

Boosting Student Achievement

New Research on the Power of Developmental Assets

WHAT DO WE NEED to do to increase academic success in our schools? What does it take for *all* students to learn and become successful, contributing members of society? What will it take to ensure that no child is *truly* “left behind”?

There are no simple answers to the complex and sometimes controversial questions about how to improve education for all students. Research and practice consistently show that no single factor or strategy or program makes all the difference. While there have been encouraging innovations and studies, none has accounted for significant, large-scale improvements.

Search Institute’s latest research on developmental assets (see Display 1)—including the first longitudinal studies—adds to the growing evidence that comprehensive, asset-based

developmental assets are consistently related to a variety of measures of student achievement, both concurrently and longitudinally, even after controlling for gender, family composition, socioeconomic status, and race/ethnicity. These findings suggest that building developmental assets is likely a critical component of boosting student achievement.

The Latest Studies

Previous research on developmental assets and academic achievement has relied on students’ self-reported behavior and achievement within a particular survey. While this research has consistently shown powerful, positive relationships between levels of developmental assets and self-reported school attendance and grades (defined as getting mostly A’s),¹ it does not allow for links to students’ actual achievement, which is much more accurate and detailed. But the latest studies—Search Institute’s and others—link assets to actual school records. This link allows us to analyze the relationships between students’ reported assets and their actual grade point average and standardized test scores. In addition, longitudinal data are now available to show patterns across time.

We draw heavily in this article on longitudinal data from St. Louis Park, Minnesota. A total of 370 students in this Minneapolis suburb were followed from when they were in 6th to 8th grade to when they were in 10th to 12th grade, with both actual GPAs and test scores available at two or more time points. The sample was 84%

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approaches to education and youth development have tremendous potential to contribute to the academic success of students from all backgrounds and in a wide range of communities. A variety of analyses—from simple correlations to longitudinal modeling—examining the relationships between developmental assets and academic success reveal that higher levels of devel-

Search Institute's Framework of Developmental Assets

This publication presents research on developmental assets, which are positive factors in young people, families, communities, schools, and other settings that have been found to be important in promoting young people's healthy development. Further details on developmental assets are available at www.search-institute.org/assets.

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 parents.
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

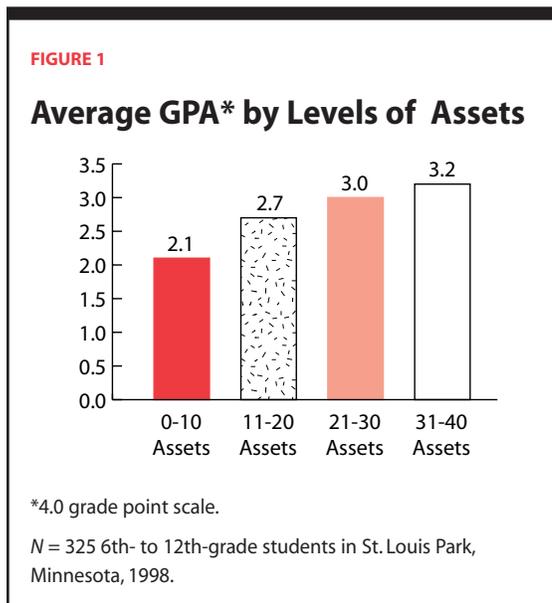
37. **Personal power**—Young person feels he or she has control over "things that happen to me."
38. **Self-esteem**—Young person reports having a high self-esteem.
39. **Sense of purpose**—Young person reports that "my life has a purpose."
40. **Positive view of personal future**—Young person is optimistic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

white, and more than half of the students' mothers and fathers had graduated from college, so not all the findings may be generalizable to more diverse samples. Nevertheless, the results are especially important, since this is the first study enabling us to look at the assets-achievement relationship over time.

Clear Connections Between Assets and GPA

The evidence is consistent and clear: A higher level of assets uniquely contributes to GPA—both concurrently and longitudinally. When we look at research on students in a given year, we clearly see that students with more assets also have a higher GPA. In St. Louis Park, we found significant correlations of .35 (girls) and .45 (boys) between the number of assets and GPA.^{2, 3}

As shown in Figure 1, the average GPA for students with 0 to 10 assets was 2.1, going up steadily with each increase in the level of assets. Similarly, among a demographically comparable sample of 115 Colorado Springs 9th to 12th graders, students in the two lowest asset levels (0–10 and 11–20 assets) had 1999 GPAs of 3.0, compared to GPAs of 3.7 for students in the two highest asset levels (21–30 and 31–40 assets).



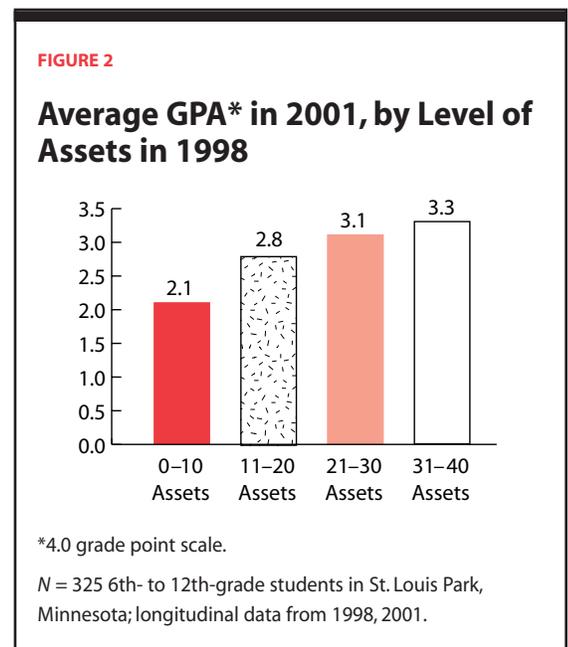
The positive relationship between *current* asset levels and *future* academic achievement also is striking. For example, students in the two highest asset levels in Colorado Springs in 1999 still had the same GPA one year later of 3.7, but stu-

dents in the lowest two asset levels had fallen from a GPA of 3.0 to 2.8.

Even more striking (because the St. Louis Park longitudinal study had a three-year time frame), the more assets St. Louis Park students reported in 1998, the higher their GPA *three years* later. Those with 0 to 10 assets in 1998 had, on average, the same 2.1 GPA in 2001. In comparison, students with 31 to 40 assets in 1998 had, on average, a 3.3 GPA in 2001, slightly better than their 3.2 from 1998 (Figure 2). Put another way, the difference in academic performance three years later between those who had very few assets (0–10) in 1998 and those who were asset rich (31–40) is equal to the difference between a C and a B+ average.

These relationships reflect moderate and significant correlations (ranging from the low .20s to the high .30s) between the total number of assets in 1998 and GPA in 2001. Even when we controlled for the strong effect of earlier GPA on later GPA, the relationship between 1998 asset level and 2001 GPA in St. Louis Park remained statistically significant. (The same relationship also held true between 1999 asset level and 2000 GPA in Colorado Springs.) As shown in Display 2, these kinds of relationships are as powerful as—if not more than—those found when examining other educational reform approaches.

These samples were not sufficiently diverse to determine whether these results would be comparable across different demographic groups of students. But in Search Institute's more diverse aggregate dataset,⁴ demographic factors explained only half as much of school success (6%) as did developmental assets (12%). When we controlled statistically for the effects of gender, family composition, socioeconomic status, or race/ethnicity, the same results occurred: Students with more assets reported higher



DISPLAY 2

Comparing the Power of Developmental Assets to Other Education Reform Strategies

The strength of the statistical relationships between developmental assets and academic achievement is similar to—or better than—the research findings on other educational practices and reform efforts. For example, the most comprehensive meta-analysis to date of comprehensive “whole school” reform studied the effects of 29 widely used models, such as Success for All and the Comer School Development Program. Across 232 studies, the researchers found statistically significant but small average effects ($d = .15$) of reforms on achievement test scores. The effect of reforms, about one eighth of a standard deviation, translates to 2.5 normal curve equivalents on a percentile basis. This is roughly the same as someone moving from the 70th percentile to the 73rd, an improvement, but certainly not a dramatic one.* The students in our two longitudinal samples were not as diverse as students in that much larger sampling of studies, and this might partially explain our more positive results. However, the patterns relating developmental assets to higher achievement appear to hold across demographic groups. The difference we found in St. Louis Park mean GPA between the highest and lowest asset levels, concurrently and longitudinally, translated to an effect size of 1.5, a remarkable 10 times greater effect for assets than for the typical education reform strategy noted above.

It is also important to remember that even small statistical effects can have powerful “effects” in real lives. The correlation between use of aspirin and reduced death due to heart attack is just .02, between antihypertensive medication and reduced stroke is just .03, and between parental divorce and later child well-being is only .09.** Yet the identification of these kinds of relationships has led to important social and medical advancements.

The positive relationship of developmental assets to achievement has significant practical implications. Few would argue against implementing practices that could double or triple students’ odds of having a B+ or higher GPA three years later, or that could, over those three years, help C students become B+ students. Those are among the relationships we found between assets and GPA over time.

* Borman, G. D., Hewes, G. M., Overman, L. T., & Brown, S. (2002). *Comprehensive school reform and student achievement: A meta-analysis*. Baltimore: Johns Hopkins University, Center on the Education of Students Placed At Risk.

** Meyer, G. J., Finn, S. E., Eyde, L. D., Kay, G. G., Moreland, K. L., Dies, R. R., Eisman, E. J., Kubiszyn, T. W., & Reed, G. M. (2001). Psychological testing and psychological assessment: A review of evidence and issues. *American Psychologist*, 56, 128–165.

grades. These findings suggest that assets may contribute more to achievement than factors such as gender, family composition, socioeconomic status, or race/ethnicity.

Promising Link to Standardized Test Scores

More research is needed to understand the relationship between developmental assets and standardized test scores, but initial results indicate that levels of developmental assets may also contribute to improved test scores. Here is what has been found to date:

- In Jackson County, Michigan, there was a significant positive correlation ($r = .22$) between level of developmental assets and Michigan Educational Assessment Program (MEAP) science scores among 8th graders (but not among 7th graders).⁵
- In a study of planned asset building in four elementary and middle schools in Orange County, California, elementary students (but not middle school students) in schools that intentionally targeted several assets had significantly higher Academic Performance Index (API) scores in spring 2002 than they did in 2000. Students in schools not intentionally building assets did not increase their test scores.⁶
- In a 2000 study of 154 California middle and high schools, the greater a school’s proportion of students ranking “high” in the assets of caring relationships, high expectations, and meaningful participation across the family, school, community, and peer environments, the higher the mean API test score for that school’s students.⁷

When Assets Increase, Does GPA Increase?

In addition to finding positive relationships between developmental assets and actual student achievement at a given point in time, these new studies offer the first longitudinal research on developmental assets, allowing us to look at what happens to academic performance when students’ asset levels change. And although the current samples are limited in size, multiple analyses point to increases in developmental assets making an important difference in students’ aca-

ademic achievement across time.

It is important, first, to understand that it is common for young people to experience an overall decline in assets as they move from elementary school to middle school and into high school. This reality reflects the fact that adolescence is a time of significant change and adjustment for most youth.

So what happens to students' academic achievement as they grow older and their asset levels change? The St. Louis Park longitudinal data from 1998 (when students were in grades 7–9) to 2001 (when students were in grades 10–12) show the following:

- Those students whose asset levels *remained stable* (35% of students) or *increased* (24%) had significantly higher mean GPAs in 2001 than students who declined in their assets (3.0 vs. 2.8). For example, we can derive from Figure 3 that, for each increase of one asset over time, students' GPAs went up one fifth of a grade point. An increase of five assets over several years then, would translate to a full grade point on a 4-point scale.
- Students whose assets *decreased* across those three years (41% of students) were twice as likely to also go down in GPA as students

The difference in academic performance three years later between those who had very few assets and those who were asset rich is equal to the difference between a C and a B+ average.

whose level of assets remained stable or increased.⁸

These findings are particularly important because overall GPA is a quite “stable” factor in research. If students have high GPAs one year, the odds are great that they will have high GPAs in future years. For example, St. Louis Park students were four times as likely to have a high GPA in 2001 if they had a high GPA in 1998. Thus, any significant changes in GPA are noteworthy simply because they suggest that something has changed (either positively or negatively) to override the expected stability in GPA.

It is notable, then, that experiencing particular assets can double or triple the odds of students having higher GPAs over time. For example, students who experienced particular clusters of assets in 1998 (including achievement motivation, school engagement, youth programs, other adult relationships, and community service) were two to three times more likely to have high GPAs (B+ or greater) three years later than students who didn't experience those assets.

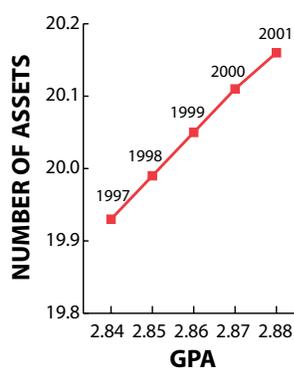
Does Intervention Make a Difference?

More research is needed to clarify the kinds of experiences that led to these reported changes in developmental assets. However, an independent evaluation by the Minnesota Institute of Public Health of an asset-based intervention at the 9th-grade level in St. Louis Park shows promising evidence that a comprehensive, asset-based intervention can have a significant impact on student achievement, measured in this study by the percentages of students receiving failing grades. Among the asset-based interventions the district implemented were:

- Trained all teachers and other staff in developmental assets, asset-building principles, and the program components, including a two-day training before the school year and one-hour training sessions each month throughout the school year;

FIGURE 3

Relationship Between Change in Assets and Change in GPA* from 1997 Through 2001



* 4.0 grade point scale.

N = 370 6th–8th graders in St. Louis Park, Minnesota, followed through 10th–12th grades. Markers represent years (1997, 1998, 1999, 2000, 2001). Vertical (assets) and horizontal axis (GPA) numbers are estimated means based on intercept and slope values from growth curve models.

- Reduced class size to under 30 students and reorganized classes into blocks to build stronger relationships between students and staff;
- Implemented an “I Time” component—a 30-minute time for all 9th graders each week to concentrate on team building, communication skills, social competencies, chemical health, and related topics;
- Developed clear norms and expectations, including establishment of clear boundaries regarding attendance to ensure that students were in school and in class; and
- Increased coordination between teachers, staff, and a social worker to ensure that school personnel were aware of every student’s situation. When issues arose, coordinated responses ensured that needs were met in a timely manner.

Over the three-year project evaluation, the percentage of students receiving either one or two (or more) F’s decreased by half from spring 1999 to fall 2002. In the baseline data (gathered as the program was being launched), 44% of the 343 9th-grade students received at least one F. In the fall 2002 evaluation, 20% of that year’s 9th graders received F’s. And the percentage receiving two or more F’s dropped from 18% (71 students) to 9% (32 students).^{9, 10}

Assets and Achievement Across Student Diversities

The federal No Child Left Behind (NCLB) Act of 2001 requires schools to report on achievement based on race, ethnicity, gender, English language proficiency, migrant status, disability status, and low-income status.¹¹ So the important question of whether the relationships between developmental assets and student achievement hold true across various subgroups of students takes on added urgency now, as schools will be held accountable for improving outcomes. If the asset-achievement link is similar across student groups, it would suggest that asset building could become an important strategy for meeting NCLB targets.¹²

While data are not available to address all the specific groups identified in the legislation, the relationships between assets and achievement do appear to hold true across all groups for which

data are available. All groups of students benefit from assets.

Gender—The relationship between assets and GPA is similar for females and males, both concurrently and longitudinally. That is, the more assets females and males experience, the more likely they are to have higher GPAs. This relationship may be stronger for males than females,¹³ and the gap in achievement (especially in math) narrows between the genders the more assets young people report. For example, boys at high asset levels have GPAs close to those of high-asset girls, and girls at high asset levels have math grades close to those of high-asset boys. At lower asset levels, however, the stereotypical differences persist, with boys having lower GPAs and girls having lower math grades.¹⁴

Family income—Evidence is plentiful that family poverty is an important predictor of not doing well in school.¹⁵ An important question, then, is whether students from low-income families do better in school when they experience more developmental assets.

It appears that developmental assets may play an important role in helping low-income students succeed in school. A commonly used indicator of family income in youth surveys is mother’s education. (Youth are much more likely to be accurate about their mother’s education than they are about the family’s income level.) In the Search Institute aggregate sample, students whose mothers had only a high school education or less and those whose mothers had at least some college were equally likely to experience school success (getting mostly A’s) if they experienced the same level of assets.

In the St. Louis Park sample, 1998 assets were similarly related to 1998 GPA and 2001 GPA, for students whose mothers had only a high school education as well as for those whose mothers had at least some college. The overall correlation between the number of assets in 1998 and GPA in 2001 was larger for students whose mothers had only a high school education or less (.40) than it was for students whose mothers had at least some college (.26).

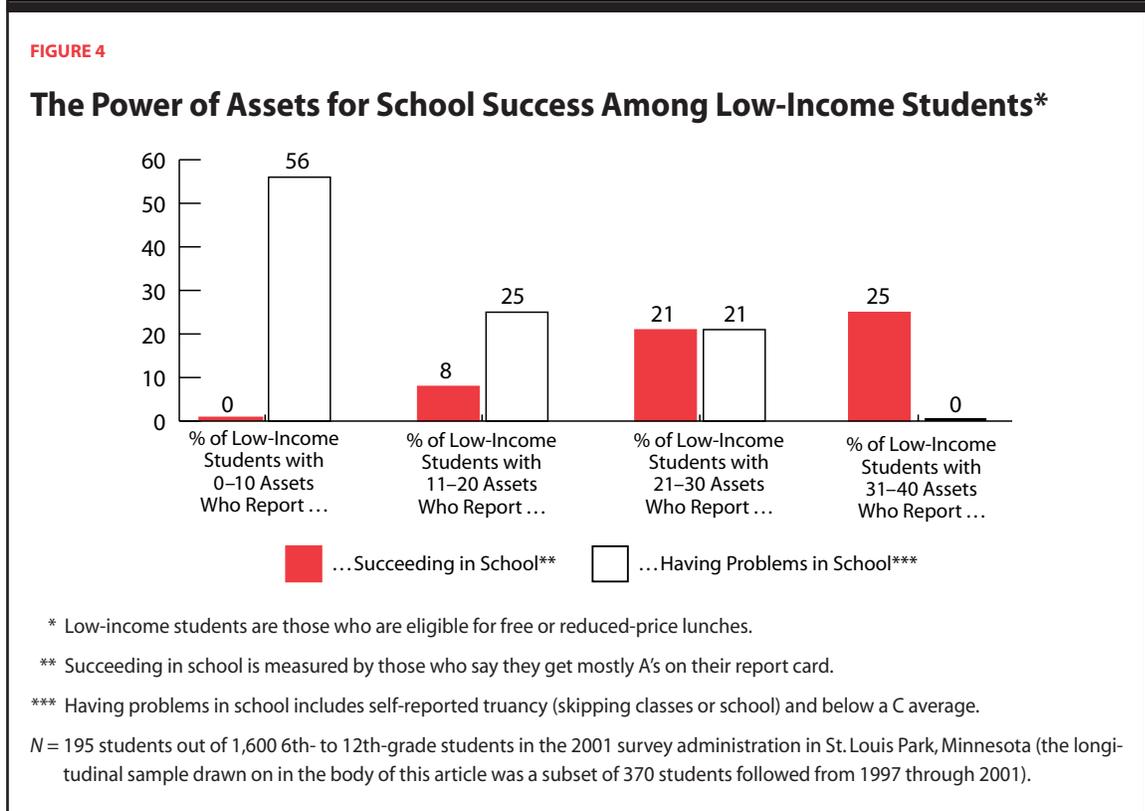
With the St. Louis Park sample, we are also able to examine developmental assets in light of students’ eligibility for free and reduced-price lunches. Although the sample is small (about

12% of the students surveyed), the findings are striking (Figure 4). In this study, low-income students were dramatically more likely to do well in school and avoid school problems if they experienced more developmental assets. For example, more than half of the low-income students with 0 to 10 assets reported trouble in school, whereas none of the low-income students with high assets (31–40, $n = 16$) reported having trouble in school (defined as skipping school two or more times in the past month and having below a C average).

A 2000 study of 429 economically poor Hispanic and African American students in an urban Houston high school (85% eligible for free or reduced-price lunches) found similar patterns: Students at successively higher asset levels had 24% to 52% more indicators of thriving, including getting mostly As, than students at lower asset levels. In addition, students with low levels of assets (0–10) were 7 times more likely to skip school frequently and have below C averages than students with above average levels of assets (21–30).¹⁶ If confirmed in other studies, this finding will have profound implications for how communities engage with low-income youth and families to build assets and improve lifelong outcomes.

Race/ethnicity— Taken as a whole, developmental assets appear to contribute similarly to school success across racial/ethnic groups of students. While sample sizes for specific racial/ethnic groups are too small in the current longitudinal studies to draw firm conclusions, analyses of the aggregate Search Institute dataset show that students with high levels of assets (31–40) are about 5 to 12 times as likely as those with few assets (0–10) to be successful in school (based on self-report of getting mostly As on report cards):

- High-asset *African American* students are 4.2 times as likely to be successful in school as low-asset African American students.
- High-asset *Asian American* students are 7.9 times as likely to be successful in school as low-asset Asian American students.
- High-asset *Hispanic American* students are 8.7 times as likely to be successful in school as low-asset Hispanic American students.
- High-asset *Native American* students are 4.7 times as likely to be successful in school as low-asset Native American students.
- High-asset *white* students are 11.6 times as likely to be successful in school as low-asset white students.
- High-asset *multiracial* students are 8.0 times as likely to be successful in school as low-asset multiracial students.



Family composition—Amid the ongoing policy discussions surrounding single-parent families and family composition, an important question often remains unanswered: If a young person is part of a single-parent family, what can be done to help her or him be successful in school? The emerging evidence suggests that building a strong foundation of developmental assets may be part of the solution.

In the midst of the current focus on accountability, developmental assets may serve as a reminder that boosting student achievement is, yes, about achievement. But it is also about boosting students to be successful in their overall growth and development.

In the St. Louis Park longitudinal study, the level of assets was significantly related to GPA, concurrently as well as longitudinally for students both in two-parent families and other families, especially for two-parent families (correlation of .40 versus .29 across three years longitudinally).

It is striking to note that high-asset youth in single-parent families in St. Louis Park are 13 times more likely to report succeeding in school than those with 0 to 10 assets. Furthermore, while 42% of low-asset youth from single-parent families report frequent skipping of school and below C averages, none of the high-asset youth from single-parent families reported having similar problems. If these results occur in other studies, they highlight the potential for dramatically increasing academic success among those students who are often considered to be at high risk for underachievement or failure.

What's Still Needed

These new insights from several small studies begin to answer key questions about assets and achievement. But we need to learn more, which requires the following:

- Examining these questions with larger, more diverse samples of students, studied over time, to better understand how developmental assets affect the achievement trajectories of different groups of students. We especially need more study of the promising emerging hypothesis that asset building may help reduce persistent achievement gaps across gender and differing racial/ethnic and socioeconomic groups.
- Researching more fully the links between assets and standardized tests to clarify the promising but inconclusive evidence to date.
- Following students in districts implementing asset building from kindergarten through grade 12 to better understand how asset building affects achievement, not just in

middle and high school, but across all school-age years.

- Exploring how asset-building strategies can be infused to strengthen classroom practices and curriculum and instruction in order to further strengthen the already apparent link between assets and achievement.¹⁷
- Studying both the relationship between developmental assets and achievement and exactly what schools and communities are doing to get those results, so that the implications for suggesting policy and program changes become clearer.

Implications for Policy and Practice

These latest findings offer the strongest evidence to date of how developmental assets contribute to the twin goals of promoting academic achievement and equity in achievement across student groups. Building developmental assets clearly merits consideration as one of the strategies districts and communities can use to positively affect achievement. Such an approach does not require a specific curriculum or program package, but focuses on infusing asset-building approaches into the school community. Some themes of this transformation process include:

- An emphasis on transforming relationships and infusing asset-building practices into existing curriculum and instruction has the potential of making asset building less expensive than other “whole school” reforms that are more programmatic.
- Asset building can reinvigorate staff sense of purpose and mission and promote the collective belief of teachers that they can make a difference for all students, which is critical for achievement gains.¹⁸ Too often, teachers alone are charged with the responsibility for academic achievement, then blamed when achievement is less than desired. In contrast, asset building taps the responsibility and potential of all school staff, parents,

community residents, and students themselves for being committed to school success.

- Because asset building encompasses all dimensions and contexts of young people's lives, schools that use the asset approach necessarily are helped to strengthen their relationships with students' families and their partnerships with other community resources. These impacts positively affect achievement, but also more generally promote a healthier community and quality of life for all.

Asset-building and traditional school reform strategies are not mutually exclusive. Integrating both approaches into a new paradigm can have a multiplier effect, in that some classic educational reforms may take root better in an asset-building school community. For example, many districts institute special programs to help students transition from elementary to middle school, or from middle school to high school. Progress toward goals such as boosting students' study skills and preparing them for more demanding curriculum can be strengthened through explicit focus on building assets such as caring relationships among those students and school staff, parent involvement, high expectations, significant participation in cocurricular activities, and opportunities to develop decision-making skills. In the same way, cooperative learning strategies and team teaching of interdisciplinary curriculum can be enhanced through intentional focus on building assets such as youth as resources, service to others, positive peer influence, the values of caring and responsibility, and skills such as interpersonal and cultural competence.

Asset building is not about adding one more thing to teachers' and administrators' already full plates. It is about giving added developmental focus and intentionality to all the areas schools already deal with, from curriculum and instruction, to school organization, cocurricular programs, community partnerships, and support services. It's not about adding a six-week "assets" unit somewhere in the curriculum. It's about infusing asset building into all that schools are already responsible for doing. Ironically, the net result of a school community's more intentionally building students' assets may be to lighten educators' loads by better promoting the conditions for learning, including student motivation,

clarity of mission, school staff passion and collegiality, and parent and community involvement and support.¹⁹

Conclusion

The New York State Board of Regents recently underscored that academic achievement and personal development are not in competition. Rather, they are "compatible, complementary, and mutually supportive" and standards-focused schools must be responsible not just for students' intellectual and educational development, but also for their personal, social, emotional, and physical development.²⁰ In other words, in the midst of the current focus on accountability, developmental assets may serve as a reminder that boosting student achievement is, yes, about achievement. But it is also about boosting students to be successful in their overall growth and development.

These new findings suggest that an emphasis on overall development—captured here by the framework of developmental assets—may actually have as much or more positive impact on academic outcomes in the long run as more obvious and traditional strategies for boosting achievement, such as emphasizing task mastery, requiring higher teacher certification standards, and using high-stakes testing to track achievement. Further, asset building may enhance or multiply the impact of these and other strategies. Thus, the complementary strategy of building developmental assets does not preclude or replace those efforts, but focuses on human development as a core process in promoting student achievement.

Developmental assets play an important role in increasing student achievement across all groups of students. Thus, asset building is a bona fide achievement strategy—an additional and complementary approach based on emerging scientific evidence. The data reviewed here suggest that the benefits to students, their families, schools, and communities are likely to be realized both in the short term and in years to come.

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Notes

¹ Benson, P. L., Scales, P. C., Leffert, N., & Roehlkepartain, E. C. (1999). *A fragile foundation: The state of developmental assets among American youth*. Minneapolis: Search Institute; Scales, P. C., Benson, P. L., Leffert, N., & Blyth, D. A. (2000). Contribution of developmental assets to the prediction of thriving among adolescents. *Applied Developmental Science*, 4, 27-46.

² Roehlkepartain, E. C., Benson, P. L., & Sesma, A., Jr. (2003). *Signs of progress in putting children first: Developmental assets among youth in St. Louis Park, 1997-2001*. Minneapolis: Search Institute. Available for download at www.children-first.org.

³ Statistical significance levels reported in this article ranged from $p \leq .05$ to $p \leq .0001$. A .05 level means that in 95 times out of 100, these results would not have occurred by chance, and a .0001 means that only in 1 out of 1,000 times would this result occur by chance. Correlation coefficients can range from 0 to 1.00, with 0 indicating no relationship between a predictor and an outcome, and 1.00 indicating a perfect relationship. In education and social science, correlations less than .20 are usually considered small; those between .20 and .50, moderate; and those above .50, large. Large correlations between predictors and outcomes are rare.

⁴ This aggregate dataset includes 217,000 6th- to 12th-grade students in 318 U.S. communities in 33 states who were surveyed during the 1999-2000 school year using the *Search Institute Profiles of Student Life: Attitudes and Behaviors* survey.

⁵ Ziazi, Z. (2002). *Assets and MEAP or GPA: Do they correlate? A summary report of relationship between number of assets and measures of academic achievement*. East Lansing: Michigan State University, College of Ecology, Department of Family and Child Ecology, Positive Youth Development Group.

⁶ Araque, J. (2002). *The A.P.I. study: Academics and prevention inseparable*. Costa Mesa, CA: Orange County Department of Education, Learning Support Instructional Services Division.

⁷ *Health risks, resilience, and the Academic Performance Index: Preliminary findings*. (2001). Los Alamitos: California Healthy Kids Program Office (report submitted by WestEd); Hanson, T. L., Austin, G., & Lee-Bayha, J. (2003). *Student health risks, resilience, and academic performance: Year 1 report*. Los Alamitos, CA: WestEd.

⁸ Although 41% of students went down in assets, only 4% went down in GPA. Given the small proportion going down in GPA, these results must be treated cautiously. Nevertheless, they are provocative and suggest the need for research with larger samples to determine whether these patterns hold.

⁹ Sharma, A., & Griffin, T. (2003). *Saint Louis Park 9th Grade Program Summative Evaluation Report*. Submitted on March 31, 2003, to the Minnesota Department of Children, Families, and Learning.

¹⁰ While these findings need to be replicated and do not have a control group for comparison, they suggest that intentionally designed efforts to build assets may have significant potential to improve student success, especially as they navigate often problematic life transitions such as moving from middle school to high school.

¹¹ U.S. Department of Education (n.d.). *No Child Left Behind: Introduction and overview*. Retrieved July 31, 2003, from www.nclb.gov/next/overview/.

¹² We recognize that there are serious questions and debates about whether NCLB as a whole will have a positive or negative effect on education and student achievement. The potential links between asset building and NCLB merely reflect the reality that this is the current law and should not be interpreted as endorsement of this particular federal policy.

¹³ For males, the correlation between 1998 assets and 2001 GPA is .40. For females, the correlation is .23 (St. Louis Park data).

¹⁴ Leffert, N., Scales, P. C., Vraa, R., Libbey, H., & Benson, P. L. (in preparation). *Developmental assets and academic achievement among adolescents*.

¹⁵ Duncan, G., & Brooks-Gunn, J. (Eds.) (1997). *Consequences of growing up poor*. New York: Russell Sage Foundation.

¹⁶ Scales, P. C., Foster, K., Mannes, M., Horst, M., Pinto, K., & Rutherford, A. (in press). School-business partnerships, developmental assets, and positive outcomes among urban high school students: A mixed-methods study. *Urban Education*, 40 (March 2005).

¹⁷ Starkman, N., Scales, P. C., & Roberts, C. (1999). *Great places to learn: How asset-building schools help students succeed*. Minneapolis: Search Institute. See numerous examples of asset-building curriculum and instruction in Taccogna, J. (Ed.). (2003). *Powerful teaching: Developmental assets in curriculum and instruction*. Minneapolis: Search Institute.

¹⁸ Brown, K. M., Roney, K., & Anfar, V. A., Jr. (2003). Organizational health directly influences student performance at the middle level. *Middle School Journal*, 34, 5-15; Newman, F. M. (Ed.). (1992). *Student engagement and achievement in American secondary schools*. New York: Teachers College Press; The effect of classroom practice on student achievement. (2003, May 27). *Research Brief*, 1(11). (Association for Supervision and Curriculum Development. Downloaded June 2, 2003, from www.ascd.org/publications/researchbrief/volume1/v1n11.html.)

¹⁹ Taccogna, J. (2003). The developmental assets connection: Meeting the demands of educational issues and expectations. In Taccogna, *Powerful teaching*, 29-49.

²⁰ *Supporting young adolescents: Regents policy statement on middle-level education*. Albany, NY: State Education Department. Downloaded August 28, 2003, from www.emsc.nysed.gov/deputy/MIDDLE-LEVEL/MLE%20Public%20Engagement%20Draft%20Policy%20Statement%20March%202014.html