	21.10 (5.30)	24.20* (3.12)
Financial Literacy	2.21 (1.23)	2.89* (1.00)	2.40 (1.19)	3.25* (0.92)	1.98 (1.08)	3.85* (1.10)	2.49 (1.02)	3.42* (0.89)	2.67 (1.16)	3.41* (1.10)
Tangible Assets	2.17 (1.85)	2.81* (1.79)	1.50 (1.59)	2.82* (1.65)	0.78 (1.16)	2.12* (1.65)	2.09 (1.80)	3.22* (1.80)	0.25 (0.72)	0.93* (1.36)
Literacy	0.38 (1.13)	1.81* (2.00)	0.91 (1.52)	2.79* (2.07)	2.18 (1.69)	2.85* (1.59)	2.84 (2.23)	3.32* (2.12)	2.57 (2.17)	2.58 (2.18)
Numeracy	0.36 (0.20)	0.53* (0.18)	0.40 (0.20)	0.59* (0.18)	0.45 (0.20)	0.54* (0.19)	0.45 (0.18)	0.49* (0.18)	0.45 (0.18)	0.54* (0.18)
Self -Employment Skills	0.18 (0.38)	0.46* (0.50)	0.33 (0.47)	0.74* (0.44)	0.24 (0.43)	0.80* (0.40)	0.65 (0.48)	0.82* (0.38)	0.61 (0.49)	0.92* (0.27)
Daily Rate for Work	1.84 (1.01)	1.46* (0.89)	1.87 (0.68)	1.90* (0.72)	2.24 (0.89)	2.32 (0.97)	2.12 (1.10)	2.75* (1.17)	1.92 (0.89)	2.69 (1.06)
Hours Worked per Week	3.18 (1.13)	3.33 (0.98)	3.97 (0.88)	3.11* (1.06)	3.77 (1.00)	3.57 (0.92)	2.90 (0.91)	2.96 (0.90)	3.50 (0.58)	3.27 (1.02)
Adequate Savings	1.02 (1.44)	1.35* (1.70)	1.49 (1.73)	3.16* (1.83)	0.21 (0.77)	1.86* (1.80)	1.03 (1.50)	2.62* (1.88)	0.07 (0.35)	0.66* (1.27)
Adequate Access to Credit	0.57 (1.20)	0.78* (1.43)	1.23 (1.60)	2.22* (1.99)	0.46 (1.07)	1.78* (1.85)	1.18 (1.71)	2.15* (1.99)	0.14 (0.58)	0.81* (1.40)

*p ≤ .001

The effect sizes of these changes mostly were small (.10-.24), but some were of substantive importance (.25 Standard Deviations (SDs) or greater; What Works Clearinghouse, 2008), and in Ethiopia, the great majority of the pre-post changes met the .25 SDs criterion for being substantively important (details available from authors). But even the smaller effect sizes reflected changes of considerable practical meaning. For example, the percentage reading with comprehension in Egypt jumped from 10% to 50%, and the percent in Ethiopia meeting or exceeding the threshold for developmental relationships and social-emotional strengths that have been shown repeatedly to be linked to better youth well-being (AUTHOR, 2011) rose by 229%, from 17% of youth to 56% of youth (56-17/17).

Table 4

Path Models Testing Link between Levels of Developmental Relationships to Social -Emotional Strengths, Work Readiness Outcomes, and Socioeconomic Outcomes

	Burkina Faso	Egypt	Ethiopia	Malawi	Uganda
DR2					
Commitment to Learning 2	0.666***	0.677***	0.685***	0.706***	0.613***
	(0.024)	(0.026)	(0.027)	(0.028)	(0.030)
Positive Values 2	0.761***	0.759***	0.767***	0.789***	0.750***
	(0.021)	(0.021)	(0.022)	(0.024)	(0.028)
Social Competencies 2	0.711***	0.669***	0.732***	0.733***	0.634***
	(0.025)	(0.026)	(0.023)	(0.027)	(0.030)
Positive Identity 2	0.671***	0.579***	0.685***	0.745***	0.668***
	(0.024)	(0.030)	(0.027)	(0.022)	(0.030)
Commitment to Learning 2					
Financial Literacy 2	0.062	-0.024	0.006	-0.007	0.005
	(0.046)	(0.047)	(0.057)	(0.055)	(0.052)
Tangible Assets 2	-0.002	0.000	0.104*	-0.088	-0.035
	(0.051)	(0.042)	(0.048)	(0.052)	(0.044)
Literacy 2	0.104*	0.041	0.114*	0.374***	0.141**
	(0.052)	(0.049)	(0.055)	(0.052)	(0.046)
Numeracy 2	0.146**	-0.080	0.047	0.285***	0.158**
	(0.052)	(0.045)	(0.055)	(0.054)	(0.059)
Hourly Rate 2	0.228**	-0.127**	0.101	0.259**	-0.014
	(0.081)	(0.044)	(0.064)	(0.089)	(0.099)
Hours Worked 2	-0.073	-0.227***	-0.014	0.122	0.075
	(0.078)	(0.042)	(0.067)	(0.096)	(0.094)
Adequate Savings 2	-0.027	-0.021	0.014	0.030	-0.049
	(0.075)	(0.042)	(0.048)	(0.054)	(0.053)
Credit Access 2	0.009	-0.051	0.020	-0.056	-0.085
	(0.045)	(0.041)	(0.047)	(0.054)	(0.049)
Positive Values 2					
Financial Literacy 2	0.026	0.155**	0.044	0.104	0.086
	(0.050)	(0.050)	(0.068)	(0.066)	(0.056)
Tangible Assets 2	0.089	0.075	-0.018	0.258***	0.238***
	(0.050)	(0.049)	(0.062)	(0.061)	(0.056)
Literacy 2	-0.032	0.002	0.117	-0.111	-0.165**
	(0.058)	(0.055)	(0.062)	(0.060)	(0.055)
Numeracy 2	-0.095	0.042	0.054	-0.040	-0.188**
	(0.056)	(0.057)	(0.064)	(0.063)	(0.060)
Hourly Rate 2	-0.014	-0.032	0.148	-0.224*	0.179
	(0.070)	(0.047)	(0.085)	(0.113)	(0.125)
Hours Worked 2	0.120	-0.009	0.120	-0.198	0.05
	(0.076)	(0.050)	(0.080)	(0.105)	(0.127)
Adequate Savings 2	0.131**	0.201***	0.021	0.140*	0.276***
	(0.046)	(0.050)	(0.059)	(0.064)	(0.049)
Credit Access 2	0.174***	0.217***	-0.011	0.092	0.259***
	(0.046)	(0.050)	(0.058)	(0.063)	(0.051)

	Burkina Faso	Egypt	Ethiopia	Malawi	Uganda
Social Competencies 2					
Financial Literacy 2	0.072	-0.092	-0.006	0.050	0.012
	(0.053)	(0.052)	(0.066)	(0.068)	(0.055)
Tangible Assets 2	0.127*	0.033	0.109	-0.099	-0.037
	(0.055)	(0.055)	(0.065)	(0.058)	(0.061)
Literacy 2	-0.110	-0.079	-0.139*	-0.035	0.108
	(0.058)	(0.050)	(0.061)	(0.058)	(0.057)
Numeracy 2	-0.054	0.081	-0.054	-0.031	0.027
	(0.055)	(0.052)	(0.065)	(0.066)	(0.063)
Hourly Rate 2	-0.089	0.003	-0.154	0.047	-0.186
	(0.076)	(0.051)	(0.079)	(0.119)	(0.115)
Hours Worked 2	-0.019	0.012	-0.051	0.093	-0.099
	(0.077)	(0.051)	(0.074)	(0.114)	(0.109)
Adequate Savings 2	0.085	0.009	0.126*	-0.062	-0.067
	(0.052)	(0.055)	(0.058)	(0.063)	(0.052)
Credit Access 2	-0.004	0.009	0.191***	0.007	-0.008
	(0.050)	(0.051)	(0.057)	(0.060)	(0.058)
Positive Identity 2					
Financial Literacy 2	0.035	0.140***	0.072	-0.039	0.066
	(0.050)	(0.043)	(0.058)	(0.056)	(0.050)
Tangible Assets 2	0.042	0.173***	0.022	0.178***	0.067
	(0.049)	(0.044)	(0.054)	(0.053)	(0.044)
Literacy 2	0.106*	0.082	-0.007	0.039	0.020
	(0.048)	(0.046)	(0.054)	(0.056)	(0.049)
Numeracy 2	0.082	0.084	0.006	-0.004	0.005
	(0.051)	(0.048)	(0.056)	(0.061)	(0.052)
Hourly Rate 2	-0.053	0.125**	0.214**	0.017	0.068
	(0.073)	(0.045)	(0.069)	(0.101)	(0.091)
Hours Worked 2	-0.022	0.095*	0.115	-0.087	0.073
	(0.072)	(0.047)	(0.067)	(0.097)	(0.090)
Adequate Savings 2	0.067	0.143***	0.066	0.130*	0.074
	(0.044)	(0.043)	(0.053)	(0.057)	(0.044)
Credit Access 2	0.077	0.059	0.052	0.135*	0.071
	(0.044)	(0.044)	(0.051)	(0.055)	(0.045)

Note . Standardized path coefficients (STDYX) reported (S.E. in parentheses).
*p≤.05, **p≤.01, ***p≤.001
Variables omitted for non -normality(?):
Self-Employment Skills & Teamwork Drive from work readiness outcomes
Productive Employment & Hazardous Em ployment from socioeconomic outcomes
DR2 factor loadings and correlations between outcomes are not reported in this table.

How Were Youths' Levels of and Changes in Developmental Relationships Associated with Work Readiness and Socioeconomic Outcomes?

Path analysis results (Table 4, and Figure 2) show that the level of developmental relationships at post-test was associated, in all countries, with improvements in several work readiness outcomes.

These effects largely were indirect: Improved developmental relationships led to improved social-emotional strengths (i.e., the internal assets of commitment to learning, positive values, social competencies, and positive identity). These internal assets, in turn, were linked to improvements in youths' savings and access to credit.

Among the five countries, these paths seemed especially pervasive in Egypt, Ethiopia, and Malawi, and for the work readiness outcomes of literacy, numeracy, and financial literacy. Similar results were found using change in developmental relationships to predict *change* in internal strengths, work readiness, and socioeconomic outcomes (interpretive summary in Table 5, for space reasons available from authors).

Did Change in Work Readiness Predict Change in Socioeconomic Outcomes?

The regression results paralleled the Structural Equation Modeling results. The regressions showed that, in all countries, change in at least one work readiness outcome predicted higher levels of at least one socioeconomic outcome (for space reasons, available from authors: Table 6 shows illustrative data for adequate savings, and Table 7 provides a full interpretive summary).

Table 5

Summary of Path Model Results Linking Level of Developmental Relationships and Change in Developmental Relationships to Social-Emotional Strengths, Work Readiness, and Socioeconomic Outcomes

		Burkina Faso	Egypt	Ethiopia	Malawi	Uganda
Commitment to Learning	*Tangible Assets			T2DR, ΔDR		
	*Literacy	T2DR, ΔDR		T2DR, ΔDR	T2DR, ΔDR	T2DR, ΔDR
	*Numeracy	T2DR, ΔDR			T2DR, ΔDR	T2DR
	*Income	T2DR, ΔDR			T2DR, ΔDR	
Positive Values	*Financial Literacy		T2DR, ΔDR			
	*Tangible Assets				T2DR, ΔDR	T2DR, ΔDR
	*Adequate Savings	T2DR, ΔDR			T2DR, ΔDR	T2DR, ΔDR
	*Adequate Access to Credit	T2DR, ΔDR				T2DR, ΔDR
Social Competencies	*Tangible Assets	T2DR, ΔDR				
	*Adequate Savings			T2DR, ΔDR		
	*Adequate Access to Credit			T2DR, ΔDR		
Positive Identity	*Financial Literacy	T2DR	T2DR, ΔDR			
	*Literacy	T2DR	T2DR, ΔDR			
	*Tangible Assets		T2DR, ΔDR	T2DR, ΔDR	T2DR, ΔDR	
	*Income					
	*Hours Worked		T2DR		T2DR, ΔDR	
	*Adequate Savings		T2DR, ΔDR			
	*Adequate Access to Credit				T2DR, ΔDR	

T2=Level of developmental relationships at Time 2 (post -program), ΔDR=Change in developmental relationships from Time 1 (pre -program) to Time 2 (post -program).

Read table as follows: Example: In Burkina Faso, both the T2 level of developmental relationshi ps and the change T1-T2 in developmental relationships were associated with level of Commitment to Learning at T2, which in turn was linked to T2 levels of literacy, numeracy, and income for YiA program youth.

Table 6

Regressions Using Work Readiness Outcomes to Predict Socioeconomic Outcomes

	Adequate Savings					*Credit Access*				
	Burkina Faso	*Egypt*	*Ethiopia*	*Malawi*	*Uganda*	*Burkina Faso*	*Egypt*	*Ethiopia*	*Malawi*	*Uganda*
Job Status at Baseline	0.65***	0.66***	0.50*	-0.02	0.50*	0.55***	0.70***	0.75***	0.30	0.28
	(0.13)	(0.16)	(0.24)	(0.17)	(0.25)	(0.11)	(0.18)	(0.25)	(0.18)	(0.29)
Male	0.09	0.01	-0.13	-0.38*	-0.16	0.26**	-0.14	-0.01	0.12	-0.01
	(0.12)	(0.14)	(0.15)	(0.17)	(0.10)	(0.10)	(0.15)	(0.16)	(0.18)	(0.11)
Age	0.03	0.02	0.09	-0.01	-0.02	-0.01	-0.07	0.11	-0.10	0.03
	(0.04)	(0.04)	(0.06)	(0.07)	(0.03)	(0.04)	(0.04)	(0.06)	(0.08)	(0.04)
Household Wealth	-0.01	0.02	0.01	-0.05	-0.03	-0.01	0.04	0.01	-0.03	-0.00
	(0.02)	(0.02)	(0.03)	(0.04)	(0.02)	(0.02)	(0.03)	(0.03)	(0.04)	(0.02)
Financial Literacy	0.06	0.13**	0.07	0.13*	0.02	0.05	0.02	0.03	0.15*	0.03
	(0.04)	(0.05)	(0.06)	(0.06)	(0.03)	(0.03)	(0.05)	(0.06)	(0.07)	(0.04)
Tangible Assets	0.39***	0.42***	0.83***	0.66***	1.28***	0.30***	0.53***	0.79***	0.63***	1.31***
	(0.06)	(0.08)	(0.12)	(0.09)	(0.11)	(0.05)	(0.09)	(0.12)	(0.10)	(0.12)
Literacy	0.00	-0.00	0.01*	0.00	-0.00	0.00***	-0.00**	-0.00	0.00	-0.00*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Numeracy	-1.05***	-0.01	-0.42	0.98	0.07	-0.74***	-0.07	-0.98	-0.28	0.52
	(0.27)	(0.34)	(0.53)	(0.62)	(0.27)	(0.23)	(0.37)	(0.55)	(0.67)	(0.31)
Developmental Assets	0.02***	0.03**	0.00	0.01	0.00	0.02**	0.01	0.01	0.01	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Self -Employment Skills	0.26**	0.20	0.21	-0.07	-0.19*	0.21*	0.14	0.33*	0.12	-0.25*
	(0.10)	(0.11)	(0.15)	(0.15)	(0.09)	(0.08)	(0.12)	(0.15)	(0.16)	(0.11)
Intercept	0.74	2.07***	-0.19	3.04*	1.01	0.85	2.35***	-0.80	3.44**	0.20
	(0.79)	(0.57)	(1.08)	(1.25)	(0.57)	(0.66)	(0.63)	(1.05)	(1.34)	(0.65)
N	762	785	516	481	551	762	785	516	481	551
R^2	.130	.089	.106	.124	.225	.123	.074	.114	.103	.186

*ps<.05; **ps<.01; ***ps<.001 (S.E. in parentheses)

Was There Equitable Change in Developmental Relationships?

Because level of and change in developmental relationships appeared to be a meaningful mechanism promoting improvement in work readiness and socioeconomic outcomes, we conducted a post-hoc analysis to examine whether such improvements were experienced relatively equally by different groups of program youth. In most countries, only about 20% or fewer of youth *neither increased nor decreased* in relationships by at least +/- .25 standard deviations Differences by gender, youth age group, and

Table 7

Summary of Regressions Using Work Readiness Outcomes to Predict Socioeconomic Outcomes

	Burkina Faso	Ethiopia	Uganda	Egypt	Malawi
Δ Numeracy	↑: *hours worked *income *adequate savings *adequate access to credit				
Δ Tangible Assets	↑: *adequate savings *adequate access to credit	↑: *adequate savings *adequate access to credit	↑: *adequate savings *adequate access to credit *has a job	↑: *adequate savings *adequate access to credit	↑: *adequate savings *adequate access to credit ↓: hours worked
Δ Self-Employment Skills		↑: *adequate access to credit		↑: *productive employment	
Δ DAP external and internal assets				↑: *productive employment *adequate savings	
Δ Literacy				↑: *adequate access to credit	↓: *income
Δ Financial Literacy				↑: *adequate access to credit	↑: *adequate savings *adequate access to credit

Figure 1. *Theoretical Model Linking Supportive Relationships with Socioeconomic Outcomes*

number of DHS possessions (above or below the median number of possessions, used as a proxy for socioeconomic status) were relatively small:

- A slightly higher percentage of males than females increased in developmental relationships in Egypt, but somewhat more females did so in Burkina Faso and Ethiopia, and considerably more females increased in these positive relationships in Malawi.

- In three countries—Egypt, Ethiopia, and Uganda—12-14 year olds reported more positive change in developmental relationships, whereas in Burkina Faso and Malawi, 15-18 year olds reported more of an increase, but the differences were small, about 5 percentage points or less.

- By socioeconomic status, youth with *fewer* possessions increased in relationships more than wealthier youth, by relatively small amounts in Burkina Faso, Egypt, and Ethiopia, and by a larger amount in Malawi, while in Uganda youth with *more* possessions increased a meaningful amount more than youth with fewer possessions.

Overall, with some variation by country, it appeared that increases in developmental relationships were greatest for the most economically disadvantaged youth, as the program had targeted, were about the same by age group, and were slightly more among females than males. Females were more likely to be in disadvantaged socioeconomic conditions than males in the participating countries, and so the slight advantage for females in relationships gains also may have helped to address this disparity.

Discussion

In addition to providing rural, out-of-school African youth with small conditional stipends and training in basic literacy and numeracy skills, the YiA program also attempted to positively influence their supportive relationships and opportunities as a means of enhancing their work readiness. Overall, the pre-program data suggested that the majority of YiA participants did not have the developmental relationships and social-emotional strengths, or other work readiness skills (e.g., literacy and numeracy, financial literacy, self-employment skills) that could help them improve their workforce participation and economic well-being. Not surprisingly then, few reported working in the last year, and among those who did, their economic returns were generally meager and their working conditions were generally hazardous.

By post-program, however, there were meaningful improvements across the countries in developmental relationships, social-emotional strengths such as commitment to learning and positive identity, work readiness skills, and adequate savings and access to credit, the two socioeconomic outcomes that could be measured with confidence. Youth who improved in their developmental relationships were also significantly better post-program on social-emotional strengths, and those social-emotional strengths were in turn related to better levels of some of the other work readiness skills, and to more adequate savings and access to credit.

These results suggest several conclusions. First, the YiA program appeared to be selecting the intended youth into the program. Program youth were, on average, those who at baseline did not have the foundational academic skills, work readiness skills, social-emotional strengths, or supportive relationships to generate adequate income. That is, the program reached its

intended target group. Moreover, increases in developmental relationships appeared to be greatest in most countries among relatively lower SES youth, again suggesting that the program enhanced relationships and resources for the most disadvantaged youth.

Second, on average, youth in YiA significantly improved in their supportive relationships, social-emotional strengths, other work readiness skills, and socioeconomic outcomes. Despite the lack of a control group, there is little question that YiA youth were significantly better off in all outcomes after the program than before.

Third, one pathway for the possible improvement in social-emotional skills, financial literacy, numeracy, and self-employment skills appears to be through improved developmental relationships, reflecting the support youth experience from family and others, the empowerment opportunities they have, the guidance, expectations, and role models that provide both encouragement and boundaries for them, and how constructively they use their time. YiA youth who had higher post-program levels of those relational assets or who improved from pre- to post-program in those relationships also improved in their social-emotional strengths. That improvement in social-emotional strengths led to improvements in other work readiness outcomes like financial literacy, numeracy, and self-employment skills, and to adequate savings, and access to credit.

The YiA program made a significant and intentional investment in strengthening relationships, even though they did not describe "relationships" as a target. Relationships with family, peers, community and village members, mentors in their livelihood field, previous YiA graduates, apprenticeship supervisors, and banking and credit professionals all were mobilized in the program. The results of our study suggest that investment in

relationships was well-founded.

A recent study from the Brookings Institution and Child Trends (Ross et al., 2018) found that positive relationships with adults were a defining feature of programs for adolescents that successfully prepared disadvantaged teenagers in the United States for high-quality jobs, and called for more research on the role of positive relationships in employment and training programs. The current study suggests that emphasis on relationships was helpful in the youth work readiness efforts in these Low- and Middle-Income Countries as well.

Thus, improvement in the levels of support, empowerment, role modeling, and high expectations youth experienced, as well as gains in their own social-emotional strengths such as commitment to learning, positive values, social competencies, and positive identity, appeared to play an important role in the YiA program youths' paths to improved socioeconomic conditions and prospects. These findings are consistent with both the extensive literature over the last several decades on how positive relationships promote youth well-being (Pekel et al., 2018), and with more recent studies using much more comprehensive measures of developmental relationships than are typical in that literature or used in the current study (e.g., Scales et al., 2019).

For example, developmental relationships among students and teachers in school settings appear to directly promote outcomes such as academic motivation, a sense of connectedness to school, and students' perceptions of the quality of their instruction, but indirectly promote outcomes such as GPA through their effects on motivation (Scales et al., 2019). That indirect effect of relationships also was the predominant path we found in the current study, with developmental relationships promoting internal social-emotional strengths, which were the more immediate contributors to other work readiness and

socioeconomic outcomes.

The current study thus confirms that the path of how relationships and opportunities contribute to more ultimate outcomes may often not be direct but rather through the effects that those supportive relationships have on youths' social, emotional, and psychological strengths.

The current study also extends that finding about how relationships operate from samples of suburban middle and high school students in the U.S. to samples of rural, out-of-school, economically disadvantaged youth in Africa. The value of youth experiencing these developmental relationships and social-emotional strengths for work readiness, education, violence mitigation, and civic engagement has been suggested by extensive studies in more than 30 countries, but those studies largely have been correlational (Scales et al., 2017). The current study's longitudinal design extends that previous research by providing a more clear examination of the possible path over time through which youth experiencing positive relationships achieve those positive results.

Limitations

There are some limitations in these data, both country-specific and study-wide. For example, an important limitation was the low number of youth who reported having a job at pretest. Although this was expected given the kinds of youth the program hoped to recruit, this also meant that there were limits to the strength of association that could be seen between relationships and socioeconomic and work readiness outcomes, and to the changes in those outcomes that could be examined. Thus, we could only examine with confidence the adequacy of savings and access to credit as indicators of socioeconomic outcomes.

In Uganda, youth also reported sufficiently high pretest levels on

some of the variables (for example, self-employment skills), that there was a ceiling effect on what change could be seen at post-test. That is, there was simply less room for growth on some of these variables, and so there was less chance to connect changes in those variables to levels or changes in relationships, social-emotional strengths, and the other work readiness skills.

A broader limitation across countries was that, except for the Literacy and Numeracy assessments, in which youth needed to demonstrate their skills, all the other variables in the study were self-reported by youth; that is, even though the self-report measures were adequately reliable, there were no other more objective indicators of those variables. The data might therefore not be fully accurate if youth responded either in an overly positive or overly negative way.

Nevertheless, studies have shown that youth self-reports tend to be quite valid sources of data, with youth generally seeming to respond without systematic bias (Duckworth & Yeager, 2015; English et al., 2016; Mueller & Gaus, 2015). Likewise, in the current study, except for some positive bias to some of the pretest self-reports in Uganda, after we adopted revised administration procedures to minimize the positive skew found in initial pilot work (see D'Sa et al., 2018), youth did not seem to respond in a systematically positive or negative way. Their responses varied depending on the content of the questions asked, and so we can have greater confidence in the quality of the responses. As a result, these data provide a reasonably clear picture of relationships and associated social-emotional and work readiness variables among out- of-school youth in these five countries.

A final limitation is that the study was not able to include a control group to use as a comparison with the youth in the YiA program. Thus, the inferences about improvements in developmental relationships, social-emotional strengths, and other work

readiness and socioeconomic outcomes do not come with the same level of confidence as would be the case with a true random control trial design.

Conclusion

Despite those limitations, the results of this study suggest that strengthening youths' supportive relationships may, through improving their social-emotional skills, lead to positive changes in some work readiness skills and selected socioeconomic outcomes. Programs that try to build the number and quality of youth's supportive relationships, in other comparable cultural contexts in Africa and elsewhere, may then reasonably expect those improved relationships to be linked to improvements in social-emotional strengths, as well as other work readiness skills and youths' socioeconomic condition, as seen in the current study. The results of the current study may thus serve as an important addition to the tools policymakers, funders, and practitioners have in LMICs to promote the positive development of educationally and economically disadvantaged youth through building their developmental relationships and thereby to strengthen their preparation for productive socioeconomic contribution to their families, communities, and societies.

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