Reach for Greatness

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University of Melbourne
Spatial: visualizing the world in 3D

Naturalist: understanding living things and reading nature

Musical: discerning sounds, their pitch, tone, rhythm, and timbre

Logical-Mathematical: quantifying things, making hypotheses and proving them

Linguistic: finding the right words to express what you mean

Intrapersonal: understanding yourself, what you feel, and what you want

Interpersonal: sensing people’s feelings and motives

Bodily-Kinesthetic: coordinating your mind with your body
The Big Five Personality Dimensions

- **Extraversion**: Low (Quiet, withdrawn, unassertive) to High (Outgoing, energetic, gregarious)
- **Agreeableness**: Low (Aloof, easily irritated) to High (Warm, considerate, good-natured)
- **Conscientiousness**: Low (Impulsive, carefree) to High (Responsible, dependable, goal-oriented)
- **Emotional Stability**: Low (Moody, tense, lower self-confidence) to High (Stable, confident)
- **Openness to Experience**: Low (Narrow field of interests, likes the tried-and-true) to High (Imaginative, curious, open to new ideas)

(Tupes & Christal, 1961, as cited by Daft, 2007)
The 16 basic desires

- **Power**: Influence others, Create
- **Independence**: Self-reliance
- **Curiosity**: Understanding
- **Acceptance**: Avoid failure/criticism
- **Order**: Structure, Orderliness
- **Saving**: Collect things
- **Honor**: Upright character
- **Idealism**: Social justice
- **Social contact**: Peer companionship
- **Family**: Raise a family
- **Status**: Respect based on Social standing
- **Vengeance**: Confront those who offend, frustrate & annoy
- **Romance**: Beauty & Sex (libido), Art & Music
- **Eating**: Food & Appetite
- **Physical activity**: Muscle exercise
- **Tranquility**: Safety, Free of anxiety & pain

Source: Steven Reiss, PhD.
Diverse Experiences: Family and Community
Jagged Profile: Everyone can be great (All are above the Average)
Schooling

- Individual differences
- Multiple intelligences
- Cultural diversity
- Curiosity, passion, creativity

Employable skills
What do we have?

• Natural Born Learners
• Naturally Diverse Learners
• Naturally Intentional Learners
Catching Up or Leading the Way: American Education in the Age of Globalization

Yong Zhao
<table>
<thead>
<tr>
<th>Math</th>
<th>Sciences</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shanghai, China</td>
<td>Shanghai, China</td>
<td>Shanghai, China</td>
</tr>
<tr>
<td>Singapore</td>
<td>Finland</td>
<td>South Korea</td>
</tr>
<tr>
<td>Hong Kong, China</td>
<td>Hong Kong, China</td>
<td>Finland</td>
</tr>
<tr>
<td>South Korea</td>
<td>Singapore</td>
<td>Hong Kong, China</td>
</tr>
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<td>Taiwan</td>
<td>Japan</td>
<td>Singapore</td>
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<td>Finland</td>
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<td>Canada</td>
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<td>Japan</td>
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<td>Japan</td>
<td>Estonia</td>
<td>Australia</td>
</tr>
<tr>
<td>Canada</td>
<td></td>
<td>Netherlands</td>
</tr>
</tbody>
</table>

2009 PISA Results

http://www.oecd.org/dataoecd/54/12/46643496.pdf
A Long History of Bad Test-takers

• 1960s
  – FIMS: 12th out of 12 countries
  – FISS: 14th out of 18 countries

• 1970s/1980s
  – SIMS: 12, 14, 12, 12 out of 15 (number systems, algebra, geometry, calculus)
  – SISS: 14th (biology), 12th (chemistry), 10th (physics) out of 14

• 1990s—2007: TIMSS (8th graders)
  – 28th out of 42 in 1995
  – 15th in 2003
  – 9th in 2007
Why Is the U.S. Still Here?
Individual differences
Multiple intelligences
Cultural diversity
Curiosity, passion, creativity

Schooling

Employable skills
Test scores

Asian Countries

USA

Confidence

USA

2003 TIMSS Results

Asian Countries

2003 TIMSS Results
"It may be wrong, but it's how I feel."
## TIMSS 2011 Math Scores vs. Confidence of Select Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Math Scores</th>
<th>Confidence (%)</th>
<th>Value Math (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korea</td>
<td>613</td>
<td>03 (11)</td>
<td>14</td>
</tr>
<tr>
<td>Singapore</td>
<td>611</td>
<td>14 (21)</td>
<td>43</td>
</tr>
<tr>
<td>Chinese Taipei</td>
<td>609</td>
<td>07 (20)</td>
<td>13</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>586</td>
<td>07 (24)</td>
<td>26</td>
</tr>
<tr>
<td>Japan</td>
<td>570</td>
<td>02 (09)</td>
<td>13</td>
</tr>
<tr>
<td>United States</td>
<td>509</td>
<td>24 (40)</td>
<td>51</td>
</tr>
<tr>
<td>England</td>
<td>507</td>
<td>16 (33)</td>
<td>48</td>
</tr>
<tr>
<td>Australia</td>
<td>505</td>
<td>17 (38)</td>
<td>46</td>
</tr>
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</table>
Correlations between TIMSS Math Score and Confidence and Enjoyment

<table>
<thead>
<tr>
<th>Grade</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>-0.58</td>
</tr>
<tr>
<td>8</td>
<td>-0.64</td>
</tr>
<tr>
<td>4</td>
<td>-0.67</td>
</tr>
<tr>
<td>8</td>
<td>-0.75</td>
</tr>
</tbody>
</table>

Tom Loveless (2006): How Well Are American Students Learning  
http://www.brookings.edu/~media/Files/rc/reports/2006/10education_loveless/10education_loveless.pdf
WHAT WORKS MAY HURT

SIDE EFFECTS IN EDUCATION

YONG ZHAO
Ranking by PISA Math Score and Perceived Entrepreneurial Capability
## Correlations between PISA and Entrepreneurship Indicators

<table>
<thead>
<tr>
<th></th>
<th>PISA Reading</th>
<th>PISA Math</th>
<th>PISA Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Capabilities</td>
<td>-.595**</td>
<td>-.586**</td>
<td>-.608**</td>
</tr>
<tr>
<td>Nascent Entre Rate</td>
<td>-.693**</td>
<td>-.636**</td>
<td>-.678**</td>
</tr>
<tr>
<td>New Biz Ownsp Rate</td>
<td>-.371*</td>
<td>-.374*</td>
<td>-.392*</td>
</tr>
<tr>
<td>Total Early Stage Entre</td>
<td>-.658**</td>
<td>-.620**</td>
<td>-.658**</td>
</tr>
</tbody>
</table>

Data source: OECD PISA 2010, Global Entrepreneurship Monitor, 2010
“At the system level, the greater the fear of failure expressed by students, the higher the reading scores in that education system” (OECD, 2019, p. 193).

A large number of English-speaking and East Asian education systems were amongst those whose students were both more likely to report a fear of failure and to be high performers in reading. (OECD, 2019, p. 193).

The strongest positive associations between general self-efficacy and reading performance were observed largely in countries and economies whose average reading performance was below the OECD average, whereas the weakest associations were observed often in education systems whose reading performance was at or above the OECD average. In Beijing, Shanghai, Jiangsu and Zhejiang (China) and Japan, students who expressed more self-confidence in their ability to succeed and accomplish tasks scored lower than students who expressed less self-confidence. (p. 190-191).
“students in low-achieving countries tended to report higher levels of life satisfaction than students in high-achieving countries... Moreover, in most East Asian countries and economies, such as Beijing, Shanghai, Jiangsu and Zhejiang (China) (hereafter “B-S-J-Z [China]”), Hong Kong (China), Japan and Macao (China), students scored above the OECD average in reading, but reported lower levels of life satisfaction than the average 15-year-old student in OECD countries” (OECD, 2019, p. 160).

“students who were classified as ‘very satisfied’ with their lives scored 16 points lower in reading than more dissatisfied students, after accounting for students’ and schools’ socio-economic profile. In Hong Kong (China), Malta and the United States, ‘very satisfied’ students scored at least 30 points lower in reading than other students.”

a trend towards poorer reading performance amongst both students with very high and very low levels of life satisfaction... reading scores were lower amongst students who reported between 0 and 4, and 9 or 10 on the life-satisfaction scale, while reading scores were higher amongst students who reported 5 through 8 on the scale” (OECD, 2019, p. 161)
creativity, 25

critical thinking, 25

communication, 25

collaboration, 25
Whatever Factor—Reading, Math, Grit or Personality

Correlation $r = 0.5$
Evidence-based Practice

- Multiple outcomes
- Short-term vs. long-term outcomes
- Instructional vs. educational outcomes
- Cognitive vs. non-cognitive
Estimated lifetime earnings by educational attainment (in millions of dollars)

<table>
<thead>
<tr>
<th></th>
<th>Gross (without controls)</th>
<th>Net (with controls)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Men</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>1.13</td>
<td>1.18</td>
</tr>
<tr>
<td>High school graduate</td>
<td>1.54</td>
<td>1.53</td>
</tr>
<tr>
<td>Some college</td>
<td>1.76</td>
<td>1.70</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>2.43</td>
<td>2.19</td>
</tr>
<tr>
<td>Graduate degree</td>
<td>3.05</td>
<td>2.68</td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>0.51</td>
<td>0.59</td>
</tr>
<tr>
<td>High school graduate</td>
<td>0.80</td>
<td>0.87</td>
</tr>
<tr>
<td>Some college</td>
<td>1.01</td>
<td>1.04</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>1.43</td>
<td>1.32</td>
</tr>
<tr>
<td>Graduate degree</td>
<td>1.86</td>
<td>1.69</td>
</tr>
</tbody>
</table>

Changes in real wage levels of full-time U.S. workers by sex and education, 1963–2012

A. Real weekly earnings relative to 1963 (men)

B. Real weekly earnings relative to 1963 (women)
Figure 4. Standardized AI exposure, 2017

Note: Figures smoothed using a LOWESS regression
Source: Brookings analysis of Webb (2019) and OES data
Figure 3. Average standardized AI exposure
By education level, 2017

- Less than high school: 0.00
- High school: 0.04
- Some college: 0.03
- Bachelor’s degree: 0.21
- Graduate or professional degree: 0.15

Source: Brookings analysis of Webb (2019) and IPUMS-USA ACS 1-year microdata
Al may not spare any demographic, but exposure levels will vary

Average standardize Al exposure by sex, age, and race-ethnicity, 2017

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**American Indians and Alaskan Natives, Native Hawaiians and Pacific Islanders, and people indicating they are two or more races are not shown due to limited data availability.**

What do we need?

- Creative, entrepreneurial, globally minded
- Diverse and unique
- Social and emotionally healthy
3 Ts: Talent, Time, & Teaching
Everyone Needs to be Great

A musician must make music, an artist must paint, a poet must write, if he is to be ultimately at peace with himself. What a man can be, he must be.

--Abraham H. Maslow
Creating value for others: Entrepreneurial Mindset

Use your signature strengths and virtues in the service of something much larger than you are." ~ Martin Seligman

Using the New Positive Psychology to Realize Your Potential for Lasting Fulfillment

Authentic Happiness

Martin E. P. Seligman, Ph.D. - Bestselling author of Learned Optimism
Great/unique

Creative and Entrepreneurial

Passionate ← Valuable
Personalized Curriculum

- National Core
- School Mandated
- Personal
An Education Crisis Is a Terrible Thing to Waste
How Radical Changes Can Spark Student Excitement and Success
Yong Zhao, Trina E. Emler, Anthony Snethen, and Danqing Yin