Give Intelligence Its Due, But Put it In Its Place

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Homo sapiens’ big brain
Lots of human abilities, talents
But $g$ is chief source of human cognitive diversity

the “can do”

Phenotypic structure appears to be replicated at genetic level
Structure of *differences* in ability

Which differences matter most, & where?

**DOMAIN GENERAL**

Single most powerful, pervasive

**g**

**DOMAIN SPECIFIC**

V  Q  S  M  Others
Structure of differences in ability

Which differences matter most, & where?

<table>
<thead>
<tr>
<th>DOMAIN GENERAL</th>
<th>IQ ≈ g</th>
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</thead>
<tbody>
<tr>
<td>Less impact, domain specific</td>
<td>V</td>
</tr>
<tr>
<td></td>
<td>Q</td>
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<tr>
<td></td>
<td>S</td>
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<td></td>
<td>M</td>
</tr>
<tr>
<td>Others</td>
<td>Others</td>
</tr>
</tbody>
</table>
Structure of differences in ability

Which differences matter most, & where?

IQ ≈ g

V Q S M Others

Task specific

DOMAIN GENERAL
**g** has pervasive, persistent effect on life chances

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<tbody>
<tr>
<td>% pop.</td>
<td>5%</td>
<td>20%</td>
<td>50%</td>
<td>20%</td>
<td>5%</td>
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</tbody>
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### Why?

**g** is ability to “catch on,” “figure things out”—required everywhere, always!

### And—

Premium on **g** keeps rising in modern world, information age

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<table>
<thead>
<tr>
<th>Training potential:</th>
<th>Slow, simple, supervision</th>
<th>Mastery learning,</th>
<th>College</th>
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<tbody>
<tr>
<td>Ever incarcerated (% white men)</td>
<td>7</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Chronic welfare recipient (% white mothers)</td>
<td>31</td>
<td>17</td>
<td>2</td>
</tr>
<tr>
<td>Had illegitimate child (% white women)</td>
<td>32</td>
<td>8</td>
<td>0.4</td>
</tr>
<tr>
<td>High school dropout (% whites)</td>
<td>55</td>
<td>35</td>
<td>6</td>
</tr>
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**Head wind**

**Tail wind**
Effect sizes vary systematically by life arena, task complexity.

- Standardized academic achievement: \( g \) correlation with IQ = 0.8
- Job performance—complex jobs*: .4-.5
- Years of education: 0.6
- Occupational level: 0.3-.4
- Job performance—middle-level jobs*: 0.4-.5
- Income: 0.2
- Delinquency: -0.25
- Job performance—simple jobs*: 0.2

*Correlations corrected for attenuation & restriction in range

Diabetes self-care?
Higher $g$ always helps (on average)
High $g$ never sufficient

Can do + Will do
e.g., conscientiousness practice

Achievements
But $g$ necessary—nothing can compensate for not “catching on,” etc.

Can do + Will do  
e.g., conscientiousness practice

Achievements
Need to invest in domain specific experience, however

- Can do
- Will do
- Have done

Domain-specific knowledge, expertise

Achievements
Social constraints on investment

Can do + Will do + Have done → Achievements
Domain-specific tilt channels the “will do”

Where is “creativity”? In emergenesis?

Achievements

Can do + Will do + Have done

Social circumstances

Your “flow”
Domain-specific talents, passions
Domain-specific tilt channels the “will do”

Where is “creativity”? In emergenesis?

So, give $g$ its due, but put it in its place

Social circumstances

Can do + Will do + Have done

Achievements

Your “flow”
Domain-specific talents, passions
Criterion problem, too

Social circumstances

Can do + Will do + Have done

Achievements

? —g predicts outcomes that are mostly—

Individual
Instrumental
Independent
Material
Economic

Your “flow”
What makes us human?
Can’t be just our smarts or achievements...
Non-material outcomes matter, too: E.g., social-emotional connectedness

- IQ doesn’t predict happiness
- Parental love
- True friendship
- Minimizing conflict
- Family commitment
- Mutual joy
Final thought

- Shunning & social isolation = physical death when humans evolved
- Humans are acutely sensitive to social isolation
- Being different, odd, “out-of-step,” unusual can isolate a person
- Extremely high (or low) IQ makes one unusual
- Attributes that lead to creativity (marching to own drummer) makes one unusual
- So, high intelligence and creativity can pose psychic and emotional challenges
- Those challenges are manageable if understood
Thank you.

• www.udel.edu/educ/gottfredson