



Developmental Assets and Academic Performance of Adolescents in Ghana, Kenya, and South Africa

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Abstract

Background Overall, youth well-being is crucial, particularly in developmental contexts, such as sub-Saharan Africa, which is experiencing the largest growth in the youth population internationally. The Positive Youth Development (PYD) framework considers the importance of positive experiences, positive relationships and positive environments regarding developmental (further distinguished as internal and external) assets. These assets are important for promoting positive outcomes among youth.

Objective The objective of this study is to examine the importance of developmental assets for academic performance in three sub-Saharan African contexts, represented by Ghana, Kenya, and South Africa.

Method In a cross-sectional study, youth from these three countries completed a questionnaire on sociodemographic measures, such as age, gender, parental education (as a proxy for socioeconomic status), measures of developmental assets and academic performance. We used Analysis of Variance to examine mean differences in developmental assets across countries and academic performance.

Results Results indicated that Ghanaian students reported fewer assets than Kenyan and South African students and that across all countries, adolescents who perform academically better reported more developmental assets, in particular, internal assets.

Conclusion This is one of the few studies, which consider developmental assets within the PYD framework beyond the Western context. While we found that mainly internal assets were associated with academic performance, it is important to reiterate that both internal and external assets are theoretically associated with positive outcomes, such as academic performance. Future research may benefit from testing interventions to improve academic performance in the sub-Saharan African contexts by fostering both types of assets. Research is needed to extend the framework to consider more culturally appropriate and contextually relevant assets.

Keywords Positive youth development · Developmental assets · Academic performance · Sub-Saharan Africa

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Introduction

Nearly a third of the population in Sub-Saharan Africa is youth, and this is estimated to continue increasing in the next several years (Kabiru et al. 2014). Adolescents within these contexts face several socioeconomic difficulties including chronic poverty, HIV/AIDS, social conflict, and difficulties in education (Denison et al. 2017; Fox et al. 2017; Kabiru et al. 2014). Thus, there is a need to understand youth development and the aspects, which may contribute towards it. The limited previous studies on youth in Sub-Saharan African contexts have largely focused on risk factors and negative outcomes. There is a strong shift in paradigm with the advent of the Positive Youth Development (PYD) framework, which is currently emerging in developmental science (Mastern 2014). In light of this, we believe that the application of PYD framework within the sub-Saharan African contexts may provide insights into aspects crucial for understanding adolescent success.

While most research on PYD is primarily considered within Western (North American and Western European) contexts, the objective of the present study is to examine how developmental assets would contribute towards academic performance in three sub-Saharan African contexts: Ghana, Kenya, and South Africa. Consequently, we have a unique opportunity to explore the PYD perspective for the first time in three understudied African contexts as well as to examine its generalizability outside the US.

Youth Development and the Positive Youth Development Framework

Adolescence is essentially a very turbulent period for development (World Health Organization [WHO] 2016). As a stage of rapid growth and maturation between childhood and adulthood, youth are provided with multiple opportunities to explore personal, social and contextual aspects, important for defining themselves (Adams 2014). Physical, social and cognitive changes provide the bases for this transition and present many challenges in their developmental trajectory. With the onset of puberty, sexual, moral and relational aspects play a far greater role in how youth work towards establishing their identities (Seligman and Rider 2012). Essentially, this period of development requires a significant amount of support from parents, teachers, and peers across different contexts, to aid youth in their development and provide them with the psychological tools to navigate the complex society in which they inevitably find themselves.

The PYD framework provides a lens through which youth are considered for their potential rather than a burden on society (Holt 2016). Rooted in the positive psychological domain, PYD focuses on how youth develop positive tenets, which would promote positive outcomes (e.g., academic excellence, sporting achievement) and reduce negative outcomes (e.g., drug use, deviant sexual behavior, and violence) generally associated with this period of development (Leffert et al. 1998). PYD has an important contribution towards well-being and quality of life among youth and young adults (Scales et al. 2006a). With well-being as an important developmental outcome for adolescents, it is clear why developmental assets within the PYD framework would be considered vital for youth thriving (Scales et al. 2000). Developmental assets account for the importance of positive experiences, positive relationships and positive environments in which youth develop (Scales et al. 2006b). These assets are argued to be directly associated with positive outcomes among young people such as academic success (Scales et al. 2000, 2006b).

Developmental Assets and Academic Success

In collaboration with the Search Institute in Minneapolis, USA, Peter Benson outlined 40 developmental assets that reflect two major groups of assets: internal and external (Benson 2007; Search Institute 2011). Internal assets are youth strengths, such as *commitment to learning* (e.g., achievement motivation, and school engagement), *positive values* (e.g., integrity and responsibility), *social competencies* (e.g., planning, decision-making, and resistance skills) and *positive identity* (e.g., self-esteem and a sense of purpose). External assets represent resources that are found in youth contexts. They include, *support* (e.g., family support and caring school climate), *empowerment* (e.g., how the community values youth and community's perception of youth as resources), *boundaries and expectations* (e.g., family boundaries and significant others' expectations of young people), and *constructive use of time* (e.g., in creative activities and youth programs). Consistent with the PYD perspective, youth are more likely to thrive when they have more developmental assets (Benson 2007; Scales et al. 2000). In the few studies that have been done in the African contexts, this association has also been found (e.g., Schwartz et al. 2017; Wium 2017).

Academic success is one of the primary indicators of thriving during adolescence (Scales et al. 2000). It essentially comprises both cognitive and non-cognitive aspects. Beyond merely academic success (cognitive ability, such as GPA—Student grade averages), it also includes non-cognitive aspects of student engagement, perceptions of their behaviors at school, perceptions of friends and family about schooling in general and participation in extracurricular activities (e.g., sports and music) (Chase et al. 2014; Kautz et al. 2014; Shernoff et al. 2014; Smokowski et al. 2016). However, GPA is considered a good indicator of school success and academic performance (Lepp et al. 2014).

There is quite some evidence, predominantly in Western contexts that there are clear links between developmental assets and academic achievement (Scales and Leffert 1999; Scales et al. 2004, 2006a). Scales et al. (2000) found in a US sample of 6000 6th–8th-grade students that developmental assets, such as support, empowerment, commitment to learning and positive values predicted several thriving indicators that included school success. This finding has also been observed in one of the few studies on development assets that involved an African context. Here, developmental assets similar to those studied in the US context were found to be associated with positive outcomes, such as academic achievement among university students in Ghana (Wium 2017). In a more recent longitudinal study, Scales et al. (2006a) assessed academic achievement over time in a US sample and found that students who reported more developmental assets relative to those who reported less assets also registered higher grades. Thus, the link between developmental assets and academic achievement tends to be present in both US and non-US samples.

The Sub-Saharan African Context: Ghana, Kenya, and South Africa

Located in the Western, Eastern and Southern parts of Africa, Ghana, Kenya, and South Africa are very different countries with very different histories. However, they also share quite some similarities. They are developing contexts rated as some of the least affluent countries in the world ranking 173rd, 186th, and 117th, respectively, regarding Gross Domestic Product per Capita at Purchasing Power Parity (Central Intelligence Agency [CIA] 2017). They are all ethnically diverse, predominantly Christian states, where the largest parts of the populations are of Black African descent. In Ghana, the

Ashanti people (48% of the population), in Kenya, the Kikuyu people (22%), and in South Africa, the Zulu people (23%) make up the largest ethnic groups in each of these countries. While there are many different languages used in daily life in each of the countries, English is an official language in all three contexts, due to British colonial rule. It is the only official language in Ghana, shares its official status with Kiswahili in Kenya, and is one of eleven official languages in South Africa (CIA 2017).

Regarding youth in these contexts, in Ghana, an approximately 57% of a population of 27 million is estimated to be under the age of 25 years (with 38% under the age of 15). In Kenya, this is approximately 59% of 48 million (with 40% under the age of 15 years), and in South Africa, this is slightly lower with approximately 46% of 55 million (with 28% under the age of 15 years) under the age of 25 (CIA 2017). Life expectancy at school is estimated to be 12 years in Ghana, 11 years in Kenya, and 13 years in South Africa. In these countries, expenditure on education is 6.2%, 5.9%, and 6.1% of GDP respectively. Youth (between the ages of 15 and 24) unemployment is 12% in Ghana, 22% in Kenya, and 52% in South Africa (The World Bank 2016).

In line with a 2016 Commonwealth report on Youth Development Index (YDI), that reflects five areas of youth engagement: political participation, health and well-being, employment and opportunity, education, and civic participation, Ghana, Kenya and South Africa rank 117, 125 and 126 of 183 countries, respectively. With corresponding YDI overall scores of 0.581, 0.563 and 0.560, these countries are said to have a medium level of youth development. This implies that despite improvement over the years, the socio-economic and political situations that shape the lives of young people in these countries are still far from conducive to their well-being (Commonwealth Secretariat 2016). Given that the three countries present three different regions of Africa with significant social, political and cultural diversity, yet very similar circumstances for youth, a comparative study would allow us to examine similarity and potential differences in PYD across cultural contexts. This is very important in identifying potentially salient points of intervention.

The Present Study

The objective of this study is to examine how developmental assets contribute towards academic performance as a proxy for school success of youth across the three sub-Saharan African countries: Ghana, Kenya, and South Africa. With the largest population of youth in comparison with other regions, and the estimation that this will increase over the next decade, sub-Saharan African youth are caught between being defined as either an asset or a burden (Fox et al. 2016). Faced with many challenges, such as poor health care, access to good education, opportunities for employment, and regional conflicts (Adams and Abubakar 2016; Kabiru et al. 2013), these youth have more to overcome than their counterparts in high income and other low and middle income contexts in order to become full-fledged contributors towards society. With increased evidence of the value of developmental assets for school (academic) success, particularly in Western contexts (Scales and Leffert 1999; Scales et al. 2004, 2006a), we thought important to examine how well this may be applicable in sub-Saharan African contexts where the use of this framework is still in development. We initially have the following research question.

Research Question 1: Can we measure the experience of developmental assets in a reliable and invariant manner across three countries in sub-Saharan Africa?

Considering the reviewed information on countries' GDP, life expectancy at school, expenditure on education and youth development index, all three countries appear to offer a similar developmental environment to young people, although Ghana leads in youth development, according to the Commonwealth report. While we may expect youth in Ghana will report more assets compared to their counterparts in Kenya and South Africa, there is some evidence that youth experience of assets is also comparable across African contexts. Therefore, we additionally considered the following research questions.

Research Question 2: Which developmental assets (Internal or External assets) are mostly reported in Ghana, Kenya, and South Africa?

Research Question 3: Are there significant differences between adolescents from the three sub-Saharan African counties in terms of the experience of developmental assets?

Consequently, the link between the assets and academic performance is expected to be stronger for youth in following the PYD argument that more assets are associated with a higher probability of thriving. Therefore, we also asked

Research Question 4: Is there a positive relationship between the experience of developmental assets and academic performance?

Research Question 5: Would the relationship, above be moderated by country origin?

Method

Participants and Procedure

We collected data as part of a larger project on Positive Youth Development across Countries. In the present study, we focus on the youth data from Sub-Saharan Africa. In total, our sample comprised 792 secondary school students (52% females, $M_{age} = 17.13$ years, $SD = 2.24$), with 428 from Ghana, 180 from Kenya, and 184 from South Africa. Country breakdown of participant demographics is presented in Table 1.

The schools were selected using convenience sampling from the Greater Accra, Central and Volta regions in Ghana, from the Coastal region (Kilifi and Kwale Counties) in Kenya and the greater Johannesburg region in South Africa. Data were collected between 2015 and 2017 from at least four high schools in Kenya and Ghana and three schools in South Africa during school time, and students completed the questionnaire in about 40 min. The original English questionnaire was used, as English is an official language in the study countries. Before data collection, permission was obtained from the schools. The survey was fully anonymized, with no names or identifiers given. Participants in each country received a small fee or token for their participation. In Ghana, the Ethics Committee for Humanities at the University of Ghana approved the study. In Kenya, we obtained ethical clearance from the Internal Review Board (IRB) clearance. In South Africa, we obtained the permission of the Gauteng Department of Education and the Regional District Administrators where the data were collected. After that, students were asked to present their parents with parental consent forms to allow them access to participate in the study.

Table 1 Sample descriptive statistics

	Country		
	Ghana	Kenya	South Africa
Mean age (SD)	18.31 (1.91)	16.98 (1.24)	14.55 (1.35)
Gender (female %)	51.64	31.67	70.65
Family structure (%)			
Both parents	46.50	68.33	41.85
Mother only	22.66	19.44	41.85
Other	39.67	11.66	13.59
Living area (%)			
City	58.88	10.56	30.97
Large town	12.14	10.56	14.67
Small town	19.86	36.67	48.91
Village	7.71	40.00	1.63
Socio economic status (SES) (%) ^a			
Low SES	29.44	26.67	36.96
Middle SES	39.25	38.89	40.76
High SES	28.27	29.44	10.87

^aParental education is presented as a proxy for socio economic status (SES)

Measures

Sociodemographic Questionnaire

Before completing the questionnaire, we requested adolescents to provide their gender, age, whether they lived in a village, small or large town or a city, and the highest level of education of both parents (used as a proxy for socioeconomic status).

Developmental Assets

Adolescents were asked to complete an adapted version of the Benson's (2007) 40 assets. These 40 assets were expanded to 51 assets experienced in different contexts (e.g., home and school; see Table 2). Participants indicated the extent to which they experienced each of the assets on a 4 point Likert-type scale ranging from 1 (*not at all or rarely*) to 4 (*extremely or almost always*).

Academic Performance

Students provided their grades. Here we asked them to indicate, "What grades do you earn in school?" to which they could respond whether they obtained 1 (*Mostly below D's*) to 8 (*Mostly A's*) at school.

Table 2 Developmental assets

Internal assets	
Commitment to learning	I am eager to do well at school
	I enjoy learning
	I am trying to learn new things
	I am encouraged to try to do things that might be good for me
	I do my assignment
	I care about my school
	I enjoy reading
Positive values	I think it is important to help other people
	I believe that everybody should be treated equally
	I stand up for what I believe in
	I tell the truth even when it is not easy
	I take responsibility for what I do
	I tell other people what I believe in
	I stay away from tobacco, alcohol, and other drugs
Social competencies	I plan ahead and make good choices
	I build friendships with other people
	I accept people who are different from me
	I am able to resist bad influences or avoid things that are dangerous
	I am able to resolve conflicts without anyone getting hurt
	I am sensitive to the needs and feeling of others
	I express my feelings in proper ways
Positive identity	I feel I have control of my life and future
	I feel good about myself
	I feel that ‘my life has a purpose’
	I feel good about my future
External assets	
Support	I have a family that gives me love and support
	I ask my parents for advice
	I have support from other adults other than my parents
	I have good neighbors who care about me
	I have a school that provides a caring and encouraging environment
	My parents/guardians are actively involved in helping me succeed at school
	I have parents/guardian who are good at talking to me about things
Empowerment	I feel valued and appreciated by others
	I am given useful roles and responsibilities
	I am included in family tasks and decisions
	I feel safe and secure at school
	I have a safe neighborhood
	I feel safe and secure at home

Table 2 (continued)

Expectations and boundaries	I have a family that knows where I am and what I am doing
	I have a school that provides clear rules and consequences
	I have neighbors who help watch out for me
	I have adults who are good role models for me
	I have friends who set good examples for me
	I have teachers who urge me to develop and achieve
	I have a family that provides me with clear rules
	I have a school that enforces rules fairly
	I have parents who urge me to do well in school
	Constructive use of time
I spend time every week in sports, hobby clubs, or organization at school or my community	
I am involved in a church, mosque, or other religious group one or more hours every week	
I go out 2 or fewer nights per week with friends “with nothing special to do”	

Data Analyses Strategy

We started by conducting preliminary analyses, first, assessing differences in sociodemographic variables across countries using Chi square analysis and analyses of variance. Second, we computed developmental assets in a cumulative and additive nature (Benson 2007) and tested measurement invariance across the three sub-Saharan African countries. Measurement invariance was assessed at three levels, configural invariance (i.e., assessing whether the measurement model is similar across countries), metric invariance (i.e., assessing whether the factor scores are similar across countries), and scalar invariance (i.e., assessing whether item intercepts are similar across countries) (He and van de Vijver 2012). This was followed by an analysis of school performance using grades. We followed this assessment with analyses of variance for the relationships between total developmental assets, internal and external developmental assets and countries. In our final analysis we conducted a multi-group path analysis in which we evaluated the relationships between developmental assets and academic performance across countries.

Results

Preliminary Analyses

Sociodemographic Variables

In the preliminary analyses, we first evaluated differences in sociodemographic variables. Chi square analysis indicated significant differences across countries in terms of: (a) gender, $\chi^2(2, N=790)=57.29, p<.001$ with more female participants in South Africa and the least in Kenya; (b) family structure, $\chi^2(4, N=781)=64.01, p<.001$ with most adolescents living with both parents in Kenya; (c) living area, $\chi^2(8, N=781)=243.23, p<.001$, with the most adolescents in Ghana living in the city; and (d) socioeconomic

Table 3 Developmental asset reliabilities (Cronbach's Alpha) per country

	Ghana	Kenya	South Africa
Developmental assets (total)	.90	.90	.88
External developmental assets	.84	.81	.78
Internal developmental assets	.87	.90	.84

Table 4 Measurement invariance of developmental assets across countries (Ghana, Kenya and South Africa)

	χ^2/df	TLI	CFI	ΔCFI	RMSEA	$\Delta\chi^2$	Δdf	AIC	BCC
Configural invariance model	1.73**	.97	.98	–	.03	–	–	248.64	255.06
Metric invariance model	1.88***	.97	.97	.011	.03	31.00**	12	255.65	261.04
Partial metric invariance model	1.71***	.97	.97	.004	.03	14.94***	2	244.70	250.27
Scalar invariance model#	2.43***	.93	.93	.039	.04	86.59**	16	299.29	303.48

TLI Tucker–Lewis index; CFI comparative fit index, RMSEA root mean square of approximation, $\Delta\chi^2$ Chi square difference, AIC akaike information criterion, BCC Browne–Cudeck criterion

#Indicates that even partial scalar invariance has not been achieved

* $p < .05$; ** $p < .01$; *** $p < .001$

status (SES) with parents in Ghana and Kenya being more educated than in South Africa, $\chi^2(4, N=749)=21.90, p < .001$. Analyses of variance indicated that South Africa had the youngest student sample, while Ghana had the oldest student sample, $F(2, 780)=328.93, p < .001, \eta_p^2 = .46$.

Developmental Assets

Similar to previous studies we considered the cumulative and additive nature of developmental assets (Benson 2007). We first established the presence of an asset by recoding data, with students indicating 1 (*not at all or rarely*) or 2 (*somewhat or sometimes*) as an asset being absent (recoded to 0) and 3 (*very or often*) and 4 (*extremely or almost always*) as an asset being present (recoded to 1). We then computed total scores for each participant on all 51 assets and on external (26) and internal (25) assets in order to establish whether this distinction would be more important across countries and in terms of academic performance. We provide Cronbach alpha's for total assets, external assets, and internal assets in Table 3. Cronbach's alphas that ranged from .78 to .90 indicated good internal consistency.

In order to assess invariance, we started out by calculating means for subscales within either Internal (e.g., *commitment to learning* and *positive Identity*) or External (e.g., *support* and *constructive use of time*) assets. We obtained full configural invariance, partial metric invariance (i.e., when metric invariance is not obtained, the worse fitting constraints are released across countries) (He and van de Vijver 2012). *Positive values* were not invariant across countries, however it was still an important indicator of internal assets in all countries. This allowed us to compare correlations and regression weights across countries. We did not obtain (partial) scalar invariance, and therefore we could not confidently compare mean differences across countries. Measurement invariance results can be seen in Table 4. Concerning our first research question, the measurement of developmental assets

was reliable and at least partially metric invariance across the three sub-Saharan African countries.

Next, we wanted to examine whether more assets were experienced in different countries. We computed two-way between group's analyses of variance (ANOVAs) with the country as the independent variable and developmental assets as dependent variables. Three separate two-way ANOVAs indicated that there were significant differences in the experience of developmental assets across countries. As can be seen by the means, standard deviations, *F* statistics, and eta-squares (η^2) presented in Table 5, there were country differences on the total score for developmental assets, external developmental and internal developmental assets. It is evident that internal assets were reported most often in all three countries, which answers research question 2. As we were unable to obtain scalar invariance, even partially, we interpret mean differences across countries cautiously in line with research question 3. In both external, internal and overall developmental assets, Kenya and South Africa scored higher means than Ghana.

Academic Performance

In terms of self-reported grades, Chi square analysis, $\chi^2(14, N=776)=239.49, p < .001$ indicated that students in Ghana reported both the best and the worst grades compared to Kenyans and South Africans. Students from the latter sample reported average grades, whereas Kenyan students reported mainly above average grades. Less than half of students indicated that they obtained Mostly B's (13%), About half B's and A's (18%) or Mostly A's (8%), represented only in Ghana (Mostly B's = 14%, About half B's and A's = 28%, or Mostly A's = 11%) and Kenya (Mostly B's = 25%, About half B's and A's = 11%, or Mostly A's = 6%). Students in South Africa did not indicate grades within these categories.

The Relationship Between Developmental Assets and Academic Performance

In the multigroup path model, we assessed the relationship between internal and external assets as independent variables, grades (i.e., academic performance) as the dependent variable, with age, gender, and (joint) parental education (dummy variables) as

Table 5 Country and grade mean differences for developmental assets

	Developmental assets (total)	External developmental assets	Internal developmental assets
Range	1–51	1–26	1–25
Ghana M (SD)	36.62 (7.82) _a	15.95 (4.93) _a	20.66 (4.07) _a
Kenya M (SD)	39.82 (6.50) _b	17.86 (3.94) _b	21.96 (3.52) _b
South Africa M (SD)	39.51 (6.61) _b	17.7 (3.85) _b	21.81 (3.35) _b
<i>F</i> (2, 768)	20.74***	16.02***	15.62**
η^2	.05	.04	.04

Ghana *n* = 419; Kenya *n* = 174; South Africa *n* = 183

Means with a different subscript are significantly different as determined by Bonferroni post hoc test

p* < .05; *p* < .01; ****p* < .001

Table 6 Fit statistics for multigroup model

Original model	χ^2/df	TLI	CFI	ΔCFI	RMSEA	$\Delta\chi^2$	Δdf
Unconstrained	2.15***	.73	.93		.04	–	–
Structural weights	1.97***	.77	.92	.014	.04	31.05	20
Partial structural weights	1.91***	.78	.93	.006	.03	8.21**	2

Most restrictive model with a good fit is in italics

AGFI adjusted goodness-of-fit index, *TLI* Tucker–Lewis index, *CFI* comparative fit index, *RMSEA* root-mean-square error of approximation

*** $p < .001$

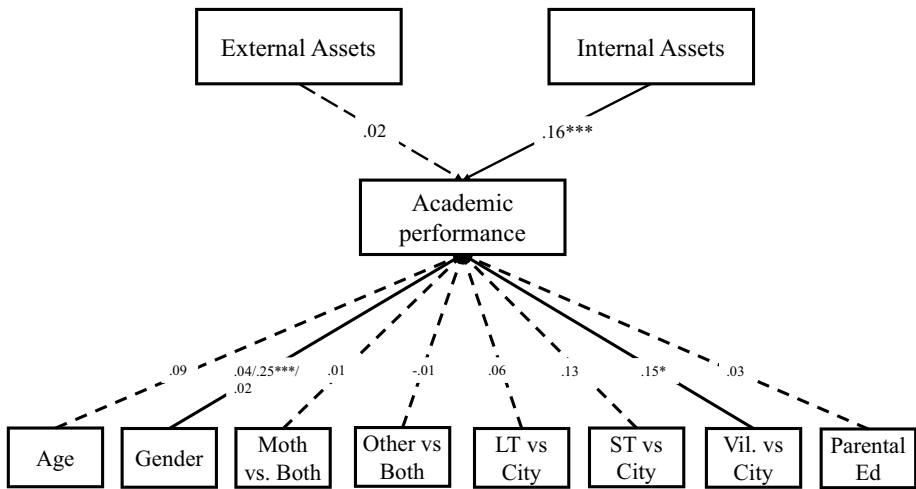


Fig. 1 Internal and external developmental assets and academic performance. *Note.* Moth=Mother; vs.=versus; Other=Other living arrangements; LT=Large Town; ST=Small Town; Vil=Village; Ed=Education; Covariate regressions presented in the following order: Ghana, Kenya, and South Africa. * $p < .05$; ** $p < .01$; *** $p < .001$

control variables. We evaluated nested models at the unconstrained and structural weights levels. Unconstrained model (similar to the configural invariance model in the CFI) indicated that the measurement models are similar across countries. The structural weights model evaluated whether the regression weights are similar across groups. The evaluation of individual paths indicated group (i.e., country) differences in the relationship between gender and grades. After releasing this regression weight across groups, the model fit improved to $\chi^2(66, N=792)=125.85, p < .001, \chi^2/df=1.91, CFI=.93, RMSEA=.03$ in comparison with the unconstrained model ($\Delta CFI=.006$). The partial structural weights model (Table 6) indicates this model improvement (See Milfont and Fischer 2010). In Fig. 1, it is clear that internal assets are similar across countries ($\beta=.16, p < .001$) as an indicator of academic performance, having accounted for all control variables (see research questions 4 and 5). In terms of control variables, students from villages obtained higher grades than students from the city and only in Kenya there were gender differences with girls having higher grades than boys.

Discussion

The objective of this study was to examine how developmental assets are associated with academic performance in Ghana, Kenya, and South Africa, three sub-Saharan African contexts. We were able to measure developmental assets' reliability across all three contexts. Results indicated that Ghanaian students reported fewer assets than Kenyan and South African students do and that across all countries, adolescents with good academic performance reported more developmental assets. We found that while there may be mean differences concerning internal and external assets, students who draw on their internal assets relative to those who do not performed better in school irrespective of the country origin.

Although Ghana leads in youth development (Commonwealth Secretariat 2016), given the similarities across these countries, the lack of difference in how developmental assets inform school performance, may be more important than the mean differences where Ghanaian youth reported less developmental assets than Kenyan and South African youth. While we find support for developmental assets for academic performance in line with previous research in the African context (Schwartz et al. 2017), it is clear, at least in the predominant US studies that students rely more on their own strengths to succeed at school (Benson 2007; Scales et al. 2000). Therefore, a student's commitment to learning, values, social competencies, and identities have a positive association with their school performance.

While developmental assets are mainly studied in US samples, the assets have also been reported in several non-US contexts, such as Albania, Bangladesh, Japan, Lebanon and the Philippines (Scales 2011), Italy, Norway and Turkey (Wiiium et al. 2018), Bulgaria and Kosovo (Wiiium and Uka 2018) and Ghana (Wiiium 2017). The present study is one of the few (e.g., Drescher et al. 2012) reporting the assets among young people in sub-Saharan Africa. Therefore, the present findings extend the universality of the developmental assets. While overall developmental assets are important, internal assets were reported more often than external assets across the three countries, and significant differences in academic performance were only found for their relationship with internal assets. It appears that efforts directed towards youth development in the sub-Saharan African contexts are not adequately targeting the nurturing of external assets, which are equally necessary for positive youth development (Benson 2007).

Some developmental assets, such as engaging in creative activities may involve some expenses although not necessarily so. Many other assets, such as the support system in youth contexts are primarily dependent on the attitude, behaviors, and norms of significant others and communities. These do not involve many expenses although they can be related to the socio-economic status of young people and their caregivers. Thus, while the Gross Domestic Product per Capita of the three sub-Saharan African countries may not match up to that of Western societies, this should not be a limitation for the initiation and facilitation of developmental assets in their contexts.

Limitations and Recommendations

There are several limitations of the present study. First, a few of our participants were older than the usual adolescent groups that have been focused on in studies of the developmental assets. However, previous research has successfully studied the developmental assets where emerging adults, such as those involved in our study have been included (e.g., Drescher

et al. 2012; Scales 2011). Second, our participants are high school students who may not be representative of the youth population in the various countries. It is possible that young people, not in education will report different levels and patterns of developmental assets. In future studies, using a representative sample that also includes young people, not in education, may give a greater insight into the youth population's PYD in these three countries. Third, although participants reported several developmental assets, it is possible that some assets have different significance in the sub-Saharan African contexts. In future studies, there may be a need to carry out mixed methods studies to better define developmental assets and their role in Sub-Saharan Africa.

A particular recommendation we have is that while we controlled for demographic variables, future research may need to consider the moderating effects of these demographic variables and how they impact the relationship between developmental assets and academic performance. Questions that may be of interest is the role of gender and age. In addition, we provided a broader consideration of assets in this manuscript, considering internal and external assets. Future research should consider looking at asset clusters and individual assets and how these relate to academic performance in the African context.

Implications for Policy and Practice

Academic performance is one of the most important developmental outcomes during adolescence. For young people in sub-Saharan Africa, this may be even more important as the success of their future may be very much dependent on it. Although internal assets were reported more often than external assets, young people who reported more assets were also more likely to report better academic performance. Youth policies or initiatives in all three sub-Saharan African contexts will gain from plans and programs that will nurture both internal and external assets equally. It is clear, however, that as internal assets could be linked more clearly with academic performance, policymakers may need to emphasize personal development in their initiatives and programs.

Nurturing internal assets may also lead to the increase in the number of assets that youth in these contexts experience, thereby enhancing their chances of thriving in other areas besides academic performance (Benson 2007). From programs, which emphasize character building, students may find that external assets, such as support and empowerment become more salient, thereby increasing their experience of external assets in the process. One drawback of these initiatives may be the lack of resources for developing such programs. We would, therefore, recommend collaboration between education and business sectors in the various countries to provide the support needed to develop these programs through corporate social responsibility initiatives.

Conclusion

The strengths-based approach to youth development has suggested an association between developmental assets and youth success, mainly in the US. This study extends this literature by considering the value of developmental assets and their association with academic performance in sub-Saharan Africa where youth experience a myriad of challenges. We found that internal assets were reported more often than external assets and that, internal assets were seemingly positively related to academic performance. As both internal and external assets are positively associated with positive outcomes, including academic

outcomes, plans, and programs in the sub-Saharan African contexts may benefit from fostering both types of assets in their respective youth context.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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