Measuring and Strengthening Perseverance: The Challenges and Opportunities of Working on Noncognitive Skills

Kent Pekel and Peter C. Scales
Search Institute, Minneapolis, MN

Categories of Developmental Assets

**External Assets (Supports)**
- Support
- Empowerment
- Boundaries & Expectations
- Constructive Use of Time

**Internal Assets (Strengths)**
- Commitment to Learning
- Positive Values
- Social Competencies
- Positive Identity
A Growing National Discussion

How CHILDREN SUCCEED

Relative Strength of Predictors of College GPA

- Academic Behaviors: 34%
- High School Grades: 30%
- ACT Composite Score: 17%
- Institutional Factors: 12%
- Student Demographics: 7%

Source: ACT Issue Brief, Enhancing College and Career Readiness and Success: The Role of Academic Behaviors, 2012
% of Employers Who Rate Skills as Very Important

<table>
<thead>
<tr>
<th>Skill</th>
<th>Very Important for College Grads</th>
<th>Very Important for High School Grads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral Communications</td>
<td>95%</td>
<td>70%</td>
</tr>
<tr>
<td>Teamwork/Collaboration</td>
<td>94%</td>
<td>75%</td>
</tr>
<tr>
<td>Professionalism/Work Ethic</td>
<td>94%</td>
<td>80%</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>92%</td>
<td>58%</td>
</tr>
<tr>
<td>Ethics/Social Responsibility</td>
<td>86%</td>
<td>63%</td>
</tr>
<tr>
<td>English Language</td>
<td>88%</td>
<td>62%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>64%</td>
<td>30%</td>
</tr>
<tr>
<td>Science</td>
<td>33%</td>
<td>9%</td>
</tr>
</tbody>
</table>


The Appeal of Marshmallows
Another Kind of Readiness

Abraham Lincoln’s Advice, 1855

“Your own resolution to succeed is more important than any other one thing.”
Some naturally persevere because...

and others persevere because...
In a study of high school dropouts, 69 percent said that school had neither motivated nor inspired them.

Source: Bridgeland, Dilulio, & Marissa, 2006.

But...

How do we strengthen perseverance?
Breaking Down the Problem
The Perseverance Process

S hare Sparks
T hink About Thinking
T hink Forward, Act Now
O rganize Life
I ncrease Intelligence with Effort
I nternalize Regulation
C reate a Sense of Belonging
T ake Stock and Take Pride
K eep Moving Through Obstacles

Search Institute’s Definition

PERSEVERANCE

Young people’s ability to achieve important goals and accomplish challenging tasks in school and in life.
Early Search Institute Research

**Initial Measures**

- 25 years ago
  - a single item on whether it is “like me” to give up when things get difficult
- 15 years ago
  - a 10-item “being persistent” scale

Still focused just on trying hard and not giving up

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**Measures Matter**

**Percent Agreeing They Are Persistent**  
Single-Item vs. Multi-Item (But Still Uni-Dimensional)

- Single Item: 70%  
  Study of 90,000 6th-12th graders, 26 US States (Benson, Scales, Roehlkapartain, & Leffert, 2011)
- 10-Item Scale: 37%  
  Study of 5,000 6th-12th graders in Colorado Springs (Scales, Leffert, & Vraa, 2003)
Influence of Other Researchers

On Search Institute’s Conceptualization of Perseverance

<table>
<thead>
<tr>
<th>Researcher/Institution</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angela Duckworth</td>
<td>Grit and self-control</td>
</tr>
<tr>
<td>Carol Dweck</td>
<td>Growth mindset, academic tenacity</td>
</tr>
<tr>
<td>David Conley</td>
<td>Time management</td>
</tr>
<tr>
<td>UC Consortium on Chicago School Research</td>
<td>Non-cognitive factors that shape students’ school performance</td>
</tr>
<tr>
<td>CASEL</td>
<td>Social-emotional learning</td>
</tr>
</tbody>
</table>

Among many others

Individual & Ecological Dimensions

- **“G” factor aspects**: More stable across context (akin to personality trait of conscientiousness)
- **Domain or setting/context-specific aspects**: Vary by situation

“Learning is an interplay between cognitive and non-cognitive factors ... intelligence is embedded in both the environment and in socio-cultural processes.”

— Farrington et al., 2012, UC Consortium on Chicago School Research
A Broad Umbrella Concept

- Multiple inter-related concepts that bi-directionally influence each other over time
- Cross-loading of several items from three factors:
  - Being persistent (not giving up when things get hard)
  - Taking measured, thoughtful actions
  - Delaying gratification
- Similar to Chicago Consortium conclusion about inter-relationship of non-cognitive factors such as grit, self-control, self-discipline, academic mindsets, and social skills.

SOURCE: Factor analysis of Colorado Springs data from 6th-12th graders (Scales, Leffert, & Vraa, 2003)

SI’s Dimensions of Perseverance

1. Inner Drives and Deepest Interests (“Sparks”)
2. Vision of and Actions to Reach Future Goals
3. Growth Mindset
4. Mental Toughness
5. Support and Challenge Through Relationships
1. Inner Drives, Deepest Interests

- Has a deep interest, talent, or “spark”
- Lets others know about their spark
- Has a desire to achieve and succeed

![Bar chart showing percentages of students with high and low Mastery Orientation, Sense of Purpose, Work Up to Ability, and GPA: B+ or Higher.](chart)

Source: Scales et al., 2010, 2011 national study of 15 year olds

2. Vision of/Actions to Reach Goals

- Has a positive vision of their future possibilities and goals
- Takes steps now to reach their longer-term goals, including managing their emotions and behavior

**Significant Correlations of Time Management Skills with Next Year’s GPA and PSAT Scores**

- 0.30: 9th-12th Graders’ GPA
- 0.24: 8th Graders’ GPA
- 0.20: 9th-10th Graders’ PSAT Scores

**Sample:** Urban, poor, African American and Latino

Source: Study of 20,000 Dallas ISD students (Scales, Pekel, Roehlkepartain, & Syvertsen, 2014, in preparation)
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<th>8th Graders’ GPA</th>
<th>9th-10th Graders’ PSAT Scores</th>
<th>Low Teacher Effects on Achievement*</th>
<th>High Teacher Effects on Achievement*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.30</td>
<td>0.24</td>
<td>0.20</td>
<td>0.26</td>
<td>0.46</td>
</tr>
</tbody>
</table>

Sample: Urban, poor, African American and Latino

Source: Study of 20,000 Dallas ISD students (Scales, Pekel, Roehlkepartain, & Syvertsen, 2014, in preparation)

3. Growth Mindset

- Believes they can get smarter
- Believes in their competence and that they can achieve success through hard work
- Is open to challenges
- Is focused on improving her or his personal “bests”

**Significant Developmental Asset Correlates of Being Persistent, Across 6 Racial/Ethnic Groups**

<table>
<thead>
<tr>
<th>All 6</th>
<th>Self-Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 of 6</td>
<td>Time in Youth Programs</td>
</tr>
<tr>
<td>3 of 6</td>
<td>Achievement Motivation</td>
</tr>
<tr>
<td>2 of 6</td>
<td>School Engagement</td>
</tr>
<tr>
<td>1 of 6</td>
<td>Integrity, Sense of Purpose, Positive View of Future</td>
</tr>
</tbody>
</table>

Study of 6,000 6th-12th grade youth from 213 U.S. communities (Scales, Benson, Leffert, & Blyth, 2000)
4. Mental Toughness

- Is determined
- Feels she or he can overcome adversity
- Stays emotionally positive and optimistic despite setbacks and disappointments
- Accepts mistakes as part of growing and learning

Source: Unpublished 2014 analyses from study of 1,172 9th-12th graders and 1,359 6th-8th graders in Ohio school district (Benson & Scales, 2009)

5. Support, Challenge Through Relationships

- **Specific** peer and adult support for striving
- **General** peer and adult . . .
  - Express care
  - Challenge growth
  - Provide support
  - Share power
  - Expand possibilities

Percentage of Students with Belonging & Efficacy, by Positive School Climate

- Caring
- Voice
- Expectations

Scales & Benson (2007)
PYD Framework for Perseverance

*Multiple Dimensions, Multiple Settings*

“The mechanisms through which teachers can lead students to exhibit greater perseverance and better academic behaviors in their classes are through attention to academic mindsets and development of students’ metacognitive and self-regulatory skills, rather than trying to change their innate tendency to persevere.”

“The research evidence to date suggests that trying to change noncognitive factors at the individual level in isolation from context may not be effective in the long term.”

— Farrington et al., 2012

Assets & Perseverance

Percent of U.S. youth who say they do not give up when things get difficult, by level of 40 developmental assets

Source: 2010 aggregate survey of nearly 90,000 6th-12th graders (Benson, Scales, Roehlkepartain, & Leffert, 2011)
Specific Persistence-Related Assets: 1

Mean Score on Being Persistent, by Levels of Empowerment, Developmental Relationships, and Long-Term Student Goals

Study of 5,000 6th-12th graders in Colorado Springs (Scalos, Leffert, & Vraa, 2003)

Specific Persistence-Related Assets: 2

Percent with Outcome, by Levels of Three Strengths: Sparks, Relationships, and Voice

Source: National online study of 1,860 15 year olds (Scales, Roehlkepartain, & Benson, 2010; Scales, Benson, & Roehlkepartain, 2011)
Building Assets, Reducing Risks

Percent of 9th Grade Students Passing All Core Courses after 1 Semester of BARR Implementation, Rural High School (RCT)

- 87.4% for BARR Students
- 79.4% for Comparison Track Students

Effect size = .36


Perseverance & GPA: Longitudinal

Odds Ratio of Having B+ or Higher GPA in High School, If Have Perseverance Dimensions in Middle School

- GPA in middle school: 4.32
- Community connections: 3.13
- Responsibility: 2.23

Source: Scales, Benson, Roehlkepartain, Sesma, & van Dulmen, 2006, St. Louis Arch study
### Search Institute’s Dimensions of Perseverance

1. Inner Drives and Deepest Interests ("Sparks")
2. Vision of and Actions to Reach Future Goals
3. Growth Mindset
4. Mental Toughness
5. Support and Challenge Through Relationships

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- Pilot testing and revision in rest of 2014
- Beyond Measurement: The Perseverance Process
- Survey and supports available by January, 2015

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### Perseverance Survey & Workshops

- To participate in the pilot administration of Search Institute’s new Perseverance Survey, please contact Justin Roskopf at justinr@search-institute.org or at 612-692-5510 or 800-888-7828, extension 510.

- To participate in a Perseverance Process workshop conducted by Kent Pekel, please contact Mary Shrader at marys@search-institute.org or at 612-692-5526 or 800-888-7828, extension 526.
Contact Info

Kent Pekel:  kentp@search-institute.org
Peter Scales:  scalespc@search-institute.org

Thank you and good luck on the road to non-cognitive Nirvana.