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Do Developmental Assets Make a Difference in Majority-World Contexts?

A Preliminary Study of the Relationships Between Developmental Assets and Selected International Development Priorities

EDUCATIONAL QUALITY IMPROVEMENT PROGRAM 3
ENGAGING AND PREPARING YOUTH FOR WORK, CIVIL SOCIETY, AND FAMILY LIFE

Do Developmental Assets Make a Difference in Majority-World Contexts?

A Preliminary Study of the Relationships Between Developmental Assets and Selected International Development Priorities

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BACKGROUND

There is growing recognition that youth programs and interventions will have limited impact if they focus only on risks and vulnerabilities. Strength-based approaches have been found to be empowering and effective in multiple contexts.

Search Institute's framework of Developmental Assets® offers a promising, research-based, culturally adaptable framework, measurement tools, and action guides that bring a positive, holistic development lens to work with children, youth, families, and communities around the world. A number of international agencies have begun to adopt Developmental Assets in their programs and M&E efforts, including EQUIP3 and other programs.

In the past, however, we have not systematically correlated asset scores with outcomes of interest in international development policy. Making these connections is critical to making the case for an asset-based approach to addressing critical challenges among the world's youth.

PURPOSE

The U.S. Agency for International Development, through a sub-award to Search Institute from Education Development Center, initiated this study in order to **document the extent to which developmental assets correlate with international development priorities** among youth in selected developing countries. The results quantify the extent to which assets are associated with key outcomes and provide validated measures for future research and evaluation.

SAMPLE

Working with international partners, we engaged diverse populations of youth (ages 12 – 28) within four developing and/or post-conflict countries: Bangladesh, Honduras, Jordan, and Rwanda. We sought to survey at least 900 youth in each country. Countries were selected in November 2011 based on their readiness and capacity to complete the study. Data were collected through local partners in each participating country.

MEASURES

This study utilized a self-report survey as the data collection tool that was largely standardized across all the participating countries (some variations were approved to ensure cultural validity and appropriateness). It included Search Institute's 58-item *Developmental Assets Profile* (DAP); demographic items; and brief measures of key indicators in each of the following domains:

Economic Growth (workforce/livelihoods development); Peace and Security (violence prevention); and Investing in People (health, education, and civil society).

RESULTS

Extent of Developmental Assets

Across the four countries, mean DAP scores ranged from 36 to 42 out of a possible 60 (Figure 1), meaning that an average of 41% of the youth were experiencing Good or Excellent levels of developmental assets, whereas 59% were experiencing just Fair or even Low levels of assets.

- **Jordan** (N=959 12-18 year olds) had a mean DAP score of 41, which is in the high end of the Fair asset level (predetermined cutoffs divide scores into four groups: Low, Fair, Good, and Excellent). A little more than half, 52%, of the Jordanian youth scored in the Excellent or Good asset levels.

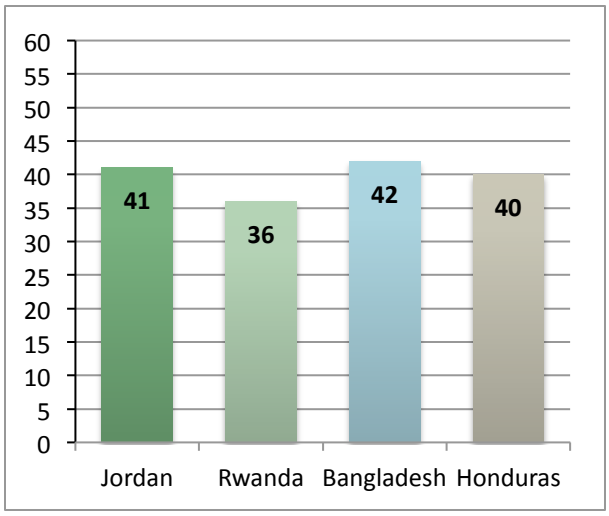

Figure 1. Average DAP Scores, by Country

- The **Rwandan** sample (N=658 16-28 year olds) had an average DAP score of 36, signifying only a Fair level of assets. Just 15% of the Rwandan youth had Excellent or Good levels of developmental assets.
- The **Bangladesh** sample (N=997 12-18 year olds) had an average DAP score of 42; like Jordan's score, this score is in the low part of the Good level of developmental assets. A little more than half the sample, 53%, had Excellent or Good asset levels.
- The **Honduran** sample (N=534 14-25 year olds) had an average DAP score of 40. So, like Jordan, Honduran youth reported an experience of developmental assets in the high part of the Fair level. A little less than half the sample, 45%, had Excellent or Good asset levels.

Commitment to Learning tends to be a relatively stronger asset category (having higher mean scores) across the four countries, and **Constructive Use of Time tends to be a relatively weaker asset category** (having lower mean scores) across the countries. In addition, the family and school settings tend to be relatively stronger asset areas, with the community context being relatively weaker across all four countries.

Extent of Key Sectoral Outcomes

The majority of youth across countries had most of the key sectoral outcomes, except for Workforce/Livelihoods Development. Only about one-fifth of the youth across countries had this outcome. Even when youth and young adults reported working for pay in the last month, significant proportions—from one-quarter to one-third across countries—said their jobs were dangerous and/or kept them from going to school. More than 70% could not make enough money to save for the future.

Link Between Developmental Assets and Key Sectoral Outcomes

A variety of analyses (cross-tabulations, correlations, and analyses of variance) were used to explore the link between assets and outcomes. Simple correlations showed that the developmental assets as reflected by the total DAP score were significantly correlated with *every* outcome in *every* country in these particular samples, with the effect sizes at the country level ranging from the high end of small to the lower end of medium (per Cohen, 1988). The correlations between assets and outcomes were highest for the Workforce/Livelihoods Development, Education, and Promotion of Civil Society outcomes. Figure 2 shows the basic correlations for the *aggregate* sample between the total DAP asset scores and the scores on the five broad outcomes in this study. The effects sizes for the *aggregate* correlations were in the high medium range.

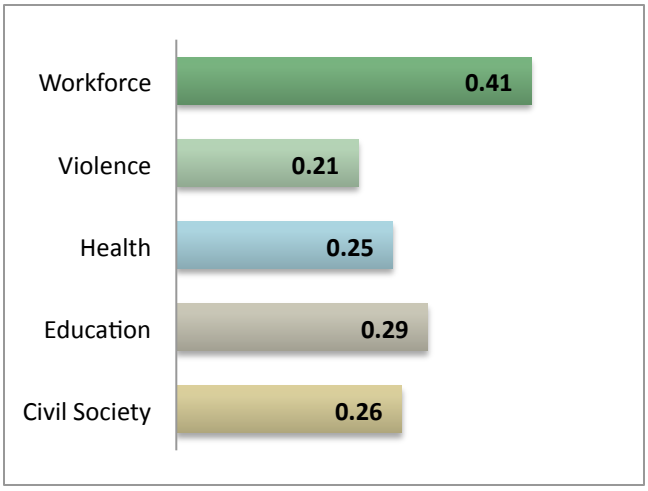

Figure 2. Correlation of total DAP scores and scores on each priority outcome in the aggregate sample

Collectively, the results from a variety of analyses generally show that **higher levels of developmental assets are linked with significantly better well-being outcomes among these large samples of youth,** especially in Bangladesh and Jordan. The assets level-outcomes linkage is significant for several outcomes, although not as consistent, in Honduras and Rwanda. Across the four countries, the level of youths' developmental assets has an especially strong linear relationship to Workforce/ Livelihoods Development, Health Promotion, and Promotion of Civil Society, and a significant but somewhat smaller correlation with Education.

Analyses of variance showed that there was a significant positive link between quartile level of developmental assets and Violence Prevention in Bangladesh and Jordan, with youth at higher asset levels more likely to have the Violence Prevention outcome, but this relationship was not

observed in Honduras or Rwanda. In the latter two countries, a higher level of assets was, contrary to expectations, related to a higher attitudinal acceptance of violence as a conflict resolution strategy. That unexpected relationship adversely affected the overall assets–Violence Prevention association. Even so, higher levels of assets in those two countries were still, as in Bangladesh and Jordan, related to lower levels of reported *actual* engagement in violence.

Analyses using the aggregated sample across countries to examine demographic sub-groups reinforced and expanded on these general conclusions:

- Though there are a small number of correlation differences by demographic sub-group, the great majority of the *differences* in the strength of the assets-outcomes relationship within sub-groups—82% of the correlations—are not significant, suggesting that, with some exceptions, developmental assets appear to "work" similarly across individual differences of gender, age, urbanicity, whether youths' material needs are met or not, and whether or not they and their families were physically safe in the past year.[1]
- The great majority—80%—of the correlations of assets with outcomes by demographic sub-groups are significant and of moderate size, with coefficients being in the .20s-.50s.[2] Only 9 of the 45 correlations are < .20. This suggests that developmental assets have a meaningful association with these positive outcomes for males as well as females, younger and older youth and young adults, city, town, and village dwellers alike, and whether youth experience deprivation or safety or not.

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[1] Different kinds of statistical analyses (e.g., correlations versus analyses of variance) also can yield somewhat different results by sub-groups. But the over-arching conclusion remains that the great majority of the analyses conducted, regardless of the specific statistical technique used, suggest more similar relationships of assets with outcomes across subgroups than they suggest differences.

[2] Depending on the assumptions one makes about the normality of the distribution of two variables, Cohen's (1988) classic work on power analysis defined the meaningfulness of correlation coefficients as follows: Small = .1 to .24-.30 (corresponds to an effect size of .2); medium = .24-.30 to .37-.50 (corresponds to an effect size of .5); and large = .37-.50 and above (corresponds to an effect size of .8). Similarly, the U.S. Department of Education's What Works Clearinghouse defines an effect size of .25 as the cutoff for listing effective programs, noting that this is an effect of "substantive importance" (What Works Clearinghouse, 2008). This corresponds to an r of.124, per Cohen's guidelines. Thus, correlations in the .20s-.30s, which is mostly what we obtained in this study (plus a minority in the .40s and .50s), are in the high end of the small category or the low end of the medium category per Cohen, and all at the level of "substantive importance" as defined by the U.S. Department of Education. In comparison, a review of multiple studies found that teacher effectiveness accounted for between 7% and 21% of the variance in student achievement, which corresponds to an r-value of .26 to .46 (Nye, Konstantopoulos, & Hedges, 2004).

- The developmental assets "work" for *vulnerable* youth in their correlation with positive outcomes as well as they do for more advantaged youth, and sometimes work even more strongly for the more vulnerable youth.

The lesson for policymakers and program developers from these results is that although there are indeed occasional differences in the assets-outcomes correlations among demographic sub-groups, attending to the implications of these should not distract from the larger narrative that generally describes for most sub-groups of youth a consistent positive relationship between levels of developmental assets and these policy priorities.

STUDY LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

This study provides important new data on the connection between developmental assets and key sectoral outcomes in international development. However, the study has several limitations, including:

- It was a cross-sectional study;
- The outcome measures were individually not as strong psychometrically as desirable;
- The samples were not representative of those countries' youth, and, in Honduras and Rwanda, were drawn from workforce development programs, which could have biased the asset correlation with the Workforce/Livelihoods Development outcome[3]; and
- Because two countries sampled an older population over age 18, the assets questions, designed for ages 11-18, may have produced results of less validity for that older age group.

The study suggests several important lines of inquiry for future research:

- Longitudinal studies are needed in order to establish a cause-effect relationship between assets and outcomes. This correlational study suggests that causality is possible, and it has been established among U.S. youth.
- Additional countries should be studied, but with revised outcome measures, including ongoing dialogue about cultural norms, expected youth behaviors, and desired outcomes in

[3] Although the possibility of sample bias should be raised, the evidence suggests it may not be operating very strongly. For example, the assets-Workforce/Livelihoods Development correlation was .42 in Honduras, the second-largest among the countries. But it was .28 in Rwanda, the *lowest* assets-W/LD correlation by country, even though both countries drew their samples from workforce development programs. Moreover, Jordan had the highest assets-W/LD correlation of all at .57, and Bangladesh's asset-W/LD correlation of .34 was larger than Rwanda's at .28, but neither Bangladesh nor Jordan's samples were drawn from workforce development programs.

specific countries and contexts. Better outcome measures will introduce more response variability, and therefore theoretically should provide the opportunity for even stronger assets–outcomes relationships to be seen.

- Countries should be included in research in which data on sexual and reproductive health and developmental assets can be collected, to test the hypothesis that higher levels of assets will be related to better sexual and reproductive health.
- Complementary research would link assets to external measures such as test scores, disciplinary measures, and health indicators to both confirm the reliability of self-reports on the assets and also deepen understanding of the relationships between assets and outcomes.
- Future research should attempt to recruit larger samples than those in this study.
- More targeted studies that focus on specific populations, outcomes, and contexts would also expand understanding of the relationships between specific categories of assets and specific outcomes. In other words, which categories of assets matter most for which outcomes?
- The field would be enriched with robust studies across multiple countries that analyze DAP results in the context of the macroeconomic, political, and social contexts of each country, building evidence regarding how these factors interact with broader social forces
- Instrumentation specifically for both young adults and preteens is needed to expand the range of young people among whom the assets–outcomes relationship can be investigated.
- Finally, ongoing exploration is needed to ensure that the underlying theory and research on developmental assets is relevant and salient for each country and population where it is introduced. The challenge is to balance the value of developing from the ground up culturally specific frameworks and measures against the value of a common framework that may not reflect the real differences between cultures but allows for dialogue, scaling of practices, and aggregation of findings across programs, countries, and contexts.

CONCLUSION

The results provide empirical evidence that the relationship of youth developmental assets to measures of well-being is likely not a culturally limited finding but rather may be a more universal phenomenon. This key finding supports efforts to build developmental assets as a positive youth development strategy more globally.

Until this study, no previous study has shown the direct correlation between youth having higher levels of these developmental assets and better literacy, numeracy, and availability of

human, social, financial, and physical capital to generate income. Thus, this study provides the first empirical evidence of the utility of the developmental assets approach for promoting positive youth development and development of civil society, not just in the developed world, but also in the developing countries where the majority of the world's youth live.

These results show significant linkages between youths' experience of developmental assets, and their well-being as measured by a variety of key economic, educational, health, and social outcomes. Across all four countries and ***for the great majority of demographic subgroups of youth, developmental assets are significantly correlated at meaningful levels of effect size with the five outcomes*** measured in this study. Thus, building developmental assets is important for ***all*** these groups of young people.

1. BACKGROUND TO THE STUDY

There is growing recognition that youth programs and interventions will have limited impact if they focus only on risks and vulnerabilities. Strength-based approaches have been found to be empowering and effective in multiple contexts (see Benson, Scales, Hamilton, & Sesma, 2006). Search Institute's framework of Developmental Assets® offers a promising, research-based, culturally adaptable framework, measurement tools, and action guides that bring a positive, holistic development lens to work with children, youth, families, and communities around the world. Table 1 displays the 40 Developmental Assets.

The asset framework reflects findings from more than 1,400 peer-reviewed studies on factors that are critical to child and youth development, either by preventing or reducing risky behaviors or contributing to positive outcomes or resilience (Scales & Leffert, 2004; Scales, Sesma, & Bolstrom, 2004; also see Benson, 2006; Benson, Scales, Hamilton, & Sesma, 2006). Though many other factors could have been included in the framework, several criteria were used to identify the 40 assets:

- **Research support**—Each asset grows out of a body of scientific literature that shows its positive impact in young people's lives. A synthesis of more than 1,400 relevant research articles and reports concluded that, although the developmental assets framework, like any approach, has areas of both strength and weakness, it is remarkably representative of and consistent with the scientific literature on child and adolescent development (Scales & Leffert, 2004; Scales, Sesma, & Bolstrom, 2004).
- **All youth**—A critical principle that guided the development of the asset framework in the United States was an emphasis on factors that were important for all youth, regardless of background, culture, socioeconomic status, gender, and other differences. Different populations of young people may experience the assets differently and have different patterns of assets, and particular assets may have different meanings depending on the circumstances in which young people live. But the basic experiences are relevant to all youth. The current study extends the question of whether this principle—originally examined in a U. S. context—also holds promise in developing or majority-world countries.
- **Relationships and environments**—The framework focuses on *basic, positive socialization processes,* what we have called the developmental infrastructure, as contrasted with the physical, human services, or economic infrastructure of communities. The latter are, obviously critical and central to foreign assistance programs. In addition, the relationships, social experiences, social environments, interactions, and norms that are the focus of the assets are also key. Thus, human development complements economic and other forms of development; it doesn't replace it.

- **Power to mobilize**—The focus on the socialization processes in young people's lives leads to increased attention to how every person and every institution can contribute to young people's healthy development. Although professionals and programs have important roles to play (and the assets highlight important areas where programs and policies could improve well-being), much of the responsibility and capacity for healthy development is in the hands of family, friends, neighbors, elders, and others in the village, town, or city. Thus, the asset framework attempts to more broadly define what is possible and to motivate people to take steps toward making the possible real. By describing the positive things youth need, the framework gives typical residents more tangible and concrete ideas about what they personally can do.

Numerous U.S. studies, both cross-sectional and longitudinal (in the aggregate involving more than 3.5 million children and youth) have reported that higher levels of Developmental Assets are linked to better academic, psychosocial, and behavioral well-being among samples of upper primary-school children, adolescents, and young adults. Moreover, the pattern of higher levels of assets being related to better well-being is replicated in the United States across diversity in gender, race/ethnicity, urbanicity, and socioeconomic status (Benson, Scales, Roehlkepartain, & Leffert, 2011; Benson, Scales, & Syvertsen, 2011; Scales et al., 2006; Scales et al., 2005).

A number of international agencies have begun to adopt Developmental Assets in their programs and M&E efforts, including EQUIP3 and other programs. Dozens of countries are utilizing the assets approach in some way, and data sets of reasonable size have been developed in a half dozen countries. Analysis to date has suggested that the assets concepts can be rendered into other languages and cultural contexts with high face validity, and with promising to acceptable reliability and convergent validity (Scales, 2011).

Additionally, an in-depth study of an asset-building program in Bangladesh showed that significant increases in developmental assets can be achieved in highly vulnerable youth (rural Bangladeshi girls) over a relatively brief period of time of about 6-9 months (Scales, Benson, Dershem, et al., in press).

If U.S. patterns linking assets to well-being also operate in other countries, then higher levels of assets—and working to build young people's assets—become important policy objectives for promoting the well-being of youth worldwide. To this point, however, we have not systematically correlated asset scores with outcomes of interest in international development policy. Making these connections is a key to making the policy case for a positive approach to addressing critical challenges among the world's young people.

TABLE 1: SEARCH INSTITUTE'S FRAMEWORK OF DEVELOPMENTAL ASSETS

Search Institute has identified the following building blocks of healthy development that help young people grow up healthy, caring, and responsible.

EXTERNAL ASSETS

SUPPORT

1. **Family Support—**Family life provides high levels of love and support.
2. **Positive Family Communication—**Young person and her or his parent(s) communicate positively, and young person is willing to seek advice and counsel from parent(s).
3. **Other Adult Relationships—**Young person receives support from three or more nonparent adults.
4. **Caring Neighborhood—**Young person experiences caring neighbors.
5. **Caring School Climate—**School provides a caring, encouraging environment.
6. **Parent Involvement in Schooling—**Parent(s) are actively involved in helping young person succeed in school.

EMPOWERMENT

7. **Community Values Youth—**Young person perceives that adults in the community value youth.
8. **Youth as Resources—**Young people are given useful roles in the community.
9. **Service to Others—**Young person serves in the community one hour or more per week.
10. **Safety—**Young person feels safe at home, at school, and in the neighborhood.

BOUNDARIES AND EXPECTATIONS

11. **Family Boundaries—**Family has clear rules and consequences and monitors the young person's whereabouts.
12. **School Boundaries—**School provides clear rules and consequences.
13. **Neighborhood Boundaries—**Neighbors take responsibility for monitoring young people's behavior.
14. **Adult Role Models—**Parent(s) and other adults model positive, responsible behavior.
15. **Positive Peer Influence—**Young person's best friends model responsible behavior.
16. **High Expectations—**Both parent(s) and teachers encourage the young person to do well.

CONSTRUCTIVE USE OF TIME

17. **Creative Activities—**Young person spends three or more hours per week in lessons or practice in music, theater, or other arts.
18. **Youth Programs—**Young person spends three or more hours per week in sports, clubs, or organizations at school and/or in the community.
19. **Religious Community—**Young person spends one or more hours per week in activities in a religious institution.
20. **Time at Home—**Young person is out with friends "with nothing special to do" two or fewer nights per week.

INTERNAL ASSETS

COMMITMENT TO LEARNING

21. **Achievement Motivation—**Young person is motivated to do well in school.
22. **School Engagement—**Young person is actively engaged in learning.
23. **Homework—**Young person reports doing at least one hour of homework every school day.
24. **Bonding to School—**Young person cares about her or his school.
25. **Reading for Pleasure—**Young person reads for pleasure three or more hours per week.

POSITIVE VALUES

26. **Caring—**Young person places high value on helping other people.
27. **Equality and Social Justice—**Young person places high value on promoting equality and reducing hunger and poverty.
28. **Integrity—**Young person acts on convictions and stands up for her or his beliefs.
29. **Honesty—**Young person "tells the truth even when it is not easy."
30. **Responsibility—**Young person accepts and takes personal responsibility.
31. **Restraint—**Young person believes it is important not to be sexually active or to use alcohol or other drugs.

SOCIAL COMPETENCIES

32. **Planning and Decision Making—**Young person knows how to plan ahead and make choices.
33. **Interpersonal Competence—**Young person has empathy, sensitivity, and friendship skills.
34. **Cultural Competence—**Young person has knowledge of and comfort with people of different cultural/racial/ethnic backgrounds.
35. **Resistance Skills—**Young person can resist negative peer pressure and dangerous situations.
36. **Peaceful Conflict Resolution—**Young person seeks to resolve conflict nonviolently.

POSITIVE IDENTITY

37. **Personal Power—**Young person feels he or she has control over "things that happen to me."
38. **Self-Esteem—**Young person reports having a high self-esteem.
39. **Sense of Purpose—**Young person reports that "my life has a purpose."
40. **Positive View of Personal Future—**Young person is optimistic about her or his personal future.

PURPOSE

The U.S. Agency for International Development, through a sub-award to Search Institute under the EQUIP3 Leader program led by Education Development Center, supported the current study in order to document the extent to which Developmental Assets correlate with international development priorities among youth in selected developing and/or post-conflict countries. The study results quantify the extent to which assets are associated with key outcomes and provide validated measures for future research and evaluation.

STUDY METHODOLOGY

This study of youth in four countries was designed to address three primary research questions:

1. To what extent do youth outside the U.S. report experiencing developmental assets?
2. To what extent do these youth report achieving key concurrent outcomes related to workforce/livelihoods development, conflict mitigation, and investing in people?
3. Are higher levels of developmental assets among youth in other countries associated with better outcomes, as has been found repeatedly in diverse U.S. youth samples?

In order to investigate these questions, several major tasks were undertaken, including selecting a sample of countries, identifying or creating measures of the key sectoral outcomes, translating those items and the developmental assets items on the *Developmental Assets Profile* (DAP) into the indigenous languages of the four countries (and back translating to English), pilot-testing the translated surveys, recruiting samples of youth, administering the survey, and conducting a variety of statistical analyses.

Identifying the Sample of Countries

Several criteria were established for identifying countries for participation:

- Given the limited time frame for the study (six months), a primary criterion was that a country already have completed a translation and cultural re-versioning of the DAP survey, and ideally, have pilot-tested that version.
- There was a potential local partner organization in-country that had both strong eagerness to participate and the human and resource capacity to complete all translation, sample recruitment, survey administration, and data entry tasks on a very tight schedule.
- Specifically, the partner organization had the capacity to translate and pilot test new items measuring the key youth outcomes, and to recruit and administer the full survey

(*Developmental Assets Profile*, outcome items, demographic items) to a large sample of approximately 900 youth ages 12-18 or slightly older, if necessary.

- The country had strategic importance to USAID.

The sample size was determined on the basis of three factors. First, we wanted a sufficient number in each country to enable 80% power to detect significant assets-outcomes associations at the .05 level.[4] We also wanted to be able to compare results within countries by key sub-groups, primarily males and females, younger (12-15) versus older (16-18) youth, and youth who were in school and not in school. Finally, we wanted to have a sufficient surplus of youth so that, if data cleaning caused us to eliminate surveys there still would be an adequate remaining sample to satisfy the first two criteria (in U.S. samples, Search Institute typically eliminates 5%-8% of surveys due to missing data or suspicious response patterns).

Working with international partners including Education Development Center, Save the Children, and World Vision International, we developed a capacity survey to assess countries' readiness on the above criteria, and shared it with potential country contacts through an online survey interface. Capacity surveys were completed for nine countries, and from those, there was consensus among Search Institute, EDC/EQUIP3 staff, and USAID representatives on a primary group of four: Bangladesh, Honduras, Jordan, and Rwanda.

The four countries reflected a diverse mix of **geographic locations** (Asia, Central America, the Middle East, and Africa), **cultural settings**, **projected literacy levels** of the sample (about half the aggregate sample across countries could read the survey themselves, and about half needed to have it read orally to them), and **age compositions** of the sample (Bangladesh and Jordan focused on adolescents ages 12-18, and Rwanda and Honduras provided a greater proportion of older youth, above age 18), and **varying stages of development and/or conflict.**

For example, during the course of the study, sufficient drug trafficking violence erupted in Honduras that the Peace Corps stopped sending volunteers there. Uprisings against the Syrian government, similar to those seen in Egypt, Libya, and elsewhere during 2011's "Arab Spring,"

[4] Significance tests were 2-tailed. Although the U.S. research consistently shows higher assets related to better outcomes, suggesting a 1-tailed test would be appropriate, this study was the first to examine these relationships internationally, and the first to include such a wide range of key sectoral outcomes, including some, such as economic outcomes, that have not been studied in assets research even in the United States. Because of the uncertainty of predicting the direction of many of the assets-outcome relationships, 2-tailed tests were used. In addition, for some analyses, more stringent *p* levels were used to guard against accepting false positive results, i.e., to be more conservative.

prompted violent attacks by the Syrian military that created a surge in refugees into Jordan. These and other factors provided varying contexts for this study.

All four countries had already translated the DAP survey (into Bangla, Spanish, Arabic, and Kinyarwanda), but Honduras had not yet pilot-tested the DAP to ensure its reliability and validity among Honduran youth. The implementation of the survey was led by Save the Children in Jordan and Bangladesh and EQUIP3/EDC projects in Honduras and Rwanda.

Through the EQUIP3 partners in Honduras and Rwanda, and Save the Children partners in Bangladesh and Jordan, we engaged diverse populations of youth (primarily ages 12 – 18, but with the great majority of Rwanda youth being above age 18 and Honduras also having a majority of youth over age 18). We sought to survey at least 900 youth in each country. Countries were selected in November 2011 based on their readiness and capacity to complete the study. Data were collected through local partners in each participating country.

Youth Sample Recruitment and Data Collection Procedures

Given variations in both literacy levels of youth, and the networks and resources available to local partner organizations, each country had a somewhat different process for data collection. For example, the two countries with EQUIP3 project experience (Honduras and Rwanda) made use of computers (tablets in Rwanda, and desktops in computer labs in Honduras) in which local staff could read the questions to youth, and immediately enter the data in a format that made it easy to upload for analysis. In the other two countries (Bangladesh and Jordan), such technology was not available in enough quantities to make its use feasible, and so traditional paper surveys were used, with the staff entering the data by hand in Excel spreadsheets that Search Institute created for data entry.

Although we conducted some aggregate sample analyses, the primary focus of the study was to determine whether developmental assets and youth outcomes were correlated *within* each of these differing cultural contexts the way they have been found to be in the U.S. Thus, some variation in data collection procedures was not problematic. The differences in recruitment, data collection methods, sample characteristics, and survey adaptations in these countries thus demand extreme caution in interpreting aggregate results and in comparisons among countries.

Each country had to develop a sampling plan and a data collection plan, which needed to be approved by Search Institute prior to their recruitment of youth and administration of the surveys. They were provided initial guidance as follows:

1. The **recruitment plan** should detail how you will identify the approximately 900 youth to be surveyed. It should answer questions such as:

a. Will you recruit them from schools, youth programs, nomination by village elders, etc.?

b. How will you secure parent consent or comply with any other local regulations or customs regarding youth participation in surveys of this type?

c. How will you ensure an adequate number of key groups, such as in-school and out-of-school youth, males and females, or different ethnic groups?

2. The **survey administration plan** should detail how you will actually give the survey to those 900 youth. It should answer questions such as:

a. Will the survey be administered in groups, or individually to youth?

b. Will you be able to use technology such as mobile devices for survey administration? How do you see that working?

c. What percentage of your sample will be able to read and self-complete the written survey? What percentage will be of low enough literacy level that they will need to have the survey read out loud to them?

d. How long will it take, in weeks, for you to complete the administration of the survey to the total of 900 youth?

e. How will you ensure the accurate entry of youth responses to the required analysis templates (such as, field interviewers will enter youth responses directly on tablet or other mobile device; staff will enter youth responses onto Excel spreadsheet template provided by Search Institute)?

Bangladesh—In Bangladesh, Shishuder Jonno (SJ) Program of Save the Children conducted the *Developmental Assets Profile* Correlational Study during March 6-12, 2012. About 1,000 adolescents between 12-18 years in two sub-districts of Meherpur district, Bangladesh, were targeted for data collection; a total of 997 adolescents completed the study questionnaires. Data entry was done in Excel, in a specific format provided by Search Institute. Seventy-five different groups of adolescents completed the survey, comprising a mixture of youth in the SJ adolescent development program, and non-program adolescents across 86 different locations in the Meherpur district.

Rwanda—In Rwanda, the Akazi Kanoze/Youth Livelihoods Project led by EDC collected data February 21-March 5, 2012. Approximately 900 youth in the age group of 18- 24 years were targeted throughout Kigali, the capital city of Rwanda. The Rwanda team was helped by about 10 “implementing partner” organizations such as COATB (a construction-based cooperative) and YES Rwanda, which provides a Work Readiness Curriculum and entrepreneurial training to youth and young adults. The great majority of the youth in the final sample were not in school and were between the ages of 18-25. After data cleaning, 658 youth remained in the sample.

Jordan—In Jordan, in partnership with the Ministry of Youth and Sports, about 1,000 youth in the age group of 12-18 years were targeted throughout the Kingdom. The Ministry of Youth and Sports has a great outreach all over Jordan, with 130 girls' and boys' centers across the country. Two methods were used to obtain the final sample. First, a proportional sample was drawn for the North, Central, and South regions of Jordan based on the size of the urban and rural populations. Second, within each region, non-proportional heterogeneity sampling was applied, to ensure representation of various sub-groups of each locality. The Youth Centers were asked to compose single sex groups of 20 youth aged 12-18 from various socioeconomic backgrounds, of different literacy levels, both active participants in the centers and youth who are not regular visitors. After data cleaning, a total of 959 youth remained in the sample.

Honduras—In Honduras, EQUIP3's Proyecto METAS led by EDC was the lead partner. Youth between the ages of 14 and 25 were solicited for their participation in the study. The administration and data entry were both conducted online via Survey Monkey Professional with oversight from EDC's Home Office Monitoring and Evaluation Advisor in the months of March and April of 2012. A total of four vocational training institutes from each of the three major urban regions of Honduras were identified as the primary partners from where the Honduras sample was drawn. The regions identified include Tegucigalpa, the nation's capital and political hub, San Pedro Sula, the country's second largest city and industrial center, and Choloma, the third largest city in Honduras located just south of Puerto Cortes off the Caribbean coast and known for its predominance of transnational manufacturing companies. Online surveys were administered to youths in Honduras in March and April 2012. After data cleaning, a total of 534 surveys remained to be analyzed.

Identification/Creation of Measures

This study utilized a self-report survey that was largely standardized across all the participating countries (some variations were approved to ensure cultural validity and appropriateness). It included Search Institute's 58-item *Developmental Assets Profile* (DAP); demographic items; and brief measures of key indicators in each of the following domains: Economic Growth (workforce/livelihoods development); Peace and Security (violence prevention); and Investing in People (health, education, and civil society).

Developmental Assets—Measures of the assets come from the *Developmental Assets Profile*, a survey developed by Search Institute in 2005. It was originally designed for 6^{th}-12^{th} grade students. The survey has been shown to be a highly reliable and valid tool (Search Institute, 2005; Scales, 2011; Scales, Benson, Dershem, et al., in press).

Developmental Assets are 40 relationships, opportunities, values, skills, and self-perceptions that research shows are strongly related to children's and youths' academic, psychological,

social-emotional, and behavioral well-being (Benson, 2006; Benson, Leffert, Scales, & Blyth, 1998; Benson & Scales, 2011; Benson, Scales, Hamilton, & Sesma, 2006; Benson, Scales, & Syvertsen, 2011; Leffert, Benson, Scales, Sharma, Drake, & Blyth, 1998; Scales, Benson, Leffert, & Blyth, 2000; Scales & Leffert, 2004; Scales, Sesma, & Bolstrom, 2004). Such relationships and opportunities have been linked to numerous critical outcomes in U.S. samples, including:

- Better school grades (Scales & Benson, 2007; Starkman, Scales, & Roberts, 2006; Scales, Benson, Roehlkepartain, Sesma, & van Dulmen, 2006);
- Higher levels of purpose (Scales, Benson, Moore, Lippman, Brown, & Zaff, 2008; Scales, Benson, & Roehlkepartain, 2011);
- Positive emotions (Scales, Benson,& Roehlkepartain, 2011)
- Citizenship/civic engagement (Scales et al., 2008; Scales, Benson, & Roehlkepartain, 2011; Scales & Roehlkepartain, 2004); and
- Avoiding violence (Benson & Scales, 2009; Benson, Scales, Roehlkepartain, & Leffert, 2011).

DAP assets items are grouped in two ways to provide two complementary perspectives. First, they are organized into measures of the **eight categories of developmental assets** shown in Table 1 (above):

- Support, Empowerment, Boundaries & Expectations, Constructive Use of Time, which are **"external" asset categories** provided by adults and peers. Specific assets include caring relationships, safety, role modeling, and opportunities to participate in programs for youth.
- Commitment to Learning, Positive Values, Social Competencies, and Positive Identity, which are **"internal" asset categories** that youth gradually develop as they grow up and become more self-regulating young adults.

In addition to the "asset *category"* view, the items can be re-grouped into "asset *context*" views to depict how young people experience assets in these **five ecological contexts**: Personal (Self), Social, Family, School, and Community. The survey is also designed to be used as a pre-post test or tool for tracking the progress of individual youth over time (Search Institute, 2005). The items in each asset category and in each context are shown in Appendix B.

Scoring of Developmental Assets Profile (DAP). DAP scores are given on a scale of 0-30 for individual asset categories (e.g., Support, Commitment to Learning) and context areas (e.g., Family, School), and 0-60 for the total asset score. These scores are interpreted in four levels that describe low, fair, good, and excellent experience of the developmental assets. Table 2 shows the interpretation of scores at different levels.

TABLE 2. SUMMARY OF INTERPRETIVE RANGES FOR DAP ASSET CATEGORY AND CONTEXT AREA SCORES

Label	Range of Scores*	Typical Item Responses	Interpretive Guidelines
Excellent	26-30	2's and 3's with mostly 3's	Abundant assets. Most assets are experienced strongly and/or frequently.
Good	21-25	2's and 3's with mostly 2's	Moderate assets. Most assets are experienced often, but there is room for improvement.
Fair	15-20	1's and 2's with mostly 2's	Borderline assets. Some assets are experienced, but many are weak and/or infrequent. There is considerable room for strengthening assets in many areas.
Low	0-14	Mixture of 0's, 1's and 2's	Depleted levels of assets. Few if any assets are strong or frequent. Most assets are experienced infrequently. Tremendous opportunities for strengthening assets in most areas.

*The total DAP asset score combines the Internal asset score (maximum 30 points) and the External asset score (maximum 30 points). Its four levels are: 52-60=Excellent, 42-51=Good; 30-40=Fair; and 0-29=Low.

Key Sectoral Outcomes—Simultaneous to the country selection process, we engaged in an extensive process to identify and refine appropriate measures to assess the key youth outcomes to correlate with youths' developmental assets. In addition to, first and foremost, being relevant to USAID mission priorities, outcome items/measures needed to be:

- **Theoretically** (logically, plausibly, and supported by previous research) **correlated with youth experience of developmental assets,** and with the ultimate outcomes as **leading indicators** (not lagging indicators) of those outcomes, be it having skills to earn a decent living, or being able to avoid violent behavior. In other words, if improving youths' experience of developmental assets is not expected to be an important element in a theory of change leading to the desired outcome, then why measure that outcome in a correlation study with the *Developmental Assets Profile*?
- A sub-criterion was, **will the data on this indicator be actionable?** Almost by definition, if the indicator passes the theory of change test, it is likely to be actionable. But this is not

assured. So a separate judgment needed to be made on how much these data would have the potential to stimulate public and private sector mobilization, energy, and action.

- **Reliable and valid for youth self-report**, which contrasts with most existing outcomes measures, which are population-based and derived from macro sources such as census, public health, or crime data, etc.

These criteria reflect a parallel to the *evaluability* step in an evaluation design. That is, if the indicator is not logically and plausibly associated with both a young person's level of developmental assets and the ultimate outcome, then it is not worthwhile to measure it. If it passes this theory-of-change test, then the question becomes: Can we measure the indicator reliably and validly through self-report as a micro-dataset that has clear links to macro outcomes, rather than through collection of public health, crime, government employment figures, or other macro-level data.

If both these tests were passed, then we moved on to the following criteria:

- **Able to be measured with a small number of items** (3-5 items for each the 3-4 outcomes that initially were proposed; the advantage of the DAP is its brevity, while retaining strong psychometric properties—we wanted the overall survey instrument to remain relatively brief to encourage completion)
- **Relevant culturally and as public policy priorities across the four different countries in the study** (there was insufficient time and resources to develop differing outcome measures for each of the four countries)
- **Able to be readily translated from English to the indigenous language** (items needed to be capable of being translated relatively quickly in a way that was culturally valid while retaining the essence of denotation and connotation of the English meaning).

It also was recognized that, given the desire to keep the outcome measures relatively brief, it would not be possible to achieve a comprehensive measurement of the broad outcome areas. Rather, a small number of outcomes would need to be selected that were deemed important, to stand as illustrative but certainly not thorough measurements of that outcome.

For example, the primary youth "health" indicators typically measured in international data collection are HIV/AIDS prevention and pregnancy prevention. But while critical, these alone do not measure the broad construct of health. Thus, items were included on HIV/AIDS and pregnancy prevention, but also a small number included on hygiene practices (a critical aspect of disease prevention) and youth awareness of where to access preventive care and necessary medical services.

Several steps were followed to generate a list of outcome indicators and measures that met these criteria.

First, a DAP Workshop was held October 2011 in Washington, DC at USAID headquarters, with representatives from USAID, EDC/EQUIP3, Save the Children, World Vision International, Making Cents International, and FHI 360. (See Appendix A for participant list.) Search Institute staff provided a background presentation on DAP research around the world, and the overall aim of the current study. Participants then broke into small groups to generate possible indicators within the broad outcome areas of livelihoods development, education, health, and violence prevention.

Second, this stakeholder-generated list was supplemented by an extensive search in those four broad outcome areas for existing measures that had already been used in international data collection. Most of the identified existing items came from Search Institute measures with demonstrated reliability and validity, with a significant number from the Mercy Corps Youth Transformation Tool, Mercy Corps' Youth & Conflict Focus Group Discussion Guide, Global Youth Livelihoods' Youth Livelihoods Development Index (which includes Search Institute's *Developmental Assets Profile*, and is widely used by Save the Children and others), the Joint UN Program on HIV/AIDS, the July 2011 AIDS Indicator Survey (Individual), and the Kenya English version of the 2008 Afrobarometer survey.

Other sources contributed an item here or there to the initial item pool, or described indicators, but without items, including the EQUIP3 Systems Framework, the European Union Draft Youth Indicators document, World Bank Monitoring & Evaluation Handbook, World Bank's Measuring Youth Livelihoods document, UNICEF's Multiple Indicators Cluster 4 survey, the International Rescue Committee's Review of Vocational and Educational Training Programs for Youth (TVET), the SEEP Network's Monitoring and Evaluation Guide for Practitioner Learning Programs in Youth Workforce Development, the Demographic & Health Survey 6, the Multi-National Project for Monitoring and Measuring Children's Well-Being, and World Vision International's Compendium of Child Well-Being Outcomes.

Third, an initial list of some three-dozen indicators and approximately 100 items was prioritized by Search Institute staff into a list of two-dozen indicators and roughly 80 items, using the measures/item criteria described above to make the selections. Then, the refined list was circulated to USAID and EDC/EQUIP3 staff, as well as other participants at the October 2011 DAP Workshop (and invitees who could not attend), inviting their feedback and suggestions. Based on these suggestions, Search Institute staff narrowed the list to about 15 indicators measured with about 55 items, adding a fifth broad outcome, promotion of civil society, that had been suggested by the literature review and feedback from key stakeholders.

Fourth, Search Institute and EDC/EQUIP3 staff worked to sharpen the wording of the selected items, to have as much face validity for the four countries and relevance to the broad outcome areas as possible. We attempted to retain the wording of previous items as closely to their originals as possible, but did make minor changes in a number of those items. This final list was then submitted to USAID for approval.

Table 3 (next page) shows the broad outcomes and indicators used to measure them. The final approved list of indicators, as well as the items used to operationalize them, and the outcomes scoring guidelines, are included as Appendix B.

Finally, the approved items were sent to the four countries for translation and cultural re-versioning, and some further wording modifications were made to make the items more validly translatable to the indigenous languages (such as using examples that resonated with the local cultural context, or phrasing that captured local idiomatic usage more accurately) or to conform to cultural norms around acceptable or appropriate content (for example, questions about sexual behavior ended up not being able to be asked in any of the four countries). Our goal in the translations was not to produce translations of literal accuracy, but translations that appeared to capture the essence of the intended English meaning, while being sensibly phrased to be meaningful to the indigenous youth in the indigenous language.

Search Institute staff engaged in several iterations of translation and back-translation review and feedback with each country's team in order to arrive at final approved surveys ready for pilot testing (some further minor improvements in the existing translations of the DAPs in each country also were made, in order to get the translated versions even more accurately echoing the intended English connotations of the items). The foundational survey template that was used to create the four parallel country/language surveys is displayed in Appendix C. The translated and back-translated surveys (including DAP, outcome, and demographic items) for each country are available upon request.

TABLE 3. BROAD OUTCOMES AND OUTCOME INDICATORS

WORKFORCE & LIVELIHOODS DEVELOPMENT	• Youth accesses safe (non-harmful) and productive employment • Has human, social, financial, and physical capital needed to generate income • Has recognized certification in a job area (passed a trade or certification test; or knows of an apprenticeship or internship program in which to be involved)
VIOLENCE	• Engagement in violence as perpetrator or victim • Low normative acceptance of violence • Frequency of positive interaction with youth from different groups
HEALTH	• Protected from sexually transmitted infections/disease—delay of intercourse & use of condom (PLANNED--NOT ABLE TO ASK) • Accurate condom and STI knowledge (e.g., Knows condom can prevent HIV; Knows that a healthy-looking person can have HIV) • Protected from unwanted pregnancy—delay of intercourse & use of contraception (PLANNED—NOT ABLE TO ASK) • Adequate hand-washing hygiene • Knowledge of how to access medical care
EDUCATION	• Functional literacy • Functional numeracy • Has completed school (formal or non-formal, various levels), especially primary school, or is at age-appropriate grade level • Academic self-efficacy or self-confidence
CIVIL SOCIETY	• Confidence in influencing community affairs that affect them • Frequency volunteering

Scoring of Outcomes Measures[5]—Five broad outcomes were measured, each comprised of several outcome indicators. Two forms of variables are used in the analyses. Continuous variables utilize all of the information contained in the responses and so provide greater precision. Binary or categorical variables collapse more complex and voluminous information into results that are more easily communicated and more intuitively understood. Accordingly, for some analyses (e.g., correlations and analyses of variance), continuous forms of the 15 outcome indicator variables and five broad outcomes were utilized. For other analyses (e.g., frequencies and cross-tabulations), scoring algorithms were established to construct binary forms of the outcome indicators, i.e., a youth either "had" the outcome indicator or "did not have" it.

An additional advantage to utilizing both constructed categorical scoring and continuous scoring in multiple analyses is that each has its own strengths and weaknesses, thereby providing unique perspectives on the trends in the data. Obtaining similar results on the same data through different scoring and analysis strategies helps to triangulate the findings, and so strengthens confidence in the likely validity of the results.

In constructing binary cutoffs, Search Institute typically defines the threshold for "having" a variable to require a youth affirming about 75% of the components of that variable. For example, for a variable made up of several Strongly Agree-Strongly Disagree items, a youth would need to average an Agree on a 3 on a 4-point scale in order to be counted as "having" that variable. The predictive validity of this approach is reflected in numerous studies showing that youth who meet such criterion levels consistently demonstrate better well-being than youth not meeting the criterion on a variety of academic, psychological, social-emotional, and behavioral indicators (Scales, Benson, Moore, Lippman, Brown, & Zaff, 2008).

To determine whether youth "have" the five broad outcomes, similar guidelines were established to the extent possible, as shown in Table 4. However, some broad outcomes had only two indicators. In keeping with Search Institute's usual algorithm practice, if a broad outcome was defined by only two indicators, a youth had to have both of those indicators in order to have the outcome. (For more information on scoring, see Appendix D.)

[5] In the absence of empirical data to suggest differential weighting, each component of an outcome was given equal weight. The only exception was that, to have a job that was not dangerous, etc., youth had to meet the filter criterion of having a job in the first place, so that was a filter, but it was not given more arithmetic weight per se. In addition, Hagerty and Land (2007) note that equal weighting is the procedure most often used in constructing major U.S. and international Quality of Life indexes, and offered mathematical proof that, in the absence of empirical evidence for assigning weights, equal weighting is the most valid procedure for constructing multi-component indexes.

TABLE 4. SCORING FOR THE FIVE BROAD OUTCOMES

Workforce and Livelihoods Development	Must have any 2 of the 3 indicators
Conflict Mitigation	Must have any 2 of the 3 indicators
Health	a) If survey did NOT include reproductive health questions, must have 2 of the 3 other health & health services indicators b) If survey DOES include reproductive health questions, must have either of the 2 reproductive health indicators AND 2 of the 3 other indicators
Education	Must have functional literacy AND numeracy, plus 1 of remaining 2 indicators
Civil Society	Must have 2 of the 2 indicators

Pilot Testing

Each country pilot-tested the outcome and demographic measures with two small groups of youth (about 10 youth in each group), first by conducting a cognitive interview to ensure the meaning of survey items was accurately understood, and next to determine how long it took youth to complete that portion of the survey, in order to help plan for time structuring for the subsequent actual data collection with 900 youth.

EDC/EQUIP3 staff prepared detailed guidelines for conducting the pilots (Appendix E), and consultation throughout the pilots was provided by Search Institute staff for all countries and by EDC/EQUIP3 staff for Honduras and Rwanda. As was the case throughout the study, changes suggested by the pilot process were negotiated between the local collaborating partners, EDC/EQUIP3 staff, and Search Institute staff, and approved by Search Institute. More extensive pilot testing of the outcome and demographic measures was not possible due to the very brief timeline for study completion. However, most of the outcome measures had been used previously in international studies, suggesting their utility in larger-scale data collection.

Among the four countries, Honduras also had not previously pilot-tested its DAP survey, so Honduras conducted a small pilot test of those developmental assets items. Jordan pilot-tested in December 2011 and the other countries conducted their pilot tests in January-February 2012. In each country, minor revisions in item wording were made as a result of youths' input during the pilot tests.

DEMOGRAPHICS OF FINAL STUDY SAMPLES

Table 5 summarizes relevant demographic information about each country's youth sample, including information on the gender, age group, and urbanicity distribution of each sample, as well as the degree to which youth reported experiencing deprivation over the previous year, a proxy for socioeconomic status. (For more demographic information, see Table F1, Appendix F.)

Bangladesh and Jordan had the samples most evenly balanced by males and females, and the younger samples. Honduras and Rwanda had notably more males in their samples, especially Honduras, and were the older samples, especially Rwanda. Bangladesh had the more rural sample with most of its youth living in small villages, whereas all of Rwanda's youth reported living in cities. Honduras and Jordan also had the more urban samples. Nearly 40% of youth in three of the countries had experienced at least one or two occasions in the last year when they did not have enough food, clean water, or medicine, with the exception being Jordan, where only 15% reported experiencing such deprivation.

DATA ANALYSIS

We did several kinds of analyses, only one of which is technically a "correlation":

- Simple frequencies to describe the extent to which youth in the four countries experienced the developmental assets and the key sectoral outcomes;
- Categorical cross-tabulations of DAP score levels (low, fair, good, excellent) by binary outcome variables (have the outcome—do not have the outcome) to provide multiple statistical perspectives on the data;
- Pearson correlations of DAP scores and outcomes using continuous variables for both; and
- Analyses of variance on continuous outcome means to determine whether the mean outcome scores of youth at low, fair, good, and excellent DAP assets levels significantly differed.

All of these analyses thus contribute to our understanding of the "correlation" of assets with outcomes in the broadest sense, although only one part of the analysis used the statistical procedure of correlation.

TABLE 5. DEMOGRAPHIC COMPOSITION OF COUNTRY SAMPLES

		AGGREGATE	Bangladesh	Honduras	Jordan	Rwanda
Total Sample Size		**N = 3,148**	**N = 997**	**N = 534**	**N = 959**	**N = 658**
Gender	Male	58%	50%	86%	49%	59%
	Female	42	50	14	51	41
Age Groups	11-14	32	55	5	44	0
	15-19	53	45	79	56	38
	20-28	15	0	16	0	62
Where Live	City	49	—	69	55	100
	Town	11	5	8	18	—
	Village	40	95	23	26	—
Deprivation (Not enough food, clean water, or medicine at least once or twice in past year.)		35	36	37	15	37

Additional demographic information is shown in the Appendix F in Table F1.

TECHNICAL ISSUES IN DATA COLLECTION

Operationally, there were two instances of problems with survey administration, due to the study timeline and the complexity of creating four different language versions of the survey. However, each of these errors had minimal impact on the data.

First, in Honduras, before the data were sent to Search Institute for analysis, a programming error caused several DAP items to be missing from the dataset prior to it being sent to Search

Institute for analysis (affecting 415 of the eventual 534 youth in the sample).[6] The scores for the affected asset scales were calculated on the basis of the remaining items: Support--6 of the expected 7 items; Empowerment--5 of the expected 6 items; and Boundaries and Expectations--6 of the expected 9 items. The alpha reliability of the latter scale is still acceptable (.75), but likely would have been a bit higher had all 9 items been available for analysis. The absolute level of that scale may have been affected as well. But since it is one of the most common asset scales experienced in this sample, it is likely the missing items would not have materially weakened those youth reports of 70% experiencing good or excellent levels of boundaries and expectations.

Second, in Bangladesh, a production error caused the response scale for the six items in the Enough Capital indicator within the workforce/livelihoods development scale, using Yes-No instead of Almost Always, Often, Sometimes, and Rarely/Never. This error required us to calculate the Enough Capital indicator using a sum function of all applicable items (i.e., gave criterion response to six of the seven items), rather than the intended mean (i.e., the average score across the seven items measuring this indicator). When we compared sum versus mean score alternative scoring methods on this and several other outcome sub-indicators, there were some differences at the sub-indicator level, but not enough to materially affect the results for the five broad outcomes when all those sub-indicators were rolled up. Thus, it is not likely this error substantively affected the results.

An additional printing error in the mass production of the Bangladesh survey occurred on the apprenticeship outcome indicator. The initial question about having an apprenticeship certificate had an incorrect skip option in the survey ultimately produced for use in Bangladesh, different from the skip pattern in the approved survey. Rather than those who responded ‘no’, going on to the next question about knowledge of opportunities for learning a trade, only those who said ‘yes’ went on to that item. This resulted in only 18 youth qualifying for the Job Credentials indicator.

To compensate for this situation, when calculating the broad outcome of Workforce and Livelihoods Development in Bangladesh, if the youth had responded ‘yes’ to item 21, then they needed 2 out of 3 indicators (Good Job, Enough Capital, Job Credentials) to meet the criterion for the broad outcome. If they had responded ‘no’, then they needed 1 out of the 2 remaining indicators (Good Job, Enough Capital) to meet the criterion. This may have slightly lowered the extent to which youth in the Bangladesh sample could meet the criteria for having the

[6] In order to have a sample in which all surveys could be scored the same, the final 119 Honduras surveys, which did have those data, were treated as if the data for those questions were missing, as was the case for the first 415 surveys.

Workforce/Livelihoods Development outcome. Only 15% of the Bangladesh sample met this overall outcome, versus 22% among Jordanian youth, 20% among Rwandan youth (the great majority of whom were older than the youth in Bangladesh and Jordan), and 22% of Honduran youth (the majority of whom were also older than the youth in Bangladesh and Jordan).

In each case, these errors were discovered, and data analyses compensated adequately for these issues, which have negligible impact on the study's findings and conclusions.

APPLICABILITY OF THE FINDINGS IN NON-U.S. SETTINGS

Two questions are relevant about the potential generalizability of the findings. First, are the results generalizable *within* these countries to the rest of the youth population? Second, are the findings generalizable to *other* countries?

From a purely technical standpoint, of course, the answer in both cases is that we do not know, since the countries were not randomly selected from the world's nations, and the youth samples were not selected randomly within each country. From a purely statistical perspective, then, if the results are indeed generalizable in those two ways, it is a happy accident and not a result of intentional sampling to make it so. Nevertheless, there was reasonable diversity in most of the samples, the findings were considered plausible by country teams, and the findings generally mirror those obtained in the U.S., suggesting that the potential viability of the assets framework is transferable to non-U.S. settings.

The country samples were not representative of the youth in each country. However, instructions were given for country teams explicitly to attempt to obtain a sample that reflected a wide variety of ethnicities, geographies, socioeconomic status, literacy, and school attendance. For the most part, they appear to have succeeded. The one exception is that in Honduras, 86% of the research participants were young men. But by and large, there was good demographic diversity within each country's sample. One caveat to this assertion is that most of the youth in this study were recruited by virtue of their participation in positive youth development programs offered by EDC, Save the Children, or their local partners. By definition, those programs try to strengthen youths' assets and make their lives better. To the extent that this makes participating youth more fortunate and advantaged than other youth in each country, that would limit the generalizability. However, each country team had a chance to review its country report in draft form, and explicitly was asked to assess how plausible the findings seemed to be, given their expertise in that country's cultural realities, that is, to judge the degree to which the results seemed to be believable and valid as opposed to being difficult to imagine, perplexing, or not predictable. Country teams' feedback was that the results were culturally plausible and valid.

Since this is the first study intentionally to correlate developmental assets and key sectoral outcomes in non-U.S. settings, there is scarce little other similar work with which to compare the results. That would be necessary in order to estimate how likely it is that these results would also be found and apply in other countries than these four. But there is ample reason to suggest these results are at least moderately transferrable to other countries.

Most notably, the relation found between higher levels of developmental assets and better health, social, educational, and economic outcomes in these four countries (see Study Results, below) very consistently mirrors that found in cross-sectional and longitudinal studies over 20 years and involving more than 3.5 million youth in the U.S. from Search Institute's studies alone, as well as more than 1,400 studies from other researchers finding the same relations between asset-like constructs and well-being among children and youth. (See reviews in Scales & Leffert, 2004, and Scales, Sesma, & Bolstrom, 2004. That consistency of correlation across eras, samples, and vastly differing cultures suggests that, if this assets-outcomes relationship is not completely universal, then there is at least a very strong likelihood of seeing that same relationship between assets and wellbeing reproduced in other countries, whether developed or developing.

In addition, in combination with other international studies using the *Developmental Assets Profile* (Scales, 2011), but not also correlating asset scores with outcomes, ample evidence of the cultural validity of the asset framework and the adequate response variability and internal consistency of most of the asset scales has been shown, now, with the current study, in a diverse set of a dozen countries other than U.S. (Albania, Armenia, Bangladesh, Cambodia, Japan, Jordan, Honduras, Laos, Lebanon, Mexico, the Philippines, Rwanda).

Thus, the cross-cultural validity of the asset framework, the cross-cultural reliability of the asset measures, and the cross-cultural demonstration of the predicted correlation between developmental assets and positive youth outcomes in both developed and developing societies all point to the broader global generalizability of these results being reasonable to expect.

2. STUDY RESULTS

This study is essentially four studies—one for each country. Because of the differences in samples (e.g., age of participants, gender balance, and other factors), as well as method of survey administration, aggregating the data from the four countries into a single dataset is problematic and could mask important findings within countries. (See methods section above.)

Therefore, we largely have treated each country as a separate study, providing details from each country in the appendices as well as a report to each country office (available upon request). However, in order to explore the potential value of aggregation, despite its limitation, we also have created an aggregate dataset and have presented findings to illustrate the potential for future studies with more representative and comparable samples in the participating countries.

In this report, we summarize those results in three sections:

1. The extent to which youth report **experiencing the developmental assets**;
2. The extent to which youth report **achieving the outcomes** related to workforce/livelihoods development, conflict mitigation, and investing in people; and
3. The degree to which higher levels of **developmental assets are linked to and correlated with better outcomes**, as has been found repeatedly in diverse U.S. youth samples.

In summarizing these results, we note themes and discrepancies across the four studies. We also highlight selected excerpts from the country reports to show the specific findings in each country's study, recognizing that comparisons among these different studies must be done with extreme caution given the major differences in the sampling in different countries.

OVERALL DATA QUALITY

Before turning to the findings, however, it is important to address the technical quality of the data—a key factor in both interpreting the findings and considering whether and how the measures and approach might be utilized for future research. The quality of the data is suggested in three ways: Distribution of responses; internal consistency; and predictive validity.

1. Distribution of Responses

First, for both the assets and some of the outcomes measures, there generally was a good distribution of responses in Bangladesh, Honduras, and Jordan. Variability of responses is an important indication of data "quality." It is possible for a youth's responses to be very similar from item to item, and for that youth to be responding truthfully, and in that sense, the lack of

variability does not automatically signify poor data quality. But variability (with non-trivial percentages of youth responding, for example, with each of possible responses such as strongly agree, agree, disagree, strongly disagree) is desirable, for two reasons:

a. When youth give a range of responses across differing items, it suggests that the youth in those countries differentiated their responses to various items, instead of responding with response sets (e.g., the same response choice across many items regardless of the items' content). This variability in responses also suggests that the research participants were giving thoughtful responses, and allows for greater confidence in the validity of the data.

b. Variability is desirable because the more variation there is in the responses, the more power any given statistical test has to detect associations between variables, and one of the goals of this study was to detect associations between assets and outcomes. Thus, data with good response variability are higher "quality" in that they can provide a better chance of identifying those associations.

The variability of responses is clear in Bangladesh, Honduras, and Jordan, but the Rwanda data are less variable and so present a potential quality problem. For both the assets and outcomes measures, there was a skewed distribution of responses. Although some asset scales had relatively higher mean scores and some lower, all fell within the low-middle Fair range of DAP scores. The great majority of Rwandan youth in this sample were in that one small range of developmental asset scores. Moreover, a solid majority of those youth reported experiencing the positive outcomes. Because there was relatively less variability in the assets and outcome scores in Rwanda than in the other countries, there was, as a result, less power to detect possible significant relationships between youth experiencing developmental assets, and their experiencing greater concurrent well-being.

2. Internal Consistency

The second quality indicator is the internal consistency reliability of the DAP scales. A good internal consistency reliability suggests that the items in a scale "hang together" well and appear to be measuring the same construct (See Table F2 in the Appendix for details.) The internal consistency reliabilities were quite good in Honduras, Jordan, and Rwanda:

- In **Honduras**, all but one of the assets and context view scales were either good (≥ .70—14 of the 16 scales, or 88%) or adequate/promising (.60-.69—1 of the scales).
- In **Jordan**, 12 of the 16 asset scales (75%) had good reliabilities, and another three (19%) had acceptable alphas.

- In **Rwanda**, the internal consistency reliabilities of all but one of the 16 assets and context scales were quite good (all .80 or greater).

The internal consistency reliabilities of the assets and context view scales in **Bangladesh** were more mixed: All the context view scales had either good (≥ .70) or adequate/promising (.60-.69) coefficients, but only three of the eight assets scales were either good or promising in their consistency reliability. However, the DAP measure used for the great majority of analyses in this study was the *total* DAP score, and the total score had a reliability of .89 in Bangladesh, nearly at the excellent (.90 or greater) level, and .90 or above in the other countries. The Constructive Use of Time scale had a low alpha in all countries, but it almost always has a low alpha, even in the U.S. samples on which the DAP was developed. This is because it is multi-dimensional, which precludes a high internal consistency; therefore, the low alpha is not troubling.

In contrast to the measures of the developmental assets categories and contexts, which (with the exception of the time use scale) were intended to be unidimensional scales, most of the *outcome* measures used in this study are more properly considered indexes. Because these very brief measures had to encompass multiple dimensions of each complex construct, that intentional multidimensionality, by definition, works against the measures having good internal consistency as measured by the traditional alpha coefficient. In other words, the comprehensiveness of the content in the outcome measures violates the unidimensionality needed for high levels of internal consistency in responses.

But the good to excellent levels of DAP total score reliability in all countries allow for greater confidence in the accuracy of these results, the majority of which use only that total DAP score.

3. Predictive Validity

The final indication of data quality is the linkage we largely observed in all countries between higher asset levels and better well-being, as reflected by the outcome measures. That association of developmental assets and youth well-being (detailed below) is what is predicted by theory and previous research connecting developmental assets to well-being, and is therefore a further indication of the quality of the data.

The assets-outcomes correlation was especially strong in Jordan, and somewhat less strong but still impressive in Bangladesh and Honduras. The assets-outcomes linkage also was demonstrated in Rwanda, although not as clearly and consistently across all five broad outcomes and 15 sub-indicators that comprised those broad outcomes. That may be largely because the Rwandan sample was older than the recommended sample for the DAP, and because of the skewed response distributions for Rwanda's sample, as noted above, that structurally limited the statistical power to detect those relationships.

OVERVIEW OF KEY RESULTS

The primary analyses focused on determining:

1. The extent of developmental assets reported by youth in the four countries;
2. The extent of key sectoral outcomes (workforce/livelihoods development, violence prevention, health promotion, educational readiness, and promotion of civil society), as reported by those youth; and
3. The linkage between the level of developmental assets and the level of youth well-being as reflected by the key outcomes.

This study is the first to examine that association between developmental assets and outcomes in a global sample. The following summarizes the results presented more in depth in Table F3 in the Appendix and in each country's own report.

Extent of Developmental Assets

Across the four countries, mean DAP scores ranged from 36-42 out of a possible 60 (Figure 3), meaning that an average of 41% of the youth were experiencing Good or Excellent levels of developmental assets, whereas 59% were experiencing just Fair or even Low levels of assets. (See Figure 4.)

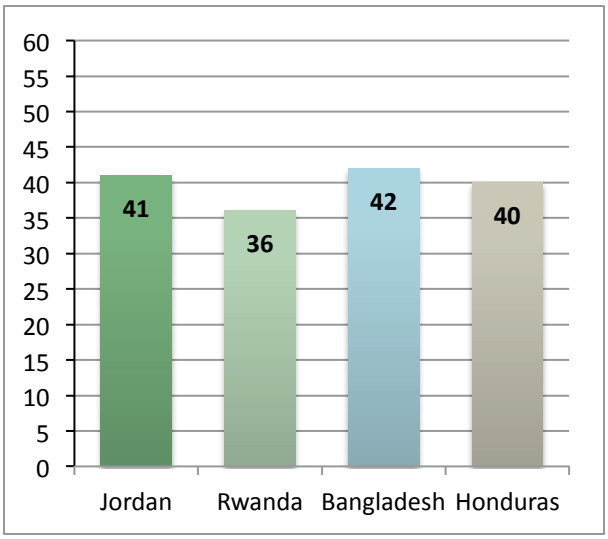

Figure 3. Average DAP Scores, by Country

- **Jordan** (N=959 12-18 year olds) had a mean DAP score of 41, which is in the high end of the Fair asset level (predetermined cutoffs divide scores into four groups: Low, Fair, Good, and Excellent). A little more than half, 52%, of the Jordanian youth scored in the Excellent or Good asset levels.
- The **Rwandan** sample (N=658 16-28 year olds) had an average DAP score of 36, signifying only a Fair level of assets. Just 15% of the Rwandan youth had Excellent or Good levels of developmental assets.[7]

[7] Both the historical/cultural experience of Rwanda with conflict and genocide (possibly affecting responses to the Violence Prevention indicators), as well as sampling issues, may have contributed to these results. The Rwanda sample is considerably older (mostly 18-28 years) than the ages for which the U.S. DAP was developed (12-18 years). Even though we and the Rwanda EDC team believe the translation to Kinyarwanda is valid in terms of

- The **Bangladesh** sample (N=997 12-18 year olds) had an average DAP score of 42; like Jordan's score, this score is in the low part of the Good level of developmental assets. A little more than half the sample, 53%, had Excellent or Good asset levels.
- The **Honduran** sample (N=534 14-25 year olds) had an average DAP score of 40. So, like Jordan, Honduran youth reported an experience of developmental assets in the high part of the Fair level. A little less than half the sample, 47%, had Excellent or Good asset levels.

Demographic differences within countries—Youths' experience of developmental assets varied very little by gender, age group, or place where youth lived (city, town, village). Younger Bangladeshi youth (ages 12-14), as well as younger Jordanian youth (ages 12-14) and Jordanian youth living in towns as opposed to villages or cities, had higher DAP scores than other youth.

No other significant mean differences were found by those demographics. By way of contrast, in the United States, both girls and younger youth roughly ages 12-14 or U.S. grades 6-8 consistently are found to have higher levels of assets (Benson, Scales, & Syvertsen, 2011; Benson, Scales, Roehlkepartain, & Leffert, 2011).

Differences in categories of assets and contexts—In addition to overall levels of assets, the DAP examines assets at the category level (Support, Empowerment, Boundaries & Expectations, etc.) and in different ecological contexts (personal, family, social, school, community). These scores suggest areas of development where young people have strengths and challenges as well as contexts where intervention may be warranted.

As shown in Table 6 (and detailed in Table F4 in the Appendix), the relative strength of different categories of assets varies by country, though Commitment to Learning tends to be a relatively stronger asset area (having higher mean scores). Constructive Use of Time tends to be a relatively weaker asset area (having lower mean scores) across the countries. In addition, the family and school settings tend to have the highest scores across countries, and the community context tends to be the weakest. This finding is consistent with previous studies using the DAP in Japan, Lebanon, Albania, Bangladesh, and the Philippines (Scales, 2011).

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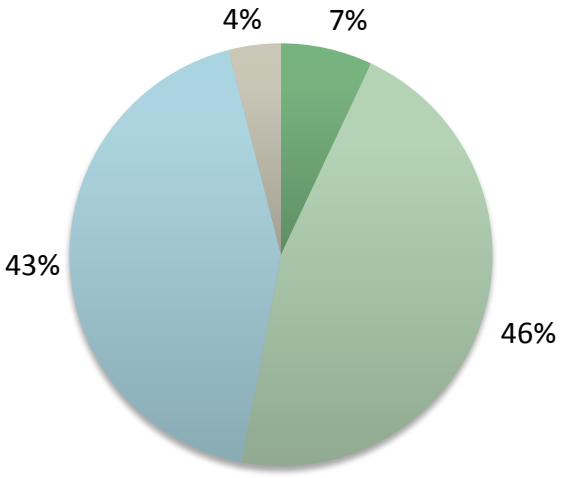
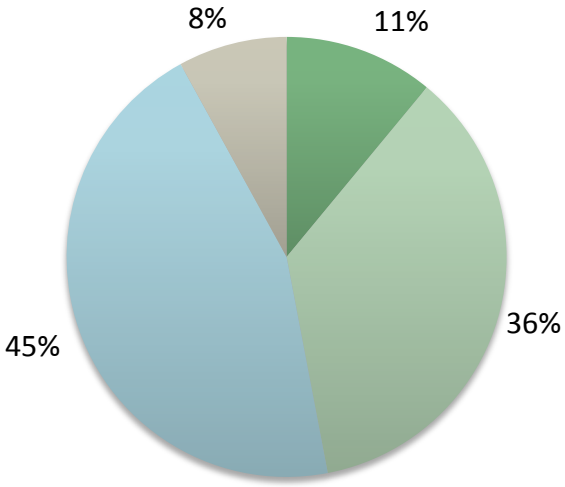
communicating the essential meaning of the DAP questions, the questions themselves might not be as valid for these older youth nor prompt sufficient variability of response (the great majority of Rwanda responses were in the Fair level).The very high level of youth saying they avoid violence and have good health habits (84%-95%) also may reflect a positive response bias in the Rwanda sample toward what are perceived as the more socially desirable responses.

FIGURE 4. YOUTH EXPERIENCING DIFFERENT LEVELS OF DEVELOPMENTAL ASSETS, BY COUNTRY

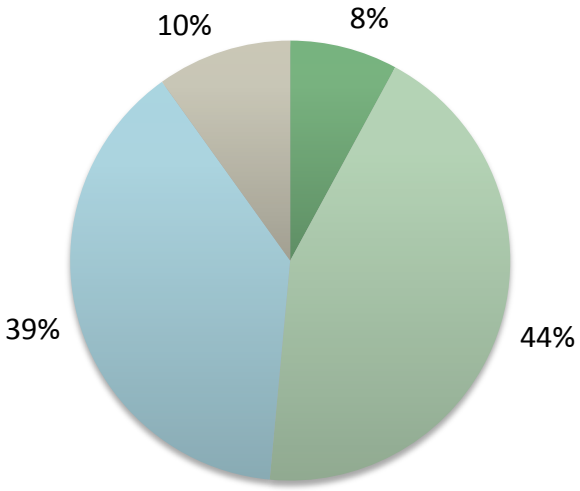
A. Bangladesh



B. Honduras



C. Jordan



D. Rwanda

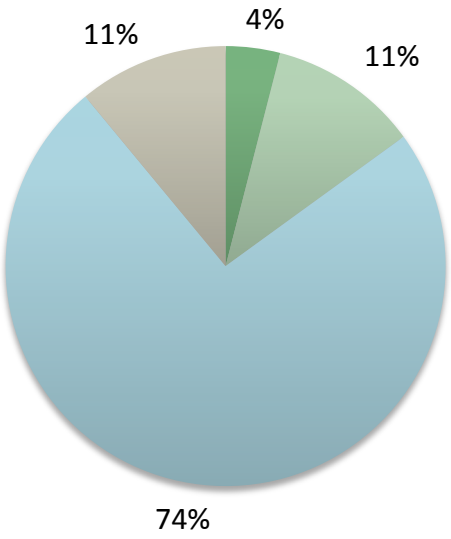


TABLE 6. RELATIVELY STRONGER AND WEAKER ASSET CATEGORIES AND CONTEXTS, BY COUNTRY

(For complete data associated with this table, see Table F7 in the Appendix)

		Stronger *Higher mean scores*	**Weaker** *Lower mean scores*
Bangladesh	Asset Categories	Support	*Constructive use of time*
		Boundaries & expectations	Social competencies
		Commitment to learning	Positive identity
		Positive values	
	Contexts	**Family**	*Community*
		School	Personal
			Social
Honduras	Asset Categories	Boundaries & expectations	*Constructive use of time*
		Commitment to learning	
	Contexts	**Family**	*Community*
		School	Personal
			Social
Jordan	Low Good	Empowerment	Support
		Commitment to learning	Boundaries & expectations
		Positive values	*Constructive use of time*
		Family	*Community*
			Personal
			Social
Rwanda	Asset Categories	**Commitment to learning**	Support
		Positive values	Boundaries & expectations
		Social competencies	*Constructive use of time*
	Contexts	Personal	Family
		Social	*Community*
		School	

BOLD = Highest Scores *Italics = Lowest Scores*

Comparisons with previous studies—Though this study is the first to link developmental assets with indicators associated with international development priorities, a number of previous studies, published and unpublished, have used the *Developmental Assets Profile* to study developmental assets with various populations of young people in various countries and contexts. As shown in Table 7, there is evidence of consistency in overall assets scores across multiple countries and contexts, albeit with important exceptions that may be explained by sampling differences and other issues. This broader set of findings on the extent of assets in other youth populations around the world reinforces the potential of applicability of the framework and instrument across countries (once a cultural adaptation has been completed.)[8]

Extent of Key Sectoral Outcomes

Because of the ways the sectoral outcomes were measured, we created a binary indicator of whether young people do or do not experience each outcome, recognizing that each of these outcomes can be experienced to greater and lesser degrees.[9] Thus, as shown in Table 8, the majority of youth in each of the four countries experience most of the key sectoral outcomes, except for Workforce/Livelihoods Development.

Only about one-fifth of the youth across countries had this Workforce/Livelihoods Development outcome. But even among the minority of youth and young adults who reported working for pay in the last month, significant proportions (from 25% to 33% across countries) said their jobs were dangerous and/or kept them from going to school. More than 70% said they could not make enough money to save for the future.

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[8] The majority of total DAP scores across countries, those in this study and others in previous studies, tend to cluster in the high Fair-low Good levels, with some in the lower Fair and some in higher Good range. There is considerably more variation, however, on scores for the asset and context sub-scales that comprise the total DAP score. Different countries' youth samples may thus have relatively similar overall DAP scores that are comprised of quite different patterns of weaker or stronger (less and more experienced) assets, as seen in Table 6.

[9] Unlike the developmental assets items, which are all measured on the same response scale, the mean of which is thus inherently meaningful, the outcomes are measured by multiple items often not sharing the same response scale. To express the outcome scores as means requires standardizing the variables to an overall mean of 0 and a standard deviation of 1. The standardized means are readily interpreted when comparing the difference in means across groups, when it is the size of the difference (rather than the absolute size of the mean) that is of interest (such as in the analyses of variance conducted on these data). However, standardized means as expressions of absolute frequencies do not communicate their meaning since, by definition, the mean of the entire sample is 0. Thus, we discuss the extent of the outcomes by using as binary variables. The criterion for response needed for a youth to be considered as "having" a given outcome—operationalized in the scoring guidelines found in the Appendix—is aspirational: It reflects our belief about what youth ideally should be experiencing in order to have a minimum acceptable level of developmental well-being. (See more discussion of this issue in Scales, in press.) When we compare outcome means by DAP score levels, we use the continuous variables reflected by the standardized means of each DAP level group on each outcome.

TABLE 7. MEAN DAP SCORES AND LEVELS OF ASSETS ACROSS MULTIPLE COUNTRY STUDIES

Country	Sample Size	Age Range	Mean DAP Score	Level of Assets			
				Low	Fair	Good	Excellent
Current Study							
Bangladesh	997	12-18	42.52	4	43	46	7
Honduras	534	14-25	40.83	8	45	36	11
Jordan	959	12-18	41.37	10	39	44	8
Rwanda	658	16-28	36.61	11	74	11	4
Other Studies							
Albania	259	10-18	41.75	5	44	48	3
Armenia	136	10-18	43.22	1	45	42	13
Bangladesh*	498	10-18	T1: 33.28	31	58	10	1
			T2: 43.32	3	35	55	8
Cambodia	73	11-19	40.33	7	49	39	4
Japan	13,946	10-18	34.76	2	33	50	15
Laos	100	11-16	39.22	7	57	32	4
Lebanon	1,138	11-28	39.82	11	47	37	5
Mexico	371	11-18	34.51	31	48	19	2
Philippines*	703	10-18	T1: 36.91	16	61	20	3
			T2: 41.39	8	46	31	14
United States (2004 field test)	1,312	11-19	41.31	14	38	34	15
United States (Dallas 2011)	44,002	11-19	41.10	13	38	36	13

*These studies in Bangladesh and the Philippines were pre-post evaluations of youth empowerment programs in those countries. Time 1 and Time 2 DAP administrations were 6-9 months apart in each country.

TABLE 8. PERCENTAGE MEETING CRITERIA FOR HAVING OUTCOMES, BY COUNTRY

(For details on each indicator within each domain, see Table F4 in the Appendix.)

	Workforce/ Livelihood Development	Violence Prevention*	Health Promotion	Education	Promotion of Civil Society
Bangladesh	15	70	87	70	57
Honduras	22	67	91	74	69
Jordan	22	33	66	71	70
Rwanda	20	85	95	63	49

*Variations by country in the percentage saying they had hit or beat up someone in the last year contribute to the wide variation in results for Violence Prevention. In Jordan, 70% admitted to doing so, as did 54% in Bangladesh, and 34% in Honduras. But only 10% of the Rwandan youth said they had hit or beat up someone in the last year. Age may be a factor, as the great majority of the Rwandan sample was youth ages 18-28, and perpetration of violence tends to decrease among young adults as compared with teenagers. As well, older youth and young adults are more likely to be aware that hitting or beating up someone is usually a socially disapproved action, and so they may have given more socially desirable responses.

In the binary scoring, different cutoff points, of course, yield differing percentages of youth who "have" the outcomes. For the outcome of Violence Prevention, for example, since these countries represent conflict or post-conflict areas, more lenient scoring (for example, allowing youth to have been a perpetrator or victim of violence once or twice in the last year) was applied than in comparable U.S. research (where zero such experiences with violence are allowed, in order for youth to be scored as avoiding violence).

When the more stringent U.S. cutoffs are applied, the proportion having that violence prevention outcome drops by roughly half in each country. Aspirationally, we would wish zero involvement in violence for all youth, the standard we use in the U.S. But in conflict or recent post-conflict countries, that may be unrealistic under current conditions. Hence, we opted for a more lenient cutoff in this study.

Link Between Developmental Assets and Key Sectoral Outcomes

A variety of analyses (cross-tabulations, correlations, and analyses of variance) were used to explore the association between developmental assets and the key sectoral outcomes. The results are summarized by aggregate sample and country samples here, and presented in detail in the separate country reports. Table 9 provides an overview of the overall correlations

between DAP asset score and the five broad outcomes, reflecting the consistent linear relationship between youth experiencing more assets, and their experiencing better well-being on these outcomes. Detailed results of cross-tabulations are shown in Table F5 in the Appendix.

The developmental assets as reflected by the total DAP score were significantly correlated with *every* outcome in *every* country for these particular country samples. The correlations are highest for Workforce/Livelihoods Development, Education, and Promotion of Civil Society. All of the aggregate correlations and 17 of the 20 country correlations (85%) were highly significant at $p \leq .0001$, with effect sizes by country in the high small to low medium range, and within the aggregate sample, effect sizes in the high medium range. (See Table 10 below, and Table F6 and Table F7 in the Appendix for details.)

Although the aggregate correlations are all significant, suggesting, as predicted, an overall moderate linear relationship between developmental assets and these outcomes, the aggregate data also mask wide variation in the size of the correlations in each country. Specifically, the aggregate data hide how low the correlations are for some outcomes in some countries, and fail to show how large the correlations are for the same outcomes in other countries. In the case of Violence Prevention, for example, the .21 aggregate coefficient blurs the reality that the correlation between assets and Violence Prevention in Honduras was a barely significant .09, while being four times larger, at .37, in Jordan. Thus, although the aggregate data are a convenient way to summarize the findings, a high degree of caution is needed to avoid generalizing that aggregate result to each context.

TABLE 9. CORRELATIONS BETWEEN DAP ASSET SCORES AND BROAD OUTCOME SCORES, BY AGGREGATE SAMPLE AND COUNTRY*

	Aggregate	Bangladesh	Honduras	Jordan	Rwanda
Workforce/Livelihoods Development	.41	.34	.42	.57	.28
Violence Prevention	.21	.17	.09 (p=.04)	.37	.10 (p=.01)
Health Promotion	.25	.16	.20	.42	.15
Education	.29	.19	.20	.44	.33
Promotion of Civil Society	.26	.23	.40	.30	.10 (p=.008)

*All coefficients significant at $p \leq .0001$ unless otherwise indicated

How meaningful are these correlations between levels of assets and these five outcome areas? In both practical and statistical terms, they range from typical to relatively impressive for results in the behavioral and social sciences.

In his classic work on effect size and power analysis, Cohen (1988) noted that in the behavioral sciences, “not very much variance” in the dependent variables studied are predictable, noting that most correlations between variables of interest are below .30. This is why, depending on the assumptions one makes about the normality of the distribution of two variables, Cohen defined correlations in the range of .24-.50 as of medium size, and in the range of .37-.50 and above as large. Similarly, the U.S. Department of Education’s What Works Clearinghouse defines an effect size of .25 as the cutoff for listing effective programs, noting that this is an effect of "substantive importance" (What Works Clearinghouse, 2008). This corresponds to an r of just .124, per Cohen's guidelines. In comparison, one review of multiple studies of teacher effects on student achievement found that teacher effectiveness accounted for between 7% and 21% of the variance in student achievement, which corresponds to an r-value of .26 to .46 (Nye, Konstantopoulos, & Hedges, 2004). Correlations above .30 are sufficiently rare in education and the social sciences that it has been said researchers should be “rather satisfied” with correlations in the teens, “pleased” with those in the upper twenties, and “rejoice” at those above .50 (Meyer et al., 2001). Table 10 shows the magnitude of the differences in the correlations (r) between each of the outcomes and the total DAP score, Internal assets, and External assets. It also displays the r^2 value and calculates the percentage of variance and effect size for each. Though there are differences in the magnitude of the relationships between Internal and External scores and outcomes, most differences are not large enough to have meaningful policy or programmatic implications.

Since the total DAP score is comprised of the score for youth experience of External assets provided by others (relationships, opportunities) plus the score for Internal assets youth develop themselves (values, attitudes), we can ask: Is there a difference in the correlation of these *types* of assets (i.e., external and internal) with each of the outcomes? Some of the Internal-External assets differences in these correlations are, technically, statistically significant. But they are less practically meaningful for policy or program development than might be apparent:

- First, for the most part, the internal assets cannot be built as readily as can the external assets. One can easily and immediately articulate clear expectations for youths’ behavior, for example (Boundaries and Expectations assets). But a young person’s sense of achievement motivation (Commitment to Learning assets), or feeling positive about the

TABLE 10. AGGREGATE SAMPLE CORRELATIONS, VARIANCE, AND EFFECT SIZES OF INTERNAL AND EXTERNAL DAP SCALES WITH OUTCOMES

	Correlation Coefficient (r)	r^2	% of Variance Explained	Effect Size
Total DAP				
Workforce/Livelihoods Development	0.41	0.17	16.8%	.66
Violence Prevention	0.21	0.04	4.4%	.35
Health Promotion	0.25	0.06	6.3%	.42
Education	0.29	0.08	8.4%	.48
Promotion of Civil Society	0.26	0.07	6.8%	.43
External Assets				
Workforce/Livelihoods Development	0.36	0.13	13.0%	.58
Violence Prevention	0.19	0.04	3.6%	.32
Health Promotion	0.21	0.04	4.4%	.35
Education	0.24	0.06	5.8%	.40
Promotion of Civil Society	0.23	0.05	5.3%	.38
Internal Assets				
Workforce/Livelihoods Development	0.4	0.16	16.0%	.64
Violence Prevention	0.2	0.04	4.0%	.33
Health Promotion	0.26	0.07	6.8%	.43
Education	0.3	0.09	9.0%	.50
Promotion of Civil Society	0.25	0.06	6.3%	.42

N= 3,132-3,137 depending on the particular outcome.

*Extrapolated per r and d (effect size) equivalency guidelines in Cohen (1988), p. 82.

future (Positive Identity assets) are attitudes and self-perceptions that can be "built" only more indirectly and gradually over time as youth become more and more self-regulating.

In contrast, the external assets are relationships, opportunities, rules and expectations that adults and peers can directly offer youth. Numerous studies have suggested that it is the mixture of internal and external assets *together* that is the source of the power of assets to positively affect young people. (See Benson, Scales, and Syvertsen, 2011, and Scales and Leffert, 2004, for more on this subject.)

- Second, the large size of the aggregate sample—3,137 youth—means that even quite small differences using these aggregate data can reach statistical significance without being practically meaningful (which is why we also include effect sizes in Table 10 to show that the *total* DAP score correlations are indeed meaningful).

- Third, the Internal and External scale correlations with outcomes are not statistically independent but instead, are dependent correlations, since the Internal and External are both part of the overall DAP total scale, and they are responded to by the same individuals. The calculation of significance (between these dependent correlations) is thus more complex, and the results less easily interpreted, because they are biased by their dependent nature, than when comparing two independent correlations (e.g., between males and females).

Correlation Between Assets and Outcomes by Demographic Subgroups

An important policy question is the extent to which assets predict outcomes for various subpopulations across different country contexts. Acknowledging the limitations of aggregating data across these four countries, we conducted several analyses of the aggregate dataset that suggest the promise of broad applicability of developmental assets across multiple subgroups in different contexts around the world.

Total DAP score—First, we examined the differences in aggregate sample correlation between developmental assets (total DAP score) and the five key outcomes by gender, age groups, where youth lived, whether basic needs were met (whether they experienced food, water, or medicinal deprivation in the past year), and experiences of safety (whether they or their family had been attacked or had something stolen from them in the past year). (Table F9 in the Appendix shows the detailed results.)

Consistent with the country-specific findings, the majority of the differences (29 of 45 significance calculations, or 64%) between sub-groups such as males versus females, or 11-14 year olds versus 15-19 versus 20-28, were *not significant* at $p \leq .05$. Another 18% of the

correlations (8 of 45) were *no longer significant* when a Bonferonni correction was applied to account for performing these multiple significance tests on the correlations.[10] Thus, *only 18% of the differences in correlations by dis-aggregated sub-groups (8 of the 45 significance calculations) were statistically significant***.** The only significant differences were the following:

- Developmental assets had a stronger correlation with Workforce/Livelihoods Development for 11-14 and 15-19 year olds than for 20-28 year olds, and for city dwellers more than for town or village dwellers.
- Assets had a stronger correlation with Violence Prevention for females than males, and for 11-14 year olds than for 20-28 year olds.
- Assets had a stronger correlation with both Education and Promotion of Civil Society for city dwellers than for those living in villages.

Outcome scores for demographic subgroups—We also analyzed the mean outcomes scores by these demographic sub-groups. Comparing those results (Table F10 in the Appendix) with the above results reinforces the value of building assets for all youth. In most cases where there were significant differences in the absolute level of mean outcome scores by demographic sub-groups (shown in Table F10), the assets-outcomes correlation (shown in Table F9) was either similar across those sub-groups or in some cases even stronger for the group with the lower level of the outcome. In other words, *the assets-outcome correlation was as strong or even stronger for the most vulnerable youth than it was for youth who already had higher levels of well-being* based on their higher outcome scores.

For example, youth who had their basic needs for food, clean water, and medicine met (that is, had *not* experienced deprivation in the last year) were much better off, as would be expected, on their Workforce/Livelihoods Development, Violence Prevention, Health Promotion, and Education scores than youth who had experienced deprivation. However, for each of those outcomes, there was not a significant difference between the deprived and the more fortunate youth in the strength with which developmental assets correlated with these positive outcomes. *Assets largely correlated as well with positive outcomes for youth who had not had their basic material needs met, as for youth who did have those needs met.*

[10] When conducting multiple significance tests, some can appear statistically significant by chance alone (false positives). Accepting a result as significant when it really is not, a false positive, is a Type I error. The Bonferonni correction adjusts for that statistical chance of false positives by creating a more stringent *p* level in order for a result to be considered significant, thus reducing Type I errors. In this case, a *p* level of .05/45 tests = .001 was the corrected level required for significance.

Within countries, some of these results were even more striking. For example, among Jordanian youth, those who had their basic material needs met in the last year had an impressive .52 correlation of developmental assets with Workforce/Livelihoods Development. But among Jordanian youth who experienced deprivation in the last year, the *more vulnerable* youth, the developmental assets-Workforce/Livelihoods Development correlation was higher still, at .72, a magnitude of correlation coefficient that is hardly ever seen in social science research.

Thus, these analyses done on the aggregated sample provide evidence for three important conclusions:

1. Though there are a few differences by demographic sub-group, the great majority of the correlation *differences* in the strength of the assets-outcomes relationship within sub-groups—82% of the correlations—are not significant. Thus, with some exceptions, developmental assets appear to "work" similarly across individual differences of gender, age, urbanicity, whether youths' material needs are met or not, and whether or not they and their families were physically safe in the last year.

2. The great majority—80%—of the correlations of assets with outcomes by demographic sub-groups are significant and of moderate size, with coefficients being in the .20s-.50s. Only 9 of the 45 correlations are < .20. This suggests that developmental assets have a meaningful association with these positive outcomes for males as well as females, younger and older youth and young adults, city, town, and village dwellers alike, and whether youth experience deprivation or safety or not.

3. The developmental assets "work" for *vulnerable* youth in their correlation with positive outcomes as well as they do for more advantaged youth, and sometimes work even more strongly for the more vulnerable youth.

The lesson for policymakers and program developers from these results is that although there are indeed occasional differences in the assets-outcomes correlations among demographic sub-groups, attending to the implications of these should not distract from attending to the larger narrative that generally describes for most sub-groups of youth a consistent positive relationship between levels of developmental assets and these policy priorities. The main story of the sub-group correlations is that for *the great majority of demographic sub- groups of youth, their developmental assets are significantly correlated at meaningful levels of effect size with these five key outcomes. Thus, building developmental assets is important for* ***all*** *these groups of youth.*

Experiences of Outcomes by Different Levels of Assets

The disaggregated results by *country* was the primary focus of this study, since there are more meaningful differences by country than by the aggregated demographics of gender, age, residence, deprivation, and safety discussed above. In addition to the correlations already presented by country (and expanded for demographic sub-groups in table F9 in the Appendix), another way to see the linear relationship between assets and these priority sectoral outcomes is by analyzing the proportion of youth in each country who experience each outcome by the level of assets they experience (low, fair, good, excellent). Table 11 shows these associations.

Across the four countries, the continuous correlation of assets and outcomes was consistently positive in all countries, being strongest in Jordan, Honduras, and Bangladesh, and positive, but smaller, in Rwanda. Analyses of variance also showed that the quartile level of youths' assets has an especially strong linear relationship to Workforce/Livelihoods Development (especially significant in Honduras, Jordan, and Rwanda), Health Promotion (especially significant in Bangladesh and Honduras), and Promotion of Civil Society (especially in Bangladesh and Jordan), and a significant relationship with Education (especially in Honduras). Figure 5 graphically depicts this relationship for Workforce/Livelihoods Development.

An important anomaly was the lack of a significant positive link between quartile level of developmental assets and Violence Prevention in Honduras or Rwanda (though, as predicted, there is a positive correlation in Bangladesh and Jordan). The continuous correlation between assets and Violence Prevention was barely significant in Honduras and Rwanda. In these two samples, a higher level of assets was, contrary to expectations, related to a higher attitudinal acceptance of violence as a conflict resolution strategy, and that result adversely affected the correlation between assets and the overall Violence Prevention outcome. Even so, higher levels of assets in all countries—in those two, as well as Bangladesh and Jordan—still were related to lower levels of reported *actual* engagement in violence.

So the expected overall associations between assets and outcomes are, as predicted, generally quite clear, offering a "yes" to the question in the title of this report: Do developmental assets make a difference? To be sure, we cannot show causality with these cross-sectional data, but the statistical association between levels of developmental assets and these indicators associated with policy priority (whether using continuous or categorical variables) sets the stage for future longitudinal and rigorous evaluation studies that can show causality. Given that the theoretical foundation of asset building and extant U.S. longitudinal studies of assets have shown causal links with key youth outcomes, this correlational finding suggests that further investment in more rigorous research has the potential to provide empirical evidence of those causal relationships internationally.

TABLE 11. PERCENTAGE OF YOUTH WITH KEY OUTCOMES IN EACH COUNTRY, BY DEVELOPMENTAL ASSET LEVELS

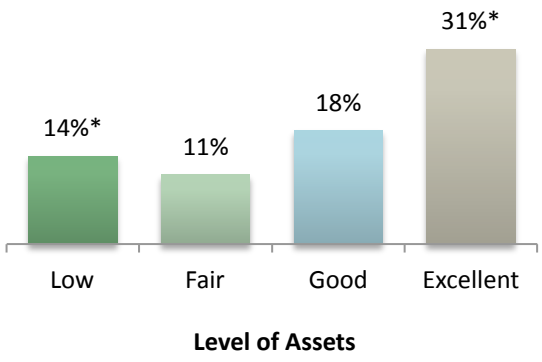
		Levels of Assets			
Outcome**	**Country**	**Low**	**Fair**	**Good**	**Excellent**
Workforce/ Livelihoods Development	Bangladesh	14*	11	18	31*
	Honduras	9*	16	24	57*
	Jordan	3*	13	30	46
	Rwanda	4*	21	31	26*
Violence Prevention	Bangladesh	63*	63	76	75
	Honduras	55*	63	74	68
	Jordan	39	54	63	68
	Rwanda	81	86	88	78*
Health Promotion	Bangladesh	83*	87	87	88
	Honduras	83*	92	92	96
	Jordan	55	66	69	60
	Rwanda	85	96	97	93*
Education	Bangladesh	60*	75	83	80
	Honduras	64*	70	80	76
	Jordan	33	64	81	89
	Rwanda	31*	65	79	78*
Promotion of Civil Society	Bangladesh	31*	48	63	80
	Honduras	38*	64	77	94
	Jordan	48	65	76	91
	Rwanda	35*	54	36*	44*

*These cells had ≤ 30 youth responding. The error in the results for such cells is larger than for cells with larger numbers of youth, and so the results should be viewed with caution.

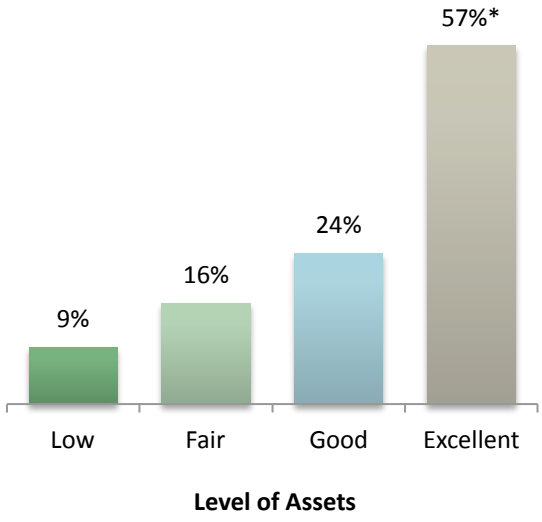
** For definitions of these measures, see Table 3 above.

FIGURE 5. PERCENTAGE OF YOUTH WITH "WORKFORCE/LIVELIHOODS DEVELOPMENT" OUTCOME IN EACH COUNTRY, BY LEVELS OF DEVELOPMENTAL ASSETS

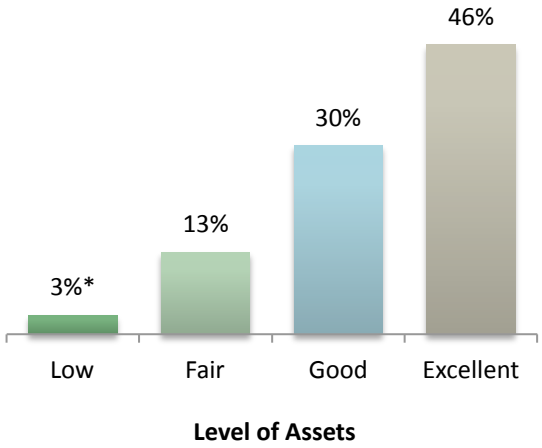
A. Bangladesh



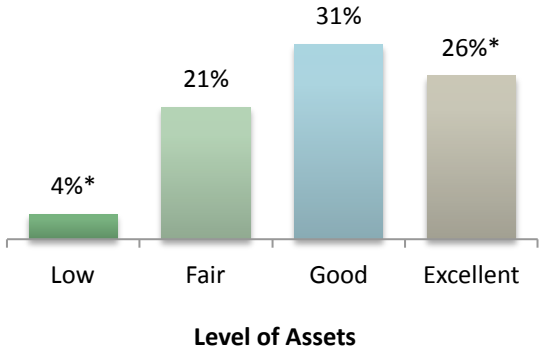
B. Honduras



C. Jordan



D. Rwanda



We turn now to a brief summary of the findings on the correlation between assets and outcomes in each country. (For more detail, see each country's specific report.) Table 12 summarizes some the relationships between the means on the five outcomes and the levels of developmental assets in each country. We also highlight key findings on the associations between the 15 specific outcomes indicators within these five areas (see Table 3, p. 20) and levels of developmental assets.

Bangladesh—In Bangladesh, the results from a variety of analyses show clearly that higher levels of developmental assets are linked with significantly better well-being outcomes among Bangladeshi youth. For three of the five broad outcomes (Workforce/Livelihoods Development, Violence Prevention, and Promotion of Civil Society), more youth with "excellent" asset levels have the outcome than do youth at the other asset levels, and more youth at the excellent level of assets have the Education outcome than youth at the fair or poor levels.

Only for Health Promotion is there very little difference across asset levels, with the great majority of Bangladeshi youth at every asset level meeting criterion levels for adequate HIV knowledge, hand-washing knowledge and practice, and knowledge of how to access medical care. In addition, for Violence Prevention, Health Promotion, and Promotion of Civil Society, youth at excellent asset levels had significantly higher outcome means than all other youth. For Workforce/Livelihoods Development, youth at excellent and good asset levels had a better mean outcome score than those at the fair or low levels, and all youth had a better Education outcome mean than did youth at low assets levels.

At the level of the five broad outcomes, the correlations range from small to moderate, going from a .16 correlation between asset level and Health Promotion and Violence Prevention, to a .23 correlation between asset level and Promotion of Civil Society, and a .34 correlation between asset level and Workforce and Livelihoods Development.[11] Assets and Education had a lower than expected overall association in Bangladesh.

Subsequent analysis revealed it to be due to weaker results for youth not in school and for the "in appropriate grade for age" indicator among 12-14 year olds. But among 15-18 year olds and youth in school (the latter being the great majority of the sample), asset level was, in line with theory-based prediction, moderately and positively correlated with both the academic self-confidence indicator and the overall Education outcome.

[11] Unless otherwise indicated in text and/or tables, results were significant at $p \leq .0001$.

Honduras—In Honduras, these results show that the association between higher levels of assets and better youth well-being seen consistently in U.S. samples is also generally reflected in this large sample of Honduran youth, especially at the level of the five broad outcomes. At the level of the five broad outcomes, the correlations in Honduras range from small to substantial, ranging from a barely significant (p=.04) .09 correlation between asset score and Violence Prevention, to a .40 correlation between assets score and Promotion of Civil Society, and a .42 correlation between asset score and Workforce/Livelihoods Development.

For three of the five broad outcomes (Workforce/Livelihoods Development, Health Promotion, and Promotion of Civil Society), frequency cross-tabulations show that more youth with "excellent" asset levels have the outcome than do youth at all other asset levels. For Education and Violence Prevention, youth at the excellent level are not more likely than youth at the good level to have the outcomes, but a greater percentage of youth at both the good and excellent asset levels have the education outcome than do all other youth.

By *mean* outcome scores, youth with excellent levels of assets have significantly better Workforce/Livelihoods Development, Health Promotion, and Education outcomes than do all other youth, and youth at the good and excellent levels have better Promotion of Civil Society means. Only for Violence Prevention was the difference in outcome means by developmental assets level not significant.

Jordan—For the Jordanian sample, results show that higher levels of developmental assets are linked with significantly better well-being outcomes among youth. At the level of the five broad outcomes, the correlations in Jordan are quite meaningful, ranging from a .30 correlation between asset level and Promotion of Civil Society, to a .57 correlation between asset level and Workforce/Livelihoods Development.

In addition, for four of the five broad outcomes (all but Health Promotion), and for nine of the specific 15 outcome indicators measured in the Jordan survey, cross-tabulations show that every increase in DAP score quartile level (i.e., from Low to Fair, Fair to Good, and Good to Excellent) is associated with an increase in the percentage of youth enjoying well-being on that outcome. For another three indicators, each increase in the first three asset levels is linked to an increase in well-being, and only between those at the "good" and "excellent" levels was there essentially no difference. Each increase in asset level also is accompanied by a significant increase in *mean* outcome score for Workforce/Livelihoods Development, and Promotion of Civil Society, and youth with good or excellent levels of assets are better off than youth with only fair or low asset levels on Violence Prevention, Health Promotion, and Education.

TABLE 12. SUMMARY OF RELATION BETWEEN FIVE BROAD OUTCOME MEANS AND DEVELOPMENTAL ASSETS LEVELS

	Outcomes on Which Youth with Excellent Asset Levels Score Better than All Other Youth	Outcomes on Which Youth with Excellent Asset Levels Score Better than Youth with Fair or Low Assets
Bangladesh	Violence Prevention Health Promotion Promotion of Civil Society	Workforce/Livelihoods Development Education*
Honduras	Workforce/Livelihoods Development Health Promotion Education	Promotion of Civil Society
Jordan	Workforce/Livelihoods Development Promotion of Civil Society	Violence Prevention Health Promotion Education
Rwanda	Workforce/Livelihoods Development	Education* Promotion of Civil Society*

*Youth at all asset levels significantly better on mean scores on these outcomes than those youth with low asset levels

Rwanda—In Rwanda, the results from a variety of analyses show that Rwandan youth with *low* levels of assets generally have worse well-being than those with fair, good, or excellent levels, except for Violence Prevention, for which asset levels do not consistently make a difference. Only on Promotion of Civil Society are those with excellent levels better off than those with good levels of assets.[12]

[12] These anomalous results are likely due to the poor variability of the Rwandan data. The distribution of both the level of assets and most of the outcomes was skewed: the great majority of the sample was in the Fair level of assets, and the majority of the sample met criterion levels for having most of the outcomes. For example, only 27 youth were in the Excellent asset level, a very small sub-cell size. Thus, the lack of variation in Rwanda in the two key variables being correlated, assets and outcomes, structurally limited the power of the analyses to detect relationships among the asset levels and the outcomes, especially at the Excellent level of assets.

At the level of the five broad outcomes, the correlations are small to moderate for four, ranging from a .10 correlation between asset level and two outcomes—Violence Prevention (p=.01) and Promotion of Civil Society (p=.008)—to a .28 correlation between asset level and Workforce/ Livelihoods Development, and a .33 correlation between asset level and Education.

Takeaways

We began the findings section by highlighting three areas of analysis that would be addressed across the samples in the four countries. Because the samples are not comparable or representative, the bulk of our analyses were not conducted on aggregated data. However, the aggregated findings, as well as the results within the four countries, begin to suggest themes in asset-based assessment that hold promise across majority-world contexts:

1. Despite varying samples and ages in these countries, **overall levels of assets tended to be comparable (and differences explainable) across these four countries.** Furthermore, we see some consistency in which categories of assets tend to be strongest (e.g., support, commitment to learning) and weakest (e.g., constructive use of time) across multiple countries and contexts, but considerable variation in other asset category and context scales, i.e., relatively comparable overall asset scores mask wider variation in the asset and context sub-scales that comprise those overall asset scores.

2. With the exception of Workforce/Livelihoods Development, the youth in these samples **experience a majority of the outcomes associated with policy priorities** (Education, Violence Prevention, Health Promotion, and Promotion of Civil Society).

3. **The developmental assets**, as reflected by the total DAP score, **were significantly correlated with *every* outcome in *every* country for these particular samples.** The correlations were highest for Workforce/Livelihoods Development, Education, and Promotion of Civil Society.

3. CONCLUSIONS, LIMITATIONS, AND RECOMMENDATIONS

Our conclusions are presented in two sections. First, we discuss the substantive conclusions suggested by the data, and the resulting implications for asset-building as a strategy for achieving youth development objectives related to workforce/livelihoods development, conflict mitigation, and investing in people. Second, we discuss operational aspects of the study that relate to the feasibility of conducting similar research in other conflict or post-conflict settings.

SUBSTANTIVE CONCLUSIONS

Simple correlations showed that **the developmental assets,** as reflected by the total DAP score**, were significantly correlated with *every* outcome in *every* country in these particular samples,** with the correlations highest for Workforce/Livelihoods Development, Education, and Promotion of Civil Society, and with all of the correlations in the aggregate data and 17 of the 20 correlations by country (85%) highly significant at $p \leq .0001$, with the effect sizes ranging from the high small to low medium range by country and in the high medium range for the aggregate sample.

Collectively, the results from a variety of analyses generally show that **higher levels of developmental assets are linked with significantly better well-being outcomes among large samples of youth,** especially in Bangladesh, Honduras, and Jordan. The assets-outcomes linkage is present, although not as large, in Rwanda. These results are consistent with those found in U.S. samples, but extend that research in two important ways.

1. The results demonstrate that **the relationship of developmental assets to measures of well-being likely is not a culturally limited finding but rather may be a more universal phenomenon.** This fact supports the building of developmental assets as a positive youth development strategy more globally.
2. **Second, the developmental assets have not been linked before, even in U.S. samples, to a number of the key sectoral outcome indicators in this study that are critical to the global youth development initiatives** of USAID and major relief and development organizations, particularly in the developing world, including workforce and livelihoods development, functional literacy and numeracy, and health promotion in the form of prevention of sexually transmitted infections, hand-washing hygiene, and youth knowing how to access medical care.

The strongest correlations of all between the developmental assets and key sectoral outcomes were between the DAP score and Workforce/Livelihoods Development, ranging

from .28-.57 across the four countries, and .41 overall.[13] The demonstrated linkage of developmental assets with economic outcomes and with literacy and numeracy in a global context is especially heartening. U.S. results have shown the correlation between having more developmental assets and youth being more likely to save money for the longer-term, and less likely to engage in gambling (Benson, Scales, Roehlkepartain, & Leffert, 2011; Roehlkepartain, 2012). Previously shown longitudinal relationships between students having high levels of developmental assets and high achievement at school (Scales et al., 2006) clearly also have an economic implication for students' occupational and financial success. And economic modeling in the U.S. has shown that consistent investment in children and youth across the first two decades of life has a significant impact on projected earnings far more than investment in early childhood alone (America's Promise Alliance, 2006).

But until this study, no research has demonstrated the direct correlation between youth having higher levels of these developmental assets and better literacy, numeracy, and availability of human, social, financial, and physical capital to generate income (and related in Jordan, even to having a safe and productive job rather than a dangerous and poorly compensated one).

This is a new and important contribution, because even our U.S. studies have never linked *developmenta*l assets with more direct *economic or livelihoods* outcomes. That we can do so in these four conflict or post-conflict countries suggests that developmental assets may have a strong association, not just to educational, health, or social outcomes, which has been demonstrated before in the U.S., but also to youths'—and therefore nations'—economic development. Thus, with some exceptions as noted, the results show the potential utility of the developmental assets approach for promoting positive youth development and development of civil society in majority-world contexts.

These results have shown that there are significant linkages in this diverse global sample between youths' experience of developmental assets and their well-being as measured by a

[13] It is interesting that the W/LD outcome was the least prevalent, but the one with the largest correlation with developmental assets. Analysis of individual outcome indicators by asset levels showed that, for the three W/LD indicators, assets had a negligible relationship to youth having an apprentice certificate, a positive relationship in some contexts (e.g., Jordan) with youth, if they worked, being more likely to have a safe and productive job, and a stronger relationship with youth saying they had physical, human, and financial capital to earn income. Since most of the youth and young adults in this study did not work in the last month (the criterion definition of "working"), the high correlation of assets with W/LD reflects the potential of youth experience of developmental assets to be associated with experiencing resources such as confidence in one's ability to secure a loan, knowing how to save money, calculate expenses, or read and write well enough to succeed in a job. While these do not translate with certainty to youth eventually engaging in safe and productive economic activity, they would appear to make such a positive outcome more likely.

variety of key economic, educational, health, and social outcomes. Thus, youth development in all these countries—and others like them—is an important investment: Youth who have the opportunity to develop to their full potential are assets to their family, community, and society, and are replacing chaos and insecurity with commitment to livelihoods, lessening of conflict, and attainment of education and health. These data suggest that strengthening the developmental assets youth experience helps them become greater assets to their society. So strengthening those developmental assets is an investment worth making.

Finally, it should also be noted that the causal relationship between the developmental assets and youth well-being is almost certainly bi-directional. Plentiful research shows that the more developmental assets youth have, the greater their economic, educational, health, and social well-being, but the greater their well-being, the more likely they are to attract and generate additional external and internal assets, which in turn reinforce better well-being, and so on, in an ongoing positive spiral that enhances both the individual and the society (Benson, Scales, & Syvertsen, 2011; Benson, Scales, Hamilton, & Sesma, 2006; Scales & Leffert, 2004). In this way, societal investments in positive child and youth development offer geometrically cascading positive returns to individuals, families, communities, and nations that ultimately can strengthen the fabric of society for generations to come.

OPERATIONAL CONCLUSIONS

Given the ambitious timeline of the study, the operational success of the project can be described as fairly remarkable. In only six months, candidate countries were identified, encouraged, screened, and selected; ground teams were formed and collaborative relationships with sample recruiting partners in-country were established by EDC (Honduras and Rwanda) and Save the Children (Bangladesh and Jordan); outcome measures were identified or created, vetted through USAID, and finalized; DAP, outcome, and demographic items were translated and pilot-tested into Arabic, Bengali, Kinyarwanda, and Spanish; country teams administered the final surveys to anywhere from 500-1,000 youth in their countries, and entered the data either directly into desktops or tablets or in Excel templates provided by Search Institute; and Search Institute cleaned and analyzed the data on a collective 3,000+ youth and prepared four country reports and this summative report.

As noted in the report, the fast pace of the project led to two technical issues in data collection that had to be compensated for during analysis. These issues speak to the practical complexity of multi-country studies in multiple languages with multiple partners on a short timeline. However, given the fast pace and comprehensive scope of the study, this small number of errors must be considered minimal and does not affect the overall conclusions.

The limited resources also limited opportunities for collaboration between Search Institute and the country offices administering the surveys. Over the subsequent months, as country teams have time for deliberations, it will be instructive to learn further how the country teams situate the findings in deep cultural context, and the policy and program development implications they generate from their more extended review and consideration of the results.

STUDY LIMITATIONS

The current study provides important new data on the international connection between developmental assets and key sectoral outcomes. However, the study has several limitations:

1. It was a cross-sectional study, so that no cause-effect relationship between assets and outcomes was able to be demonstrated.
2. The outcome measures, although comprehensive as a collective, were, as individual measures, not as strong psychometrically as would have been desirable, had there been time to more fully develop them.
3. The samples were recruited largely from positive youth development programs in the individual countries, and were not representative of those countries' youth. These results may be biased in a positive direction as a result.
4. In two of the countries, young adults over the age of 18 made up a majority of the country's sample, even though Search Institute's *Developmental Assets Profile* survey was designed specifically for youth ages 11-18. Using the DAP with this older population may have produced results of less validity for that age group.

RECOMMENDATIONS FOR FURTHER LINES OF INQUIRY

This initial study suggests several important lines of inquiry for subsequent research:

Longitudinal studies are needed. Although this cross-sectional study has yielded valuable data to inform policy and program development, it does not *confirm* the cause-effect relationship between developmental assets and positive youth outcomes that has been seen in U.S. studies (Roehlkepartain, Benson, & Sesma, 2003; Scales et al., 2006). Given the strong replication of the correlational relationships between assets and outcomes seen in this study, largely reflecting the patterns seen in U.S. samples, it is highly likely that those cause-effect relationships also exist in non-U.S. settings. But it will be important to document that to be the case.

Additional countries should be studied, but with **revised, improved outcome measures.** The outcome indicator results in these four countries tended to be skewed to the positive, no doubt in part because the accelerated project timeline required rapid selection and/or development

of those measures, with not enough time to craft them to better limit social desirability. That the predicted relationships between developmental assets and well-being outcomes still were observed, despite that positive skewness in the outcome measures, likely is a commentary on the strength of the underlying relationship.

Better outcome measures will introduce more response variability, and therefore theoretically should provide the opportunity for even stronger assets-outcomes relationships to be seen. Further, additional dialogue within diverse countries about cultural norms about expected youth behaviors and desired outcomes would inform measurement development and benchmarks that are put into place. (As we noted in this report, we used somewhat artificial cut-off points for determining whether a youth "has" or does not have a particular outcome. Ongoing cross-cultural dialogue might prove particularly valuable in informing these kinds of judgments in the future.)

It should be noted that one strategy for strengthening outcome measures would involve also conducting research and evaluation studies that focus on examining asset correlations with specific outcomes, such as sexual health or workforce readiness. These studies would allow for more in-depth and nuanced measures than were possible in this study. Over time, these individual studies would strengthen understanding of the role of assets in predicting various outcomes with much greater specificity than was possible in this exploratory study.

Countries should be included in research in which **data on sexual and reproductive health** and developmental assets can be collected to test the hypothesis that higher levels of assets will be related to better sexual and reproductive health. The cultural mores of these countries did not allow for asking those questions. In U.S. samples, the more assets youth have, the less sexual activity and more use of contraception they report (Benson, Scales, Roehlkepartain, & Leffert, 2011), but it remains to be seen whether that relationship holds in non-U.S. settings.

In addition to strengthening outcome measures, studies are also needed that link assets to external measures that both confirm the reliability of self-report on the assets and also deepen understanding of the relationship between assets and other outcomes. These studies could, for example, link asset scores with measures of academic achievement (such as standardized test scores), school disciplinary measures, health indicators (such as immunization records or HIV status), and arrests or other encounters with law enforcement.

Future research should attempt to **recruit larger, more diverse samples** than those in the current study. Even with these relatively large samples, they were too small to allow much comparison across various sub-groups within countries, especially in looking at outcomes across four levels of DAP scores. In addition, some country samples skewed to a particular demographic group (e.g., males, rural, etc.), limiting the interpretability of the findings.

More targeted studies would also enrich our understanding **of how assets in general—as well as specific assets—"work" across different outcomes, populations, and contexts.** Thus, for example, which asset categories or contexts contribute the most to particular outcomes for particular youth? A strategy focused on empowering young adolescent girls to stay in school, for example, would likely need to focus on a different subset of assets than an intervention focused on reducing violent activities among older youth in their 20s. U.S. studies show not only that the total number of assets matters, as confirmed here, but that clusters of particular assets also matter for specific outcomes (Leffert et al., 1998; Scales et al., 2000; Scales et al., 2006; Scales & Fisher, 2010). This kind of targeted strategic planning, research, and analysis would not only add value to specific interventions, but it would also allow for a more sophisticated utilization of an asset-based approach in diverse program and evaluation contexts.

Instrumentation specifically tailored to both young adults and to preteens is needed to expand the range of children and youth globally among whom the assets–outcomes relationship can be investigated. The current *Developmental Assets Profile* might not have fully captured the assets–outcomes link that is really there among young adults ages 18-28, simply because the DAP was designed for adolescents. Then too, there is increasing international interest in studying the presence and operation of developmental assets in the lives of preteens, including children as young as the age of entry to schooling and even pre-school. Although Search Institute has developed and is pilot-testing versions of the DAP for the parents of children in U.S. grades K-3, even this U.S. work is not completed, and considerably more development and testing will be needed to understand how well that instrument works in international samples.

Additional studies across multiple countries would contribute key new insights by **analyzing DAP results in the context of the macroeconomic, political, and social contexts of each country,** building evidence regarding how these developmental factors interact with broader social forces. For example, how does the influence of assets on outcomes vary as a function of the degree to which nations are characterized by the democracy of their government? Do assets work differently for youth in countries that are more rapidly developing the size of their economy and the breadth of economic opportunity, as contrasted with how assets work for youth in countries with more slowly developing and/or more narrow economies? Such research will require multi-level modeling studies across many countries in order to have sufficient statistical power to detect relationships not only at the individual youth level, but at the country level.

Finally, ongoing exploration is needed to **ensure that the underlying theory and research on developmental assets is relevant and salient** for each country and population where it is

introduced. The challenge, here, is to balance the value of developing from the ground up culturally specific frameworks and measures (which would be highly relevant, but would not be comparable across context and would be cost-prohibitive to take to scale) against the value of a common framework that may not reflect the real differences between cultures but allows for dialogue, scaling, and aggregation of findings across programs, countries, and contexts. Though we make efforts in each country to engage young people, families, and leaders in qualitative exploration to align and refine the DAP measure to be culturally responsive, this issue must remain an ongoing point of dialogue and exploration.

CONCLUDING COMMENT

Despite the limitations of the study, these results show that policies and programs that help youth attain higher levels of developmental assets are important national and international investments. Higher assets are associated with better well-being across a variety of livelihoods, conflict mitigation, health, educational, and social outcomes.

In a previous evaluation study of two different cohorts of youth in Bangladesh than participated in this study, a Save the Children youth empowerment program was shown to have contributed to a mean 22% increase in developmental assets over 6-9 months across the two cohorts, net of control group increases and contamination effects, with a mean effect size of .80, a level that is conventionally considered “large” (Scales, Benson, Dershem, et al., in press). Such improvements in youths’ assets environment raised them from a Fair level at the start of the program to a Good level after 6-9 months.

With the results of the current study now substantially replicating the associations between asset levels and positive outcomes previously documented in U.S. studies, it is clear that such increases in assets, brought about by intentional investment in positive youth development policies and programs, will have a profound effect on the well-being of young people, families, communities, and nations throughout the world.

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APPENDIX A. PARTICIPANT LIST FOR OCT. 2011 ASSETS CORRELATION STUDY WORKSHOP

3-5 p.m., October 20, 2011
U. S. Agency for International Development Headquarters
Washington, DC

US-AID

Clare Ignatowski (USAID/EGAT/ED)

Rachel Blum (USAID/EGAT/ED)

Nina Papadopoulos (USAID/EGAT/ED)

Linda Simpson (USAID/DGH/PRH/RTU)

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Eugene C. Roehlkepartain

Peter C. Scales

APPENDIX B. DEVELOPMENTAL ASSETS PROFILE (DAP) ITEMS AND THEIR ALIGNMENT WITH THE EIGHT CATEGORIES OF DEVELOPMENTAL ASSETS AND THE FIVE ECOLOGICAL CONTEXTS

External Asset Categories

I. Support
13. I ask my parents for advice.
47. I have parent(s) who try to help me succeed.
48. I have good neighbors who care about me.
49. I have a school that cares about kids and encourages them.
51. I have support from adults other than my parent(s).
54. I have a family that gives me love and support.
56. I have parent(s) who are good at talking with me about things.

II. Empowerment
17. I feel safe at home.
21. I feel valued and appreciated by others.
25. I feel safe at school.
29. I am included in family tasks and decisions.
36. I am given useful roles and responsibilities.
46. I have a safe neighborhood.

III. Boundaries and Expectations
43. I have friends who set good examples for me.
44. I have a school that gives students clear rules.
45. I have adults who are good role models for me.
50. I have teachers who urge me to develop and achieve.
52. I have a family that provides me with clear rules.
53. I have parent(s) who urge me to do well in school.
55. I have neighbors who help watch out for me.
57. I have a school that enforces rules fairly.
58. I have a family that knows where I am and what I am doing.

IV. Constructive Use of Time
31. I am involved in a church, synagogue, mosque, or other religious group.
34. I am involved in a sport, club, or other group.
40. I am involved in creative things such as music, theater, or art.
42. I am spending quality time at home with my parent(s) when we do things together.

Internal Asset Categories

V. Commitment to Learning
5. I enjoy reading or being read to.
7. I care about school.
8. I do my homework.
10. I enjoy learning.
26. I am trying to learn new things.
28. I am encouraged to try things that might be good for me.
38. I am eager to do well in school and other activities.

VI. Positive Values
1. I tell other people what I believe in.
9. I say no to tobacco, alcohol, and other drugs.
16. I think it is important to help other people.
22. I take responsibility for what I do.
23. I tell the truth even when it is not easy.
30. I am helping to make my school, neighborhood or city a better place.
32. I am developing good health habits.
33. I am encouraged to help others.
35. I am trying to help solve world problems like hunger or disease.
37. I am developing respect for other people.
41. I am serving others in my community.

VII. Social Competencies
4. I say no to things that are dangerous or unhealthy.
6. I build friendships with other people.
11. I express my feelings in proper ways.
18. I plan ahead and make good choices.
19. I stay away from bad influences.
20. I resolve conflicts without anyone getting hurt.
24. I accept people who are different from me.
39. I am sensitive to the needs and feelings of others.

VIII. Positive Identity
2. I feel in control of my life and future.
3. I feel good about myself.
12. I feel good about my future.
14. I deal with disappointment without getting too upset.
15. I find good ways to deal with things that are hard in my life.
27. I am thinking about what my purpose is in life.

ASSET ITEMS AND THEIR ALIGNMENT WITH THE FIVE ECOLOGICAL CONTEXTS

A. Personal

1. I tell other people what I believe in.
2. I feel in control of my life and future.
3. I feel good about myself.
4. I say no to things that are dangerous or unhealthy.
5. I enjoy reading or being read to.
9. I say no to tobacco, alcohol, and other drugs.
12. I feel good about my future.
14. I deal with disappointment without getting too upset.
18. I plan ahead and make good choices.
22. I take responsibility for what I do.
23. I tell the truth even when it is not easy.
27. I am thinking about what my purpose is in life.
32. I am developing good health habits.

B. Social

6. I build friendships with other people.
11. I express my feelings in proper ways.
15. I find good ways to deal with things that are hard in my life.
16. I think it is important to help other people.
19. I stay away from bad influences.
20. I resolve conflicts without anyone getting hurt.
21. I feel valued and appreciated by others.
28. I am encouraged to try things that might be good for me.
33. I am encouraged to help others.
39. I am sensitive to the needs and feelings of others.
43. I have friends who set good examples for me.
45. I have adults who are good role models for me.
51. I have support from adults other than my parent(s).

C. Family

13. I ask my parents for advice.
17. I feel safe at home.
29. I am included in family tasks and decisions.
42. I am spending quality time at home with my parent(s) when we do things together.
47. I have parent(s) who try to help me succeed.
52. I have a family that provides me with clear rules.
53. I have parent(s) who urge me to do well in school.
54. I have a family that gives me love and support.
56. I have parent(s) who are good at talking with me about things.
58. I have a family that knows where I am and what I am doing.

D. School

7. I care about school.
8. I do my homework.
10. I enjoy learning.
25. I feel safe at school.
26. I am trying to learn new things.
38. I am eager to do well in school and other activities.
44. I have a school that gives students clear rules.
49. I have a school that cares about kids and encourages them.
50. I have teachers who urge me to develop and achieve.
57. I have a school that enforces rules fairly.

E. Community

24. I accept people who are different from me.
30. I am helping to make my school, neighborhood, or city a better place.
31. I am involved in a church, synagogue, mosque, or other religious group.
34. I an involved in a sport, club, or other group.
35. I am trying to help solve world problems like hunger or disease.
36. I am given useful roles and responsibilities.
37. I am developing respect for other people.
40. I am involved in creative things such as music, theater, or art.
41. I am serving others in my community.
46. I have a safe neighborhood.
48. I have good neighbors who care about me.
55. I have neighbors who help watch out for me.

APPENDIX C. FOUNDATIONAL SURVEY TEMPLATE FOR ALL COUNTRIES

Note: The Developmental Assets Profile is a copyrighted Search Institute. These items may only be used with written permission from Search Institute.

SEARCH INSTITUTE SURVEY OF ASSETS AND EXPERIENCES

This survey asks about your experiences, attitudes, and feelings. Your answers will be combined with the answers of many other youth in your country and from other countries. The answers will be used to improve life for young people.

There are no right or wrong answers. If you do not want to answer a question, you do not have to. But we hope you will want to answer all the questions. Please answer honestly. Thank you for doing the survey!

WHAT IS YOUR GENDER? ☐ Male ☐ Female

HOW OLD ARE YOU? _____

HOW DO YOU DESCRIBE YOUR RACE/ETHNICITY? **(CONTEXTUALIZED FOR EACH COUNTRY)**

WHERE DO YOU LIVE?

☐ Large town ☐ Village
☐ Small town ☐ Small village

ARE YOU CURRENTLY ENROLLED IN AN ORGANIZED SCHOOL OR A FORMAL LEARNING PROGRAM?

☐ Yes, school ☐ Yes, learning program
☐ No

WHAT IS THE HIGHEST SCHOOL GRADE YOU HAVE COMPLETED?

☐ Have not gone to school
☐ Some primary school
☐ Completed primary school
☐ Some secondary school
☐ Completed secondary school
☐ Some higher education after secondary school (technical training, college)

☐ Completed higher education (graduation from technical training or graduation from college after secondary school)

DEVELOPMENTAL ASSETS

INSTRUCTIONS: Below is a list of positive things that you might have in *yourself, your family, friends, neighborhood, school, and community*. For each item that describes you **now or within the past 3 months**, check if the item is true:

Not At All or Rarely	Somewhat or Sometimes
Very or Often	Extremely or Almost Always

If you do not want to answer an item, leave it blank. But please try to answer all items as best you can.

Note: The term "Parent(s)" means 1 or more adults who are responsible for raising you.

	Not At All Or Rarely	Somewhat or Sometimes	Very or Often	Extremely or Almost Always
I . . .				
1. Stand up for what I believe in	☐	☐	☐	☐
2. Feel in control of my life and future	☐	☐	☐	☐
3. Feel good about myself	☐	☐	☐	☐
4. Avoid things that are dangerous or unhealthy	☐	☐	☐	☐
5. Enjoy reading or being read to	☐	☐	☐	☐
6. Build friendships with other people	☐	☐	☐	☐
7. Care about school	☐	☐	☐	☐
8. Do my homework	☐	☐	☐	☐
9. Enjoy learning	☐	☐	☐	☐
10. Feel good about my future	☐	☐	☐	☐
11. Seek advice from my parents	☐	☐	☐	☐
12. Deal with frustration in positive ways	☐	☐	☐	☐
13. Overcome challenges in positive ways	☐	☐	☐	☐
14. Think it is important to help other people	☐	☐	☐	☐
15. Feel safe and secure at home	☐	☐	☐	☐
16. Plan ahead and make good choices	☐	☐	☐	☐

	Not At All Or Rarely	Somewhat or Sometimes	Very or Often	Extremely or Almost Always
17. Resist bad influences	☐	☐	☐	☐
18. Resolve conflicts without anyone getting hurt	☐	☐	☐	☐
19. Feel valued and appreciated by others	☐	☐	☐	☐
20. Take responsibility for what I do	☐	☐	☐	☐
21. Tell the truth even when it is not easy	☐	☐	☐	☐
22. Accept people who are different from me	☐	☐	☐	☐
23. Feel safe at school	☐	☐	☐	☐
I AM . . .				
24. Actively engaged in learning new things	☐	☐	☐	☐
25. Developing a sense of purpose in my life	☐	☐	☐	☐
26. Encouraged to try things that might be good for me	☐	☐	☐	☐
27. Included in family tasks and decisions	☐	☐	☐	☐
28. Helping to make my community a better place	☐	☐	☐	☐
29. Involved in a religious group or activity	☐	☐	☐	☐
30. Developing good health habits	☐	☐	☐	☐
31. Encouraged to help others	☐	☐	☐	☐
32. Involved in a sport, club, or other group	☐	☐	☐	☐
33. Trying to help solve social problems	☐	☐	☐	☐
34. Given useful roles and responsibilities	☐	☐	☐	☐
35. Developing respect for other people	☐	☐	☐	☐
36. Eager to do well in school and other activities	☐	☐	☐	☐
37. Sensitive to the needs and feelings of others	☐	☐	☐	☐
38. Involved in creative activities such as music, theater, or art	☐	☐	☐	☐
39. Serving others in my community	☐	☐	☐	☐
40. Spending quality time at home with my parent(s)	☐	☐	☐	☐
I HAVE . . .				
41. Friends who set good examples for me	☐	☐	☐	☐

	Not At All Or Rarely	Somewhat or Sometimes	Very or Often	Extremely or Almost Always
42. A school that gives students clear rules	☐	☐	☐	☐
43. Adults who are good role models for me	☐	☐	☐	☐
44. A safe neighborhood	☐	☐	☐	☐
45. Parent(s) who try to help me succeed	☐	☐	☐	☐
46. Good neighbors who care about me	☐	☐	☐	☐
47. A school that cares about kids and encourages them	☐	☐	☐	☐
48. Teachers who urge me to develop and achieve	☐	☐	☐	☐
49. Support from adults other than my parent(s)	☐	☐	☐	☐
50. A family that provides me with clear rules	☐	☐	☐	☐
51. Parent(s) who urge me to do well in school	☐	☐	☐	☐
52. A family that gives me love and support	☐	☐	☐	☐
53. Neighbors who help watch out for me	☐	☐	☐	☐
54. Parent(s) who are good at talking with me about things	☐	☐	☐	☐
55. A school that enforces rules fairly	☐	☐	☐	☐
56. A family that knows where I am and what I am doing	☐	☐	☐	☐

The next questions ask about your education, health, and job skills. Please answer honestly.

	Yes	**No**
1. I feel comfortable managing my own money.	☐	☐
2. I feel able to keep to a budget.	☐	☐
3. I have the math and numbers skills that I need for most jobs.	☐	☐
4. I have skills that I can use to get a job.	☐	☐
5. I am able to write an e-mail or letter.	☐	☐
6. I feel able to fill out an application form for a job.	☐	☐
7. During the past <u>month,</u> have you worked for pay (in cash or goods)? Include work for a business you ran by yourself or with others.)	☐ Continue with question 8	☐ Skip to question 14

What is true about the main work you do or the main way you make money or earn a living…?	**Yes**	**No**
8. It is dangerous (such as sex work, or involves drugs, or is physically dangerous	☐	☐
9. **It keeps me from going to school**	☐	☐
10. It helps me contribute to my family	☐	☐
11. **I get paid enough to cover my daily expenses**	☐	☐
12. I get paid enough to put some money aside for the future.	☐	☐
13. **It gives me skills I can use to get a better job or make more income**	☐	☐

When it comes to the work I want to do, I can…	**Never/ Rarely**	**Sometimes**	**Often**	**Almost Always**
14. Read well enough to be successful	☐	☐	☐	☐
15. Write well enough to be successful	☐	☐	☐	☐
16. Do enough math to be successful	☐	☐	☐	☐
I know how to…				
17. Calculate my income and expenses so I know how much is left	☐	☐	☐	☐
18. Decide what to do with any money I have left over after paying my expenses	☐	☐	☐	☐
I have enough money saved to…				
19. Start a new economic activity (business start up or growing season)	☐	☐	☐	☐
I can get a formal or informal loan that can…				
20. Start a new economic activity (business start up or growing season)	☐	☐	☐	☐

	Yes	No
21. Have you completed an apprenticeship or internship program by earning a certificate or passing a test?	☐ Skip to question 23	☐ Continue with question 22

	Yes, several	Yes, one or two	No
22. Do you know of any kind of apprenticeship scheme to learn a trade?	☐	☐	☐
23.			

During the last 12 months, how many times have you…?	**Never**	**Once or twice**	**3 or 4 times**	**5 or more times**
24. Hit or beat someone up	☐	☐	☐	☐
25. Spent time with people who harm other people or property	☐	☐	☐	☐
26. Been hurt physically by someone on purpose	☐	☐	☐	☐

How likely is it that you would do each of these to resolve your most difficult conflicts…?	**Very Likely**	**Somewhat Likely**	**Unlikely**	**Very Unlikely**
27. Go to an elder	☐	☐	☐	☐
28. Go to the police	☐	☐	☐	☐
29. Discuss it between you and the other person/people	☐	☐	☐	☐
30. Fight it out to see who wins	☐	☐	☐	☐

	Often	A little bit	Rarely
31. Do you have the opportunity to interact with people from other cultures or religions?	☐ **Continue with question 31**	☐ **Continue with question 31**	☐ **Skip to question 32**

	Very Positive	Somewhat Positive	Somewhat Negative	Very Negative
32. How do you rate those interactions with people from different cultures or religions?	☐	☐	☐	☐

	Yes	No
33. Have you ever had sexual intercourse?	☐ **Continue with question 33**	☐ **Skip to question 37**

	Yes	No	Not Sure
34. Did you use a condom when you last had sexual intercourse?	☐	☐	☐

	0 people	1 person	2 people	3 people	4 people	5 people	6 or more
35. In the last year, with how many people have you had sexual intercourse?	☐	☐	☐	☐	☐	☐	☐

	Yes	No
36. Are you currently doing something or using any method to delay or avoid getting pregnant?	☐ **Continue with question 36**	☐ **Skip to question 37**

37. Which method(s) did you use the last time you had sexual intercourse? (Check all that apply.)					
Sterilization ☐	IUD ☐	Injectibles ☐	Implants ☐	Pill ☐	Condom ☐
Female condom ☐	Foam & jelly ☐	Diaphragm ☐	Rhythm ☐	Withdrawal ☐	Other ☐

	Yes	**No**
38. Can people get the AIDS virus because of witchcraft or other supernatural means?	☐	☐
39. Can using condoms reduce the risk of HIV transmission?	☐	☐
40. Can a healthy-looking person have HIV?	☐	☐

For each of the following, please tick whether the statement is true or false. To stay healthy, people should…	**True**	**False**
41. Wash their hands after going to the bathroom	☐	☐
42. Use soap when washing hands	☐	☐
43. Keep hands from rubbing together after washing	☐	☐

During the past 30 days, how often did you…?	**Never**	**Rarely**	**Some-times**	**Most of the time**	**Always**
44. Wash your hands before eating	☐	☐	☐	☐	☐
45. Wash your hands after using the toilet or latrine	☐	☐	☐	☐	☐
46. Use soap when washing your hands	☐	☐	☐	☐	☐

How much do you agree or disagree? I know…	Strongly Disagree	Disagree	Agree	Strongly Agree
47. Where to go to get a health examination or medicines	☐	☐	☐	☐
48. How to get to a doctor or medical care when I need it	☐	☐	☐	☐

Please read this story and then answer the questions that follow it.

A big tree stood in a garden. It was alone and lonely. One day a bird came and sat on it. The bird held a seed in its beak. It dropped the seed near the tree. A small plant grew there. Soon there were many more trees. The big tree was happy.

49. Why was the tree sad?	**50. What did the bird drop near the tree?**
a. It lost its friend b. It was alone and lonely c. There was no sun d. Don't know	a. A tree branch b. A piece of bread c. A seed d. Don't know

51. Why was the tree happy at the end of the story?

a. It was not alone – there were many trees

b. The sun came out

c. It rained

d. Don't know

How much do you agree or disagree?	Strongly Disagree	Disagree	Agree	Strongly Agree
52. I can figure out how to do my schoolwork, even if it is hard.	☐	☐	☐	☐
53. I can master what is being taught in school this year.	☐	☐	☐	☐

	There is little I can do to help	I can do some things to help	I can do many things to help
54. How much can you do things to help solve problems in your community or village?	☐	☐	☐

55. How many hours do you spend in a typical week to volunteer or do something without pay to make your community a better place?	0 hours	1 hour	2 hours	3-5 hours	6 or more hours
	☐	☐	☐	☐	☐

Over the past year, how often, if ever, has anyone in your family, including you, gone without…	Never	Just once or twice	Several times	Many times	Always
56. Enough food to eat	☐	☐	☐	☐	☐
57. Enough clean water for home use	☐	☐	☐	☐	☐
58. Medicines or medical treatment	☐	☐	☐	☐	☐

Over the past year, how often, if ever, has anyone in your family, including you, …	Never	Just once or twice	Several times	Many times	Always
59. Had something stolen from your home	☐	☐	☐	☐	☐
60. Been physically attacked	☐	☐	☐	☐	☐

61. What best describes your marital situation?	**62. Who do you live with most of the time? (Tick all that apply)**
☐ Married ☐ Not married, living with partner ☐ Single – never married ☐ Single – divorced or separated ☐ Widowed ☐ Other	☐ Parents, and/or brothers, and/or sisters ☐ Other relatives ☐ With my own spouse/partner and/or children ☐ By myself ☐ Other

62. How many children do you have? _____

63. With how many <u>different men/women</u> did you have your children? _____

64. How many of the children <u>live with you</u> now? _____

THANK YOU FOR COMPLETING THIS SURVEY.

APPENDIX D. FINAL CORE OUTCOME INDICATORS, ITEMS, AND SCORING

OVERVIEW		SCORING FOR FIVE BROAD OUTCOMES
1) Employment/Workforce Development/Livelihoods	3	1) Workforce and Livelihoods Development a. have any 2 of the 3 indicators (recode Job Credentials so that either Yes=1, and the No=0)
2) Conflict Mitigation	3	2) Conflict Mitigation a. Have any 2 of the 3 indicators
3) Health		3) Health a. If do NOT answer Q32-36, NOR Q37-39: must have 2 of 2 health & services indicators b. If DID NOT answer Q32-36 but DID answer Q37-39: must have HIV Knowledge AND 1 of 2 other health and services indicators c. If DID answer both Q32-36 andQ37-39: have any 2 of 2 reproductive health indicators, plus HIV Knowledge AND 1 of 2 other health and services indicators
HIV/AIDS/Reproductive Health	1	
Hygiene	1	
Knowledge of access to services	1	
4) Education	4	4) Education a. MUST have functional literacy AND numeracy, plus 1 of remaining 2 indicators
5) Civil Society	2	5) Civil Society a. Have 2 of the 2 indicators
Total Number of Indicators	15	

Indicators	Source	Items	Scoring Algorithm
WORKFORCE & LIVELIHOODS DEVELOPMENT			
Good Job—Youth accesses safe (non-harmful) and productive employment	Adaptation of Baker et al. 2009 Girls gaining ground in Maharashtra, plus UNICEF Multiple Indicator cluster Survey 4	L7.During the past month, have you worked for pay (in cash or goods)? Include work for a business you ran by yourself or with others. (Yes/No)	**Yes to 7 AND** **8-9=No AND** **3 of 10-13=Yes** **Also recoded 7 and 8, for yes=1 and No=0. Recode10-13, (code Yes = 1 and No = 0) to use SUM function.**
	NEW for this study	If yes to 7: What is true about the main work you do or the main way you make money or earn a living? (Yes/No) L8. It is dangerous (such as sex work, or involves drugs, or is physically dangerous). L9. It keeps me from going to school. L10. It helps me contribute to my family. L11. I get paid enough to cover my daily expenses. L12. I get paid enough to put some money aside for the future. L13. It gives me skills I can use to get a better job or make more income.	
Enough Capital— Have human, social, financial, and physical capital needed to generate income	DAP Workshop @ USAID	L4.I have skills that I can use to get a job. (yes, no)	**EITHER:** **4=1 AND Mean 14-20 ≥ 3 (often)** **OR:** **4=1 AND 6 of the 8 items (14-20) ≥= 3** **Reverse 14-20 (Recode 3 or 4 = 1, 1 or 2 = 0), to use the SUM function.**
	LCP: Basic Education	When it comes to the work I want to do, I can… L14.read well enough to be successful. L15.write well enough to be successful L16.do enough math to be successful	
	LCP: Budgeting Skills	I know how to… L17.Calculate my income and expenses so I know how much is left." L18.Decide what to do with any money I have left over after paying my expenses.	
	LCP: Savings	I have enough money saved to… L19.Start a new economic activity (business start up or growing season).	

Indicators	Source	Items	Scoring Algorithm
	TAP: Access to Credit	I can get a formal or informal loan that can... L20.Start a new economic activity (business start up or growing season). (never or rarely, sometimes, often, almost always)	
Job Credentials— Have recognized certification in a job area (passed a trade or certification test; Involved in an apprenticeship or internship program)	New for this study	L21.Have you completed an apprenticeship or internship program by earning a certificate or passing a test? (yes, no)	HAVE certification: 21=Yes AWARE: 21= No, AND 22 = 1 or 2 No: 21=No AND 22=3 Recoded so higher is better. Check is HAVE certification: 21=Yes AWARE: 21= No, AND 22 = 2 or 3 No: 21=No AND 22=3 (skip to 22, if 21= No) Not binary put tripart score:
	Adapted Mercy Corps Transformation Tool	If no: L22.Do you know of any kind of apprenticeship scheme to learn a trade? (yes, several; yes, one or two; no)	
VIOLENCE			
Non-violent— Engagement in violence as perpetrator or victim	Adapted from Search Institute	During the last 12 months, how many times have you…? L23.Hit or beat up someone. L24.Spent time with people who harm other people or property. L25.Been hurt by someone on purpose. (never, once, twice, 3 or 4 times, 5 or more times)	Mean 23-25 ≤ 2 (Once or less) Reversed so higher is better. Thus, check is that Mean 23-25 >=3 (Once or less)
Violence non-normative—Low normative acceptance of violence	Adapted from Mercy Corps Youth & Conflict Focus Group Discussion Guide	How likely is it that you would do each of these to resolve your most difficult conflicts? (very likely, somewhat likely, unlikely, very unlikely) L26.go to an elder L27.go to the police L28.discuss it between you and the other person/people L29.fight it out to see who wins	29=4 (Very Unlikely) AND Mean 26-28 ≤ 2 Reversed so higher is better. Thus, check is that AND Mean 26-28 ≥ 3

Indicators	Source	Items	Scoring Algorithm
Interaction across differences— Frequency of positive interaction with youth from different groups	Mercy Corps Transformation Tool	L30.Do you have opportunity to interact with people from other cultures, religions? (often, a little bit, rarely)	30 ≤ 2 AND 31 ≤ 2 Reversed so higher is better. Thus, check is that 30 >= 2 AND 31 ≥ 3.
	New for this study	L31.How do you rate those interactions? (very positive, somewhat positive, somewhat negative, very negative)	
HEALTH			
Protected from sexually transmitted infections/disease— delay of intercourse & use of condom		L32.Have you ever had had sexual intercourse?	(32=2), OR (32=1 AND 33=1, AND 34 ≤ 3) (2 people or fewer) Recoded so higher is better. Thus, check is that: 32=1 (No), OR ((32=0 (Yes) AND 33=3 (Used condom), AND 34 >= 5 (2 people or fewer))
	Joint UN Program on HIV/AIDS Framework for Monitoring & Evaluation	If yes… L33.Did you use a condom when you last had sexual intercourse?	
	Adapted from WHO Global School-Based Student Health Survey, 2009	L34.In the last year, with how many people have you had sexual intercourse? (0 people, 1 person, 2 people, 3 people, 4 people, 5 people, 6 or more people)	
Accurate condom and STI knowledge— E.g., Know condom can prevent HIV; Know that a healthy-looking person can have HIV)	AIDS Indicator Survey, Individual, July 2011	L37.Can people get the AIDS virus because of witchcraft or other supernatural means? (yes, no)	EITHER: 37-39 all=1 (Reverse 37, so Yes=0 and No=1) OR 2 of the 3 reversals = 1 (Reverse 38 and 39, so Yes=1 and No=0)
	Joint UN Program on HIV/AIDS Framework for Monitoring & Evaluation	L38.Can using condoms reduce the risk of HIV transmission? (Yes, No) L39.Can a healthy-looking person have HIV? (Yes, No)	
Protected from unwanted pregnancy—Delay of intercourse & use of contraception	Demographic & Health Survey 6 (2008-2013)	L35.Are you currently doing something or using any method to delay or avoid getting pregnant? L36.Which method are you currently using? (tick all that apply) (sterilization, IUD, injectibles, implants, pill, condom, female condom, foam & jelly, diaphragm, rhythm, withdrawal, other)	Recode 36: 1-5=1, 6-7=2, 8-9=3, 10=4, 11=5, ignore other CHECK ON HOW IT WAS CODED – Yes =1 and No = 0 is how it was coded Then: 35=1 (Yes) – recoded that Yes=1 and No=0 AND 36 ≤ 2 (the most

Indicators	Source	Items	Scoring Algorithm
			effective groups of methods – already in the Yes=1 and No=0 format)
Adequate hand washing hygiene	New—based on USAID Jt. Publication 8, Hygiene Improvement Framework)	To stay healthy, people should … (True/False) L40.Wash their hands after going to the bathroom (T) L41.Use soap when washing hands (T) L42.Keep hands from rubbing together after washing (F—rub together three times)	EITHER: 40-42 all=1 (Recode 42, so False = 1 and True=0)) OR 2 of these 3=1 (Recode 40 and 41, so True=1 and False = 0) AND (regardless of which of the above used for 40-42) Mean 43-45 ≥ 4 (Most of the time)
	WHO Global School-Based Student Health Survey, 2009	L43. During the past 30 days, how often did you wash your hands before eating? L44.During the past 30 days, how often did you wash your hands after using the toilet or latrine? L45. During the past 30 days, how often did you use soap when washing your hands? (Never, Rarely, Sometimes, Most of the time, Always)	
Knowledge of how to access medical care	New for this study	I know… (SD-SA) L46.Where to go to get a health examination or medicines. L47.How to get to a doctor or medical care when I need it.	Mean 46-47 >=3 (Agree)
EDUCATION			
Functional literacy	DAP Workshop @ USAID	L5.I am able to write a letter or email. L6.I feel able to fill out an application form for a job.	**1 of 5-6=1 Recoded so Yes=1 and No=0**
	World Vision Functional Literacy Assessment Tool	Read 5 sentence story, answer 2 of 3 comprehension questions correctly: A big tree stood in a garden. It was alone and lonely. One day a bird came and sat on it. The bird held a seed in its beak. It dropped the seed near the tree. A small plant grew there. Soon there were many more trees. The big tree was happy. 48. Why was the tree sad? a. it lost its friend b. it was alone and lonely	**AND 2 of 48-50 answered correctly:** **48=b** **49=c** **50=a** **Recoded 48-50, so right answer = 1 and other**

Indicators	Source	Items	Scoring Algorithm
		c. there was no sun d. don't know 49. What did the bird drop near the tree? a. a tree branch b. a piece of bread c. a seed d. don't know 50. Why was the tree happy at the end of the story? a. it was not alone/many trees b. the sun came out c. it rained d. don't know	**answers = 0.**
Functional numeracy	DAP Workshop @ USAID	L1.I feel comfortable managing my own money. (yes, no) L2.I feel able to keep to a budget. (yes, no)	**EITHER: 1-3 all=1** **OR 2 of the 3=1**
	Mercy Corps Youth Transformation Framework	L3.I have the math and numbers skills that I need for most jobs. (yes, no)	**(Recoded all 3 so Yes=1 and No=0, to use the SUM function)**
School completion— Have completed school (formal or non-formal, various levels), especially primary school, or are at age-appropriate grade level	New	D5. What is the highest school grade you have completed? ○ have not gone to school ○ some primary school ○ completed primary school ○ some secondary school ○ completed secondary school ○ some higher education after secondary school (technical training, college) ○ completed higher education (graduation from technical training or graduation from college after secondary school)	Calculate age-appropriate grade level for each country separately If the youth is young enough to be in school, but is not (School status not equal to Yes), then the youth must be marked as No, they are not in the appropriate grade.
Academic self efficacy or self-confidence	Search Institute measure	L51. I can figure out how to do my schoolwork, even if it is hard. L52. I can master what is being taught in school	**Mean 51-52 >= 3 (Agree)**

Indicators	Source	Items	Scoring Algorithm
CIVIL SOCIETY			
Community self-efficacy—Confidence in influencing community affairs that affect them	Search Institute measure (adapted)	L53.How much can you do things to help solve problems in your community or village? ○ There is very little I can do to help ○ I can do some things to help ○ I can do many things to help	53 ≥ 2 (can do some or many things)
Frequency volunteering	Search Institute measure	L54.How many hours in a typical week do you volunteer or do something without pay to make your community a better place? (0 hours; 1 hour; 2 hours; 3-5 hours; 6 or more hours)	54 ≥ 2 (1 hour or more)
DEMOGRAPHICS			
Deprivation—wealth status indicator, e.g., how often go without food, have electricity or not, etc.	Kenya Afrobarometer, 2008	Over the past year, how often, if ever, have you or anyone in your family gone without…(never, just once or twice, several times, many times, always) L55 *enough food to eat L56 *enough clean water for home use L57 *medicines or medical treatment *enough fuel to cook your food (not in) *a cash income (not in)	Mean ≤ 2 (once or twice, or never) **Recoded so higher number is better.** **Mean >= 4 (once or twice, or never)**
Safety	Kenya Afrobarometer, 2008	Over the past year, how often, if ever, have you or anyone in your family…(never, just once or twice, several times, many times, always) L58 *had something stolen from your home L59 *been physically attacked	Ask countries if it is realistic to use US standard of both=Never If not realistic, then Mean ≤ 2 (once or twice, or never) Recoded so higher number is better. Mean >= 4 (once or twice, or never)
Age		How old are you? [number]	
Gender		What is your gender? (Male, Female)	

Indicators	Source	Items	Scoring Algorithm
Ethnicity		Contextualize by country	
Rural vs. urban		D3.What best describes the place where you live? [Country contextualization] (Large town, Small town, Village, Small village)	
In school vs. out of school		D4.Are you currently enrolled in an organized school or formal learning program? (Yes, school, Yes, learning program, No)	
Living situation		L61. Who do you live with most of the time? (Tick all that apply) [Parent(s), Other relatives, With my own spouse/partner and/or children, By myself, Other]	
Marital status		L60.What best describes your marital situation? (Married; Not married living with partner; Single, never married; Single, divorced or separated; Widowed; Other	
Number of children		L62. How many children do you have? [number]	
Number of partners with whom had children		L63. With how many different men/women did you have your children? [number]	
Children living with respondent		L64. How many of your children live with you right now? [number]	

APPENDIX E. PILOT TEST GUIDELINES

Pilot testing of the translation of the additional DAP questions: cognitive interview

Cognitive Interview Guidelines

Purpose: Search Institute has developed a set of outcome-related questions to be added to the original Developmental Assets Profile (DAP) tool. This memo describes the process of the first stage of piloting the new questions and testing accuracy of translation through cognitive interviewing of a small sample of youth.

Method of survey administration: The first stage of the pilot will be conducted in person, as one-on-one interviews. The interviews will be conducted by designated project staff. We recommend interviewing at least 10 youth for this stage of the pilot. We recommend paying participants for their time.

Scheduling and confirmation: Prior to scheduling, participants must be recruited. Participants of the pilot must be similar to the ones participating in the main study, particularly regarding age and education level, and they should not have been exposed to the content of the DAP tool before.

Pilot test Interviews will be scheduled to allow at least an hour for each interview; time slots may be adjusted after initial interviews. It is recommended to recruit more youth than required 10 so that if someone does not show or it is determined that more interviews are needed, others could be invited to participate.

Preparation for the survey administration: To prepare for the interview stage of the pilot, the project staff must have a ready-to-sign consent form; three hard copies of the questions to be pilot tested a digital voice recorder, if available, and the participant's compensation, if applicable. It is important that the project staff member who is conducting cognitive interviews ("interviewer") knows the tested questions well and outlines in advance what he/she is going to ask with regard to each specific question. This may include queries about understanding specific words (e.g., "budget"), translation of specific words when multiple translations are possible, and participant understanding of the entire sentence. It might be helpful to highlight any key words or concepts that the interviewer wishes to focus on or explore ahead of time.

It is desirable that the same 1-2 person(s) conduct the cognitive interviews for this stage of the pilot.

Purpose of the interview

The interviewer must begin by explaining to the participant and his/her parents the purpose of the interview. For example,

"We are preparing a survey form that we would like to ask participants of our program to fill out. The survey was prepared in English and then translated into [Spanish, etc.]. This interview will help us test the accuracy of the translation."

Then, the interviewer should review consent form with parents and the participant and ask them to sign the consent form. Parents should be given a copy of the consent form and the questions that are being pilot tested for their information.

After the consent form is signed, parents should be shown to waiting area and the participant asked to come to a location of the interview. The interview should take place in a private or semi-private location with a low level of noise and potential distraction.

The interviewer should begin by explaining the purpose of the interview:

"Today we are going to talk about some questions on a survey. I'm interested not in what your answer is, but how you get your answer: what you're thinking about when you hear the question, what pictures you see in your head, what examples you think of in your mind, what the words means to you."

Then, the interview should demonstrate "talking through your thinking."

Sample script: "For example, the first question asks if I feel comfortable managing my own money…well when I hear that question I think that being comfortable with money means being happy with the amount I have and knowing what to do with it. But I'm not sure what they mean by my own money since my parents save my money for me, but I guess it still counts...so yes, I'm happy with the money I have and I know what I want to do with it."

The interviewer should emphasize that the participant can let the interviewer know if he/she is not comfortable with ANY question for ANY reason.

Sample script: "As we go through the survey, please let me know if you are not comfortable with any question. You do not have to discuss anything that makes you feel uncomfortable."

The interviewer should ask the participant to read the instructions out loud and ask if they make sense to the participant.

INSTRUCTIONS: Below is a list of positive things that you might have in *yourself, your family, friends, neighborhood, school, and community*. For each item that describes you now or within the past 3 months, check if the item is true: Not At All or Rarely Somewhat or Sometimes Very or Often Extremely or Almost Always. If you do not want to answer an item, leave it blank. But please try to answer all items as best you can.

"Do these instructions make sense?"

"Can you tell me what the instructions are in your own words?"

"What do you think of when you hear 'positive things'?"

"Are words like 'rarely' or 'extremely' words you use to describe your life or your feelings?"

Then, the interviewer should ask the participant to read each question out loud and answer back what he understands the question to be asking. Ask the participant probing questions, for example:

"What does 'number skills' mean to you?"

"Can you put the question in your own words?"

"Was it easy to answer?"

"I noticed you hesitated…what were you thinking about during that time?"

"What you think of when you hear 'budget'?"

"What kind of jobs do you think of when this question asks about job?"

"This asked about e-mail. Do you text? Do you know what writing letters using paper is like? Is e-mail the only way you communicate with others in writing?"

Throughout the interview, the interviewer should take detailed notes, even if using a voice recorder. The interviewer should mark any key words that the participant feels are important to understand the question or cause confusion.

The interviewer should ask about subjective words such as "success" to be sure youth have consistent definitions that also match the question's intent and survey-writers' expectations.

The interviewer should record which questions participants don't understand and what concepts are difficult to understand. When the similar issues appear repeatedly, the

interviewer can begin to "pilot" new ways to translate words or new phrasings that could increase clarity. The interviewer can use feedback from participants to draft revised questions.

Sample script: "Would this question be better if it used these words instead?"

"Would this question be easier to understand if it was phrased this way instead?

The interviewer should phrase probing questions with the emphasis being on the questions needing revision and not the participants not understanding.

Sample script: "Is this question easy to understand?" or "What about this question is unclear?" NOT "Do you understand?" or "Why don't you understand?"

Throughout the interview, the interviewer should remind participants that the focus of the interview is on the wording of the questions and understanding what the questions mean to the participant, and not on participants' answers.

During the demographic questions, the interviewer should focus less on wording and instead record the comfort levels of youth as they answer these questions. The interviewer should remind participants that he/she is not seeking their answers, just understanding what questions mean to them and if they are comfortable with them. When questions elicit discomfort, the interviewer should tactfully probe why participants are uncomfortable. He or she can begin to pilot new words or phrasing that could increase comfort.

Sample script: "The next questions ask you questions about you, your family, and your home life. After reading each question, tell me on a scale from 1-5 how comfortable you would be answering this question. Remember, you don't have to tell me the answer, just if you'd be 1) completely uncomfortable, 2) kind of uncomfortable, 3) don't care, 4) kind of comfortable, and 5) completely comfortable answering this question if you were taking the survey."

During the functional reading test, the interviewer should ask participants how they arrived at their answer to be sure incorrect answers are not translation related.

Sample script: "These questions ask you to read a short paragraph and then answer questions about what you read. Please read me the paragraph, and the questions. Then tell me what you think the answer might be and what you read or thought about that helped you find the answer."

The project staff should continue interviewing subjects until they begin hearing the same information three or more times. This indicates interviews are approaching "saturation," and interviewers should begin approximating how much "new" information each interview offers.

When interviewers reach an interview where less than 50% of what you hear is new information, they should stop. This may happen after only a few, or towards 20. Be prepared!

If interviewers introduce new ways of wording questions, they should be sure to test them consistently on two or three people.

After the Interview

Following the interview, the interviewer must prepare a brief written summary that should be based on the list of tested questions with the participant's reaction to each, and any additional observations. The summaries should be shared with project team members who are engaged in the DAP study when the revision decisions are being made.

Following the final revisions, 2-3 persons should be interviewed to confirm that translation modifications work well. The final version should be forwarded to the DC office for survey programming.

*Be sure to verify that the country laws do not prohibit asking minors sensitive questions.

Mock Administration Guidelines

Purpose: Search Institute developed a set of outcome-related questions to be added to the original Developmental Assets Profile (DAP) tool. This memo describes the process of piloting of the new questions through administering a mock survey session to identify logistical needs and streamline DAP delivery process.

Method of survey administration: The mock test will be conducted in a group setting, proctored by designed project staff. We recommend administering the test to two groups of at least 10 youth in approximate conditions of official administration. We recommend paying participants for their time.

Scheduling and confirmation: Prior to scheduling, participants must be recruited. Participants of the mock administration must be similar to the ones participating in the main study, particularly regarding age and education level, and they should not have been exposed to the content of the DAP tool before (i.e. not participants in translation field testing interviews).

Also prior to administration, computer labs should be located and reserved. Proctors should also be assigned and scheduled to administer and observe the survey.

Preparation for the survey administration

Project staff must arrange survey-taking environment to ensure privacy and mimic the environment of the main study. Seats and computers should be arranged so that neither other survey-takers nor proctors can see survey-takers' answers. Possible additional measures to take regarding privacy include taping manila folders to the top and sides of monitors or creating cardboard barriers to place between computer stations. If possible, proctors should have additional computers beyond the number of participants in the case of technical difficulties.

****Survey administration*

The survey will begin with a screen with consent information. Proctors should read consent information to survey takers. In order to proceed, they must click “yes they accept.”

Sample script: “Today you are going to take a survey that asks questions about your life, your family, your school, and your community. Your participation is voluntary, and your personal information will be kept completely confidential. No one will see your answers, and when you submit them, your personal information will not be connected to them. When we analyze your answers, they will be as total numbers of all survey-takers, not individual survey. For example, we might see that half of you answered a certain way on one question, but we will not look at which of you are in that half. By clicking 'yes' you say you understand the way this survey will be used and you agree to take it.”

Proctors should also give an overview of the test contents.

Sample script: “The questions today will ask you about you and your family, friends, neighborhood, school, and community. Most of the questions will be about money, work, or school. There will be a short paragraph to read and three questions to answer about what you read. Lastly, there will also be questions about you and your family: your lives at home and your health. Remember you may skip questions if you are uncomfortable or do not have an answer, but please do your best to answer as many questions as best you can.”

Proctors must be familiar enough with the study and the DAP tool to answer any questions survey-takers might have. For example:

Q: Do I have to answer all questions?

A: No, if you are uncomfortable answering any of the questions, you may skip them.

Q: What do you think I should answer for question _____ if _____? E.g. “What do I do if I think there are two answers I could pick for this question?”

A: It is really your decision. If you are uncertain, pick your best answer. If you feel you can't answer the question, just skip it and go to the next one. But please try to answer as many questions as best you can.

Q: Can I take a break to get some water [or any other reason]?

A: Of course, you can break from the survey for a few minutes.

Q: Can you take a look at my answers here to make sure I did correctly?

A: No, we would like to make sure that your answers are kept confidential. Just continue to answer questions.

Q: I am afraid what my parents would think if they ever saw that.

A: Don't worry – the survey is completely confidential and we will not share your answers with anyone. Your answers will be analyzed together with answers of hundreds of other people, so no one will be able to tell how you answered these questions.

Q: Can you read me the questions aloud?

A: In order to keep it quiet for others to concentrate, I can't do that. If you have trouble understanding a question, do your best to pick an answer and move on.

Q: My computer froze.

A: ???

When participants finish, the proctor should check to be sure that surveys have been successfully submitted before powering computers down.

Proctors should be prepared to deal with earlier finishers, either by providing a waiting area away from survey administration, allowing computer use, or providing reading materials or other time-passers so that participants will remain until the debrief.

After the Mock Survey

Following the survey, proctors should debrief with survey-takers in a group setting. Proctors will be provided a list of questions to ask:

"Did anything jump out as unclear?"

"Was it easy to use the scales?"

"Were the transitions between types of questions clear?"

"Was it easy to use the computer to answer your questions?"

"Were the directions easy to understand?"

"Should any questions or groups of questions be moved around?"

"Was it easy to concentrate in this environment?"

Proctors should note participants' reactions to each and any additional observations or difficulties observed during survey-taking. Notes will be shared with DAP-study project team members when planning for the main study's administration.

Project staff will be able to analyze average duration of time spent on the survey and survey-takers' cooperation with demographics questions through computer results.

APPENDIX F. DETAILED STATISTICAL TABLES

TABLE F1. ADDITIONAL DEMOGRAPHIC INFORMATION ON SAMPLE, BY COUNTRY

See Table 5 in the Report for data by country on gender, age, urbanicity, and level of deprivation.

	Response Options	Bangladesh	Honduras	Jordan	Rwanda
Grade in School	Not in school	15	—	1	1
	Some primary	13	2	47	8
	Completed primary	11	9	18	24
	Some secondary	71	30	30	36
	More	6	—	4	—
	Completed secondary	—	38	—	19
	Some higher education	—	19	—	2
	Completed higher education	—	3	—	8
Race/Ethnicity	Arabic	—	—	100	—
	Bangladeshi	100	—	—	—
	Mestizo	—	49	—	—
	Not specified	—	16	—	100
	Preferred not to answer	—	29	—	—
Household Members	Parents, brothers, sisters	75	86	94	56
	Other relatives	1	16	15	35
	With own spouse/partner and/or children	15	2	1	6
	Alone	3	5	7	6
	Other	5	6	4	8

	Response Options	Bangladesh	Honduras	Jordan	Rwanda
Marital Status	Married	19	5	2	5
	Not married, living with partner	—	7	—	4
	Single, never married	80	74	74	87
	Single, divorced or separated	1	1	1	2
	Widowed	—	—		1
	Other	0	12	23	1
Number of children	0	87	96	Not asked	85
	1-2	13	3		7
	3 or more	0	1		1
Children living with respondent	0	87	97	Not asked	85
	1-2	13	2		6
	3 or more	1	1		2
No. of partners with whom had children	1	Not asked	3	Not asked	7
	2 or more		1		1
Sense of safety*	Yes	94	85	92	80
	No	6	15	8	20

*Definition for this table allowed one or two incidents of being physically attacked or having something stolen in the last year. Using U.S. cutoffs, which allow zero such incidents of victimization, the percentage reporting safety is cut roughly in half in each country.

TABLE F2. INTERNAL CONSISTENCY RELIABILITY OF THE *DEVELOPMENTAL ASSETS PROFILE* MEASURES, BY COUNTRY

	Bangladesh	Honduras	Jordan	Rwanda
Total DAP Score	**.89**	**.94**	**.94**	**.95**
External Assets	**.80**	**.88**	**.89**	**.91**
Internal Assets	**.83**	**.91**	**.89**	**.93**
Asset Categories				
Support	.55	**.73**	**.73**	**.77**
Empowerment	.50	*.65*	*.67*	.70
Boundaries & Expectations	*.65*	**.75**	**.79**	**.83**
Constructive Use of Time	.37	.53	.43	.45
Commitment to Learning	*.65*	**.76**	**.76**	**.83**
Positive Values	*.67*	**.81**	**.78**	**.83**
Social Competencies	.53	**.70**	*.66*	**.75**
Positive Identity	.49	**.71**	*.62*	**.71**
Asset Contexts				
Personal	*.62*	**.80**	**.76**	**.83**
Social	*.69*	**.79**	**.79**	**.85**
Family	*.63*	**.87**	**.86**	**.85**
School	**.74**	**.80**	**.82**	**.90**
Community	**.70**	**.80**	**.77**	**.78**

Bold font = good levels (.70 or above)
Italic font = adequate or promising levels (.60-.69)
Regular font = low levels (below .60)

TABLE F3. ASSET CATEGORY AND CONTEXT AREA SCORES, BY COUNTRY

Category and Definition	Bangladesh		Honduras		Jordan		Rwanda	
	Average	Meaning*	Average	Meaning*	Average	Meaning*	Average	Meaning*
TOTAL ASSETS SCORE—Overall level of developmental assets young person experiences.	**42.52**	**Low Good**	**40.83**	**Low Good**	**41.37**	**Low Good**	**36.61**	**Fair**
EXTERNAL ASSETS—Relationships and opportunities youth experience in their families, schools, and communities.	**20.70**	**High Fair**	**19.96**	**Fair**	**20.56**	**Fair**	**17.26**	**Fair**
Support—The love, care, acceptance, and support young people experience from those around them.	22.51	Good	20.27	Low Good	20.62	Fair	15.98	Low Fair
Empowerment—Young people's sense of being valued, valuable, and safe.	19.85	High Fair	21.21	Low Good	21.93	Low Good	18.71	Fair
Boundaries & Expectations—Clear rules and expectations, and consistent, fair consequences when rules are broken.	23.57	Good	22.52	Low Good	20.86	Fair	17.97	Fair
Constructive Use of Time—Participation in positive opportunities for growth outside of school.	16.88	Low Fair	15.85	Fair	18.81	Fair	16.38	Low Fair
INTERNAL ASSETS—The strengths and values that develop within young people.	**21.82**	**Low Good**	**20.86**	**Low Good**	**20.81**	**Fair**	**19.36**	**High Fair**
Commitment to Learning—The desire and effort youth exert toward learning.	25.69	High Good	22.96	Good	22.30	Low Good	19.47	High Fair

Category and Definition	Bangladesh		Honduras		Jordan		Rwanda	
	Average	Meaning*	Average	Meaning*	Average	Meaning*	Average	Meaning*
Positive Values—The principles and moral guideposts youth develop that promote caring, responsible behavior.	22.47	Good	18.94	Fair	21.14	Low Good	19.55	High Fair
Social Competencies—The skills youth have that allow for successful, respectful relationships with diverse people.	19.65	High Fair	19.51	Fair	19.99	Fair	19.47	High Fair
Positive Identity—The positive beliefs and self-perceptions youth have that help them feel purposeful, capable, and hopeful.	19.48	High Fair	22.03	Low Good	19.81	Fair	18.97	Fair
CONTEXT AREAS								
Personal—The individual's values, attitudes, and capabilities.	21.67	Low Good	20.61	Low Good	20.18	Fair	19.31	High Fair
Social—Assets experienced through interactions with others.	21.15	Low Good	20.45	Low Good	20.97	Fair	19.22	High Fair
Family—Assets experienced in the family.	24.27	Good	22.58	Low Good	23.63	Good	17.52	Fair
School—Assets experienced in school.	24.75	Good	23.77	Good	20.28	Fair	19.15	High Fair
Community—Assets experienced in community settings other than school.	17.54	Fair	15.78	Fair	19.40	Fair	17.07	Fair

* Meaning = Scores of 0-14 are "Low"; scores of 15-20 are "Fair"; scores of 21-25 are "Good"; and scores of 26-30 are "Excellent." We further note if scores are in the "high" end of Fair (nearer to 20 than 15), or the "low" end of Good (nearer to 21 than to 25) in order to more accurately capture variability in the scores.

TABLE F4. PERCENTAGE OF YOUTH WITH EACH LEVEL OF DEVELOPMENTAL ASSET WITHIN ASSET CATEGORIES AND CONTEXT AREAS

	Bangladesh				Honduras				Jordan				Rwanda			
	Low	Fair	Good	Excellent	Low	Fair	Good	Excellent	Low	Fair	Good	Excellent	Low	Fair	Good	Excellent
TOTAL ASSET SCORE	**4**	**43**	**46**	**7**	**10**	**46**	**35**	**10**	**10**	**39**	**44**	**8**	**11**	**74**	**11**	**4**
ALL EXTERNAL ASSETS	**6**	**45**	**41**	**7**	**17**	**38**	**35**	**10**	**12**	**37**	**43**	**9**	**27**	**61**	**9**	**4**
Support	5	28	48	20	16	33	31	19	15	31	38	16	40	47	9	4
Empowerment	13	44	32	11	13	34	25	28	8	28	38	26	11	70	13	6
Boundaries & Expectations	5	16	49	30	8	25	33	34	13	31	37	19	23	60	12	6
Constructive Use of Time	31	43	19	7	39	8	17	7	20	43	28	10	26	61	7	4
ALL INTERNAL ASSETS	**3**	**35**	**51**	**11**	**8**	**43**	**38**	**12**	**10**	**38**	**43**	**9**	**6**	**75**	**13**	**6**
Commitment to Learning	4	8	35	53	5	26	42	27	10	24	40	26	12	64	17	7
Positive Values	5	31	41	22	22	46	23	9	10	38	37	16	7	74	11	8
Social Competencies	13	44	31	11	14	45	27	13	14	38	36	12	6	72	15	8
Positive Identity	14	46	30	10	9	29	37	26	15	38	36	12	9	74	11	6
CONTEXT AREAS																
Personal	6	37	43	15	13	41	33	14	14	40	35	11	8	75	12	6
Social	8	38	40	14	14	42	32	13	10	36	39	15	7	75	11	7
Family	2	14	42	43	12	20	32	36	8	16	29	48	23	59	12	6
School	4	10	34	52	4	21	38	37	16	32	32	21	12	63	15	10
Community	27	51	19	4	47	36	14	4	17	45	33	5	25	65	7	3

TABLE F5. PERCENTAGE OF YOUTH WITH KEY OUTCOME INDICATORS, BY COUNTRY

	Bangladesh	Honduras	Jordan	Rwanda
WORKFORCE & LIVELIHOODS DEVELOPMENT	**15**	**22**	**22**	**20**
Accesses safe (non-harmful) and productive employment	4	6	6	7
If work for pay	*32 (13% of sample worked)*	*15 (42% of sample worked)*	*25 (24% of sample worked)*	*17 (38% of sample worked)*
Has human, social, financial, and physical capital needed to generate income	12[14]	37[15]	21	19
Has certification in a job area, or is aware of apprenticeship programs to access	2[16]	91	81	77
Has certification	*Not available—see footnote 11*	*50*	*49*	*39*
No certificate, aware of apprenticeships	*Not available—see footnote 11*	*91*	*32*	*38*
VIOLENCE PREVENTION	**70**	**67**	**33**	**85**
Not engaged in violence either as a perpetrator or victim	87	85	65	93
If use US criteria	*35*	*35*	*16*	*58*
Has a low normative acceptance of violence	30	10	17	35
Interacts frequently & positively with youth from different cultural groups	66	74	67	87

[14] For these items, the response options on the Bangladesh survey were mistakenly typed as Yes-No, rather than the intended Never/Rarely, Sometimes, Often and Almost Always. This required us to calculate the Enough Capital only using a sum function of all applicable items (i.e., gave criterion response to six of the seven items), rather than the intended mean (i.e., the mean score across the seven items measuring this indicator).

[15] Because of missing data, we had to use an alternative scoring method, the mean of the remaining items, instead of the sum of items out of the seven in this indicator answered with the criterion response. The percentage thus "having" this outcome indicator was 37; using the sum method with fewer items than intended would have yielded 21% with this indicator.

[16] The initial question (item 21) about having an apprenticeship certificate had an incorrect skip option in the Bangladesh survey. Rather than those who responded 'no', going on to the next question about learning a trade, only those who said 'yes' went on to that item. This resulted in only 18 youth qualifying for the Job Credentials indicator. To compensate for this situation, when calculating the broad outcome of Workforce and Livelihoods Development, if the youth had responded 'yes' to item 21, then they needed 2 out of 3 indicators (Good Job, Enough Capital, Job Credentials) to meet the criterion for the broad outcome. If they had responded 'no', then they needed 1 out of the 2 remaining indicators (Good Job, Enough Capital) to meet criterion.

HEALTH PROMOTION	**87**	**91**	**66%**	**95**
Has accurate knowledge about role of condoms in STI prevention	89	95	67	98
If all three sub-indicators required	*60*	*72*	30	*80*
Has adequate hand-washing knowledge and practice	88	87	91	80
If all three sub-indicators required	*52*	*58*	59	*30*
Knows how to access medical care	95	87	89	91
EDUCATION	**70**	**74**	**71**	**63**
Is functionally literate	85	83	85	81
Has functional numeracy	94	88	83	81
If all three sub-indicators required	*61*	*57*	46	*59*
Has completed age-appropriate level of schooling*	75	70	82	29
Has adequate academic self-confidence	76	88	84	86
PROMOTION OF CIVIL SOCIETY	**57**	**69**	**70**	**49**
Is confident about influencing community affairs	78	76	81	59
Frequently volunteers	67	82	82	81

* Using each country's guidelines:

- ✓ **Bangladesh:** Expectation to complete primary school, grade 5, by age 11, and secondary school, grade 10, by age 16-17.
- ✓ **Honduras:** Expectation to complete primary school, grade 6, by age 12, and secondary school, grade 12, by age 18.
- ✓ **Jordan:** Expectation to complete primary school by age 16 and secondary school by age 18.
- ✓ **Rwanda:** Expectation to complete primary school by age 12 and secondary school by age 18.

TABLE F6. CROSS-TABULATIONS OF PERCENTAGE OF YOUTH WITH KEY SECTORAL OUTCOMES AND INDICATORS BY LEVELS OF ASSETS, BY COUNTRY

	Bangladesh				Honduras				Jordan				Rwanda			
	Low	Fair	Good	Excellent	Low	Fair	Good	Excellent	Low	Fair	Good	Excellent	Low	Fair	Good	Excellent
WORKFORCE/LIVELIHOODS	**14***	**11**	**18**	**31***	**9***	**16**	**24**	**57***	**3***	**13**	**30**	**46**	**4***	**21**	**31**	**26***
Accesses safe (non-harmful) and productive employment	50*	39*	23*	33*	9*	12*	15*	24*	0*	17*	36	32*	5*	20	30	0*
Has human, social, financial, and physical capital to generate income (sum score)	9*	6*	16	28*	8*	13	21	45*	3*	10	29	51	3*	20	28*	26*
Mean score to account for missing data (Honduras only)	---	---	---	---	9*	24	50	77	---	---	---	---	---	---	---	---
Has certification in a job area	3*	1*	3*	0*	34*	48	52	67	42	48	50	57	33*	36	48	44*
Has certification in a job area, OR is aware of apprenticeship programs to access †	---	---	---	---	87	91	92	94	75	79	84	82	60	78	84	82*
VIOLENCE PREVENTION	**63***	**63**	**76**	**75**	**55***	**63**	**74**	**68**	**39**	**54**	**63**	**68**	**81**	**86**	**88**	**78***
Is not engaged in violence as a perpetrator or victim	91	84	88	87	68	84	88	91	47	64	69	75	93	92	96	100*
Has a low normative acceptance of violence	17*	29	32	28*	11*	10*	9*	11*	16*	30	36	51	31*	34	43	48*
Interacts frequently and positively with youth from other cultural groups	60*	60	71	71	72	72	78	74	60	64	72	64	81	88	88	74*

	Bangladesh				Honduras				Jordan				Rwanda			
	Low	**Fair**	**Good**	**Excellent**	**Low**	**Fair**	**Good**	**Excellent**	**Low**	**Fair**	**Good**	**Excellent**	**Low**	**Fair**	**Good**	**Excellent**
HEALTH PROMOTION	**83***	**87**	**87**	**88**	**83***	**92**	**92**	**96**	55	66	69	60	**85**	**96**	**97**	**93***
Has accurate knowledge about role of condoms in STI prevention	86*	89	89	88	96	95	95	96	61	68	69	60	96	98	99	93*
Has adequate hand-washing knowledge and practice	91	84	90	94	76	85	91	94	69	88	97	96	61	82	87	74*
Knows how to access medical care	91	95	95	95	72	84	91	100	58	89	95	99	82	91	97	100*
EDUCATION	**60***	**75**	**83**	**80**	**64***	**70**	**80**	**76**	**33**	**64**	**81**	**89**	**31***	**65**	**79**	**78***
Is functionally literate	74*	82	90	83	83	80	86	81	61	84	91	89	61	83	85	82*
Has functional numeracy	89	93	96	96	79	87	91	87	52	80	90	100	57	83	92	82*
Has completed age-appropriate level of schooling	43*	73	79	73	60	68	70	83	76	81	83	85	22*	28	34*	44*
Has adequate academic self-confidence	74*	73	79	85	76	85	92	100	51	82	90	100	59	88	97	96*
PROMOTION OF CIVIL SOCIETY	**31***	**48**	**63**	**80**	**38***	**64**	**77**	**94**	**48**	**65**	**76**	**91**	**35***	**54**	**36***	**44***
Is confident about influencing community affairs	66*	72	81	93	57*	71	83	96	65	77	85	93	40*	63	57	48*
Frequently volunteers	37*	62	71	83	59	79	90	96	55	79	87	96	69	84	69	96*

*These cells had ≤ 30 youth responding. The error in the results for such cells is larger than for cells with larger numbers of youth, and so the results should be viewed with caution.

†In Bangladesh, this could not be calculated, due to missing data.

TABLE F7. MEAN DIFFERENCES IN KEY OUTCOMES INDICATORS, BY DEVELOPMENTAL ASSET LEVELS*

	BANGLADESH					HONDURAS				
		Levels of Assets					Levels of Assets			
	F**	**Low**	**Fair**	**Good**	**Excellent**	**F****	**Low**	**Fair**	**Good**	**Excellent**
WORKFORCE/LIVELIHOODS	**31.82**	**-.27c**	**-.11b**	**.06a**	**.18a**	**(3,532)= 37.11**	**-.43d**	**-.08c**	**.08b**	**.29a**
Youth accesses safe (non-harmful) and productive employment	(3,130) =1.27 NS	—	—	—	—	(3,223)= .93 NS	—	—	—	—
Youth has human, social, financial, and physical capital needed to generate income	37.78	-.38d	-.12c	.10b	.27a	(3,532)= 39.42	-.53d	-.08c	.15b	.37a
Youth has recognized certification in a job area, or is aware of apprenticeship programs to access	2.09NS	—	—	—	—	3.57, p=.01***	—	—	—	—
VIOLENCE PREVENTION	**12.49**	**-.09c**	**-.09c**	**.07a,b**	**.10a**	**1.61NS**	—	—	—	—
Youth is not engaged in violence either as a perpetrator or victim	2.82, p=.04 ***	—	—	—	—	11.65	-.50b	-.03a	.11a	.23a
Youth has a low normative acceptance of violence	7.16	-.21c	-.07 b,c	.05a,b	.18a	38.59	.41a	.05b	-.10bc	-.31c
Youth interacts frequently and positively with youth from different cultural groups	7.98 ****	—	—	—	—	(3,532)=2.58 p=.05 ***	—	—	—	—
HEALTH PROMOTION	**6.46**	**-.10b**	**-.06 a,b**	**.05a,b**	**.06a**	**(3,531)= 16.60**	**-.23c**	**-.05b**	**.06b**	**.27a**
Youth has accurate knowledge about role of condoms in STI prevention	.60NS	—	—	—	—	.73NS	—	—	—	—
Youth has adequate hand-washing knowledge and practice	5.59, p=.001 ****	—	—	—	—	(3,532)= 10.29	-.23c	-.06 b,c	.07b	.26a
Youth knows how to access medical care	6.86	-.22b	-.12 a,b	.12a	.07a,b	16.60	-.58c	-.12b	.15b	.60a

	BANGLADESH					HONDURAS				
		Levels of Assets					Levels of Assets			
	F**	Low	Fair	Good	Excellent	F**	Low	Fair	Good	Excellent
EDUCATION	**8.96**	**-.20b**	**-.05a**	**.04a**	**.03a**	**8.03**	**-.19c**	**-.05b,c**	**.08b**	**.15a**
Youth is functionally literate	3.25, p=.02 ***	—	—	—	—	1.91NS	—	—	—	—
Youth has functional numeracy	5.55, p=.001	-.15b	-.06b	.03a,b	.20a	5.33, p=.001	-.31b	-.03a	.09a	.13a
Youth has completed age-appropriate level of schooling	5.42, p=.001	-.19b	-.03 a,b	.06a	-.13 a,b	.31NS	—	—	—	—
Youth has adequate academic self-confidence	F(3,848)= 4.14, p=.006 ***	-.27b	-.08 a,b	.05a,b	.20a	(3,532)= 19.44	-.34c	-.16 b,c	.13b	.66a
PROMOTION OF CIVIL SOCIETY	**18.00**	**-.31c**	**-.14 b,c**	**.08b**	**.50a**	**(3,531)= 31.24**	**-.52b**	**-.21b**	**.25a**	**.60a**
Youth is confident about influencing community affairs	15.26	-.16b	-.19b	.09b	.57a	(3,528)= 22.44	-.51c	-.21c	.22b	.71a
Youth frequently volunteers	9.37	-.46c	-.10 b,c	.06a,b	.44a	(3,527)= 19.66	-.59b	-.21b	.28a	.51a

* All results significant at $p \leq .0001$ unless otherwise indicated.

** For Bangladesh, all df are (3,996) unless otherwise indicated; for Honduras, all df are (3,533) unless otherwise indicated; for Jordan, all df are (3,947) unless otherwise indicated; for Rwanda, all df are (3,657) unless otherwise indicated.

*** These *p* levels no longer significant after applying a Bonferonni correction to ensure against Type I errors, i.e., accepting false positive results. With 20 simultaneous analyses, corrected *p* level required for significance is .05/20=.003.

**** F value was significant, but Tukey post hoc test showed no significant pair-wise mean differences.

TABLE F7: CONTINUED

	JORDAN					RWANDA				
		Levels of Assets					Levels of Assets			
	F**	**Low**	**Fair**	**Good**	**Excellent**	**F****	**Low**	**Fair**	**Good**	**Excellent**
WORKFORCE/LIVELIHOODS	**(3,945)= 118.69**	**-.55d**	**-.12c**	**.14b**	**.30a**	**(3,655)= 18.10**	**-.36b**	**.01a**	**.12a***	**.10a***
Youth accesses safe (non-harmful) and productive employment	(3,223)= 8.05	-.00b	.17a,b	.38a	.32a	(3,247)= 4.85, p=.003	.02b	.22a,b	.33a	-.07b*
Youth has human, social, financial, and physical capital needed to generate income	139.27	-.71d	-.14c	.20b	.43a	(3,656)= 20.31	-.49b	.03a	.19a	.20a*
Youth has recognized certification in a job area, or is aware of apprenticeship programs to access	(3,945)= 1.80 NS	—	—	—	—	3.59 p=.013**	-.08b	.27a,b	.31a,b	.38a*
VIOLENCE PREVENTION	**35.70**	**-.38c**	**-.07b**	**.10a**	**.19a**	**3.25, p=.02 *****	—	—	—	—
Youth is not engaged in violence either as a perpetrator or victim	(3,941)= 11.19	-.32c	-.06b	.09a,b	.19a	3.47 p=.016***	—	—	—	—
Youth has a low normative acceptance of violence	39.71	-.58c	-.07b	.14a	.27a	6.80	-.04a	.00a	.03a	-.52b*
Youth interacts frequently and positively with youth from different cultural groups	(3,945)=2.91 p=.034***	—	—	—	—	(3,653)=3.35 p=.019***	—	—	—	—
HEALTH PROMOTION	**48.45**	**-.39c**	**-.04b**	**.09a**	**.18a**	**3.06 p=.027*****	—	—	—	—
Youth has accurate knowledge about role of condoms in STI prevention	(3,933)=3.66 p=.012***	—	—	—	—	(3,656)= 1.24NS	—	—	—	—
Youth has adequate hand-washing knowledge and practice	28.69	-.35c	-.07b	.10a	.20a	3.26, p=.021***	NS	NS	NS	NS
Youth knows how to access medical care	55.29	-.88d	-.10c	.19b	.51a	7.29	-.22c	-.04b,c	.23a,b	.59a*

	JORDAN					RWANDA				
		Levels of Assets					Levels of Assets			
	F**	Low	Fair	Good	Excellent	F**	Low	Fair	Good	Excellent
EDUCATION	69.41	-.41c	-.06b	.11a	.18a	**24.77**	**-.37b**	**.02a**	**.17a**	**.17a***
Youth is functionally literate	23.30	-.42b	-.03a	.10a	.12a	5.07, p=.002	-.22b	.01a,b	.14a	.08a*
Youth has functional numeracy	39.23	-.47d	-.11c	.14b	.35a	15.18	-.51b	.04a	.21a	.08a*
Youth has completed age-appropriate level of schooling	2.13NS	—	—	—	—	2.58, p=.053***	—	—	—	—
Youth has adequate academic self-confidence	(3,946)= 65.46	-.84d	-.14c	.20b	.59a	(3,650)= 27.89	-.81c	.04b	.31a,b	.60a*
PROMOTION OF CIVIL SOCIETY	**20.21**	**-.46c**	**-.13b**	**.11b**	**.54a**	**7.97**	**-.37b**	**.08a**	**-.11 a,b**	**-.02 a,b***
Youth is confident about influencing community affairs	16.89	-.42c	-.11b	.08b	.57a	(3,656)= 5.13, p=.002	-.42b	.07a	-.00a,b	-.11 a,b*
Youth frequently volunteers	(3,945)= 20.94	-.50c	-.14b	.14b	.51a	(3,652)= 5.20, p=.001	—	—	—	—

* All results significant at $p \leq .0001$ unless otherwise indicated.

** For Bangladesh, all df are (3,996) unless otherwise indicated; for Honduras, all df are (3,533) unless otherwise indicated; for Jordan, all df are (3,947) unless otherwise indicated; for Rwanda, all df are (3,657) unless otherwise indicated.

*** These *p* levels no longer significant after applying a Bonferonni correction to ensure against Type I errors, i.e., accepting false positive results. With 20 simultaneous analyses, corrected *p* level required for significance is .05/20=.003.

**** F value was significant, but Tukey post hoc test showed no significant pair-wise mean differences.

TABLE F8. CORRELATION COEFFICIENTS FOR THE TOTAL DAP ASSET SCORE WITH OUTCOME INDICATOR SCORES, BY COUNTRY

	BANGLADESH	HONDURAS	JORDAN	RWANDA
WORKFORCE AND LIVELIHOODS DEVELOPMENT (Index)	**.34**	**.42**	**.57**	**.28**
Youth accesses safe (non-harmful) and productive employment	-.10NS	.14 (p=.03)	.33	.01NS
Youth has human, social, financial, and physical capital needed to generate income	.37	.42	.60	.32
Youth has recognized certification in a job area, or is aware of apprenticeship programs to access	.02NS	.11 (p=.01)	.05NS	.10 (p=.01)
VIOLENCE PREVENTION (Index)	**.17**	**.09 (p=.04)**	**.37**	**.10 (p=.01)**
Youth is not engaged in violence either as a perpetrator or victim	.06NS	.27	.24	.14
Youth has a low normative acceptance of violence	.13	-.30	.36	-.07 NS
Youth interacts frequently with youth from different cultural groups	.13	.09 (p=.04)	.11 (p=.001)	.12 (p=.003)
HEALTH PROMOTION (Index)	**.16**	**.29**	**.42**	**.15**
Youth is protected from sexually transmitted infections	Not asked	Not asked	Not asked	Not asked
Youth has accurate knowledge about role of condoms in STI prevention	.04NS	.01NS	.04NS	-.05NS
Youth is protected from unwanted pregnancy	Not asked	Not asked	Not asked	Not asked
Youth has adequate hand-washing knowledge and practice	.14	.23	.35	.13 (p=.001)
Youth knows how to access medical care	.13	.31	.41	.23
EDUCATION (Index)	**.19**	**.20**	**.44**	**.33**
Youth is functionally literate	.10 (p=.002)	.05NS	.27	.17
Youth has functional numeracy	.14	.18	.34	.22
Youth has completed age-appropriate level of schooling	.03NS	.04NS	-.01NS	.15
Youth has adequate academic self-confidence	.13 (p=.001)	.29	.46	.34
PROMOTION OF CIVIL SOCIETY (Index)	**.23**	**.40**	**.30**	**.10 (p=.008)**
Youth is confident about influencing community affairs	.20	.35	.23	.09 (p=.03)
Youth frequently volunteers	.18	.32	.26	.07NS

*All correlations significant at $p \leq .0001$ unless otherwise indicated.

TABLE F9. CORRELATIONS OF TOTAL ASSET SCORE WITH OUTCOMES, BY AGGREGATE SUB-GROUPS

	Gender		**Z***	**Age**		**Z**	**Where Live**		**Z**	**Basic Needs Met**		**Z**	**Safety****		**Z**
WORKFORCE/ LIVELIHOODS	Male (1,813)	.37	3 p=.003NS after Bonferonni	11-14 (991)	.46	.31 p=.76NS **3.19 p=.001**	City (1,544)	.42	.59 p=.56NS	Yes (2,038)	.39	1.28 p=.20NS	Yes (1,754)	.43	1.66 p=.10NS
	Female (1,309)	.46		15-19 (1,646)	.45		Town (332)	.39	.38 p=.70NS	No (1,084)	.43		No (1,372)	.38	
				20-28 (495)	.31		Village (1,251)	.41							
				11-14 20-28		**3.2 p=.001**	City Village		.32 p=.74NS						
VIOLENCE PREVENITION	Male (1,813)	.10	**4.57 p=.0001**	11-14 (993)	.25	1.83 p=.07NS	City (1,547)	.15	1.72 p=.09NS	Yes (2,040)	.15	.82 p=.41NS	Yes (1,756)	.09	3.15 p=.002NS after Bonferonni
	Female (1,311)	.26		15-19 (1649)	.18	3.15 p=.002NS after Bonferonni	Town (334)	.25	1.19 p=.23NS	No (1,087)	.18		No (1,375)	.21	
				20-28 (495)	.02		Village (1,251)	.18							
				11-14 20-28		**4.27 p=.0001**	City Village		.81 p=.42NS						
HEALTH PROMOTION	Male (1,816)	.24	.88 p=.38NS	11-14 (993)	.27	.27 p=.79NS .84 p=.40NS	City (1,547)	.28	.73 p=.47NS	Yes (2,040)	.22	1.15 p=.26NS	Yes (1,756)	.21	2.07 p=.04NS after Bonferonni
	Female (1,311)	.27		15-19 (1,649)	.28		Town (334)	.32	2.25 p=.02NS after Bonferonni	No (1,087)	.26		No (1,375)	.28	
				20-28 (495)	.24		Village (1,251)	.19							
				11-14 20-28		.58 p=.56NS	City Village		2.50 p=.01NS after Bonferonni						

	Gender		**Z***	**Age**		**Z**	**Where Live**		**Z**	**Basic Needs Met**		**Z**	**Safety****		**Z**
EDUCATION	Male (1,816)	.28	0NS	11-14 (993)	.31	1.12 p=.26NS	City (1,547)	.34	1.45 p=.15NS	Yes (2,040)	.29	1.71 p=.09NS	Yes (1,756)	.24	2.1 p=.04NS after Bonferonni
	Female (1,311)	.28		15-19 (1,649)	.35	0 NS	Town (334)	.26	1.03 p=.30NS	No (1,087)	.23		No (1,375)	.31	
				20-28 (495)	.35		Village (1,251)	.20							
				11-14		1.81 p=.42NS	City		**3.98 p=.0001**						
				20-28			Village								
CIVIL SOCIETY	Male (1,815)	.27	.88 p=.38NS	11-14 (993)	.25	1.07 p=.28NS	City (1,546)	.24	1.25 p=.21NS	Yes (2,040)	.23	2.3 p=.02NS after Bonferonni	Yes (1,754)	.26	0 NS
	Female (1,310)	.24		15-19 (1,648)	.29	1.46 p=.44NS	Town (333)	.31	.53 p=.60NS	No (1,085)	.31		No (1,375)	.26	
				20-28 (494)	.22		Village (1,251)	.28							
				11-14		.58 p=.56NS	City		1.13 p=.26NS						
				20-28			Village								

Fisher's Z-Test (r-to-z transformation)was used to determine the significance of differences among these independent correlations, to account for the fact that the distribution of Pearson correlations is not normal. With 45 tests, a Bonferonni-corrected $p \leq .001$ was required (.05/45) for differences between correlations to be considered significant.

**For the analyses in Tables F9 and F10, U.S. cutoffs requiring zero incidents of being physically victomized in the last year were used to determine if a youth reached criterion levels for experiencing "safety." This was done to introduce adequate variability into the analyses. Using the more lenient standards of allowing one or two experiences of victimization to satisfy the safety criterion meant that nearly 85% of the aggregate sample would have been considered safe, and the analyses would have less power to detect sub-group differences. Using the U.S. standards, only 56% in the aggregate sample met the criterion for being considered safe.

Read the table as follows: The Z score next to a sub-group compares that sub-group and the sub-group immediately below. For example, for Workforce/ Livelihoods Development, under Age, the Z score of .31 is for the comparison between those 11-14 and those 15-19, the Z score of 3.19 is for the comparison between those 15-19 and those 20-28, and the Z score of 3.2 is for the comparison between those 11-14 and those 20-28. Sample sizes of each sub-group (required for computing the FZT), are included; thus, for Education, the correlations for 1,816 males and 1,311 females were compared.

TABLE F10. AGGREGATE SAMPLE OUTCOME MEANS, BY DEMOGRAPHIC SUB-GROUPS

	Gender	**Mean/F**	**Age**	**Mean/F**	**Live**	**Mean/F**	**Basic Needs**	**Mean/F**	**Safety**	**Mean/F**
Workforce/ Livelihoods Development	Male Female (1,2131)=9.24 p=.002	.00a -.04b	11-14 15-19 20-28 (2,3131)=14.55 p=.0001	.00b -.05c .06a	City Town Village (2,3121)=1.58NS	— — —	Yes No (1,3121)=15.71 p=.0001	.01a -.06b	Yes No (2,3126)=.13NS	-.00a -.03b
Violence Prevention	Male Female (1,3126)=19.43 p=.0001	-.03b .04a	11-14 15-19 20-28 (2,3136)=3.3 p=.04NS after Bonferonni	-.03b .01a,b .02c	City Town Village (2,3136)=3.26 P=04NS after Bonferonni	-.01b .06a -.01b	Yes No (1,3126)=22.52 p=.0001	.03a -.05b	Yes No (2,3131)=4.09 P=.02NS after Bonferonni	.06a -.08b
Health Promotion	Male Female (1,3126)=.64 p=.42NS	.01 -.01	11-14 15-19 20-28 (2,3136)=7.18 p=.001	-.04b .01a,b .05a	City Town Village (2,3126)=4.13 p=.02NS after Bonferonni	--- --- ---	Yes No (1,3126)=57.71 p=.0001	.04a -.08b	Yes No (2,3131)=1.95 p=.14NS	.03a -.04b
Education	Male Female (1,3126)=11.04 p=.0001	.02a -.03b	11-14 15-19 20-28 (2,3136)=70.68 p=.0001	09c .00b .17a	City Town Village (2,3126)=1.24 p=.29NS	— — —	Yes No (1,3126)=75.40 p=.0001	.04a -.09b	Yes No (2,3131)=.70 p=.49NS	— —
Civil Society	Male Female (1,3124)=14.70 p=.0001	.04a -.07b	11-14 15-19 20-28 (2,3134)=12.96 p=.0001	.06a -.07b .11a	City Town Village (2,3124)=.92 p=.40NS	— — —	Yes No (1,3124)=.13 p=.25NS	— —	Yes No (2,3129)=.05 p=.95NS	— —

Notes:

All outcome scores were standardized to a mean of 0 and standard deviation of 1 before performing the Anovas.

Within each column of means connected to a specific outcome in far left column, means with differing letters (a,b,c) are significantly different from each other. For example, for Violence Prevention, females had a significantly higher score than males.

*To protect against Type I errors (accepting results as significant when they are only "significant" by chance), Bonferonni correction to *p* level was employed, so that Fs had to reach $p \leq .002$ (.05/25 tests of significance) to be considered significant.

TABLE F11. CORRELATIONS OF TOTAL ASSETS SCORE WITH KEY OUTCOMES, BY DISAGGREGATED DEMOGRAPHIC SUB-GROUPS WITHIN COUNTRY

	Gender		Age			Where Live			Basic Needs Met		Safety	
	Male	Female	11-14	15-19	20-28	City	Town	Village	Yes	No	Yes	No
WORKFORCE/ LIVELIHOODS DEVELOPMENT												
Bangladesh	.25	.41	.28	.40	na	na	.21	.36	.35	.33	.33	.38
Honduras	.42	.36	.32	.41	.48	.41	.42	.44	.39	.44	.48	.37
Jordan	.50	.63	.59	.55	na	.63	.41	.58	.52	.72	.54	.61
Rwanda	.29	.28	na	.33	.27	.28*	—	—	.24	.30	.27	.28
VIOLENCE PREVENTION												
Bangladesh	.18	.16	.17	.17	na	na	.05 NS	.18	.11 (.004)	.25	.10 (.01)	.26
Honduras	-.05 NS	.08 NS	-.17	-.01 NS	-.15 NS	-.02 NS	-.06 NS	-.11 NS	-.01 NS	-.05 NS	-.29	.07 NS
Jordan	.30	.45	.36	.38	na	.37	.37	.39	.31	.47	.31	.40
Rwanda	.03 NS	.10 NS	na	.07 NS	.05 NS	.10 (.01)	—	—	.02 NS	.08 NS	.07 NS	.01 NS
HEALTH PROMOTION												
Bangladesh	.19	.13 (.003)	.14 (.002)	.22	na	na	.10 NS	.16	.16	.14 (.007)	.14	.17 (.003)
Honduras	.29	.32	.26	.26	.52	.30	.19	.31	.32	.28	.29	.28
Jordan	.36	.44	.42	.41	na	.45	.37	.27	.28	.66	.34	.45
Rwanda	.14 (.006)	.18 (.004)	na	.12 NS	.18	.15	—	—	.15 (.002)	.09 NS	.12 (.03)	.17 (.003)

	Gender		Age			Where Live			Basic Needs Met		Safety	
	Male	**Female**	**11-14**	**15-19**	**20-28**	**City**	**Town**	**Village**	**Yes**	**No**	**Yes**	**No**
EDUCATION												
Bangladesh	.12 (.007)	1.5 (.001)	-.06 NS	.26	na	na	.23 NS	.14	.13 (.001)	.14 (.009)	.16	.09 NS
Honduras	.23	.11 NS	.20 NS	.21	.24 (.02)	.22	.05 NS	.27 (.003)	.27	.19 (.001)	.22 (.002)	.21
Jordan	.43	.46	.52	.44	na	.51	.32	.38	.40	.46	.37	.50
Rwanda	.32	.32	na	.38	.33	.33	—	—	.34	.25	.28	.35
CIVIL SOCIETY												
Bangladesh	.18	.27	.23	.23	na	na	.15 NS	.24	.24	.24	.25	.19
Honduras	.40	.36 (.002)	.23 NS	.37	.65	.39	.33	.42	.31	.44	.49	.36
Jordan	.28	.34	.28	.33	na	.28	.33	.39	.26	.47	.28	.34
Rwanda	.13 (.008)	.06 NS	na	.12 NS	.10 (.04)	.10 (.008)	—	—	.12 (.02)	.16 (.02)	.07 NS	.18 (.002)

*100% of Rwanda's sample came from the city of Kigali. Therefore, no comparison by where youth lived was possible, and the "city" correlation of assets with outcomes was thus equal to the total sample correlation.

ABOUT EQUIP 3

The Educational Quality Improvement Program 3 (EQUIP3) is designed to improve earning, learning, and skill development opportunities for out-of-school youth in developing countries. We work to help countries meet the needs and draw on the assets of young women and men by improving policies and programs that affect them across a variety of sectors. We also provide technical assistance to USAID and other organizations in order to build the capacity of youth and youth-serving organizations.

EQUIP3 is a consortium of 13 organizations with diverse areas of expertise. Together, these organizations work with out-of-school youth in more than 100 countries.

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