Measuring ‘soft skills’ in young Australians

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What’s a skill?

Economic definition based on likelihood of being rewarded in the labour market

- Improve productivity
- Improve team’s or organisation’s productivity

Different skills rewarded at different rates, at different times, in different places
Are these skills?

- Computer programming
Are these skills?

- Computer programming
- Oral communication
Are these skills?

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- Oral communication
- Conscientiousness
Types of skills

• Computer programming

• Oral communication

• Conscientiousness
Types of skills

- Computer programming – ‘Hard’ skill
  - Technical knowledge
  - Inherently related to cognitive ability
  - Easy to measure
  - Job-specific

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• Oral communication – ‘Soft’ skill
  • Independent of cognitive ability
  • Difficult to measure
  • Applicable to a wide range of jobs

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- **Conscientiousness** – Personality trait
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Non-cognitive skills
Soft skills

• Chamorro-Premuzic et al. (2010):
  – Improve job (or academic, or…) performance
  – Broadly applicable
  – Not related to intelligence
  – Modifiable

• Alternative terms: foundation skills, employability skills, 21st Century skills

• Increasingly necessary for job applicants and requested by employers (Oladokun & Gbadegesin 2017)
Benefits of soft skills

• Mediate the relationship between academic achievement and workplace performance
  – (Bowles et al. 2011; Joseph et al. 2010)

• Complement cognitive/‘hard’ skills, and even promote the development of hard skills
  – (Cunha & Heckman 2008)

• More important than hard skills in some contexts
  – (Duckworth & Seligman 2005; Dunifon & Duncan 1998; Falch et al. 2014; Reynolds et al. 2010)
Benefits of soft skills

- Orientation toward challenge, sense of personal control (Dunifon & Duncan 1998)
  - Predicted earnings 15 to 25 years later

- Self-discipline (Duckworth & Seligman 2005)
  - Outperformed IQ in predicting grades, attendance, time spent doing homework

But also…

- Verbal/written communication, time and risk preferences, resilience, adaptability, self-efficacy, leadership, self-control, creativity…
Measuring soft skills (Egalite et al. 2016)

1. Behavioural / observational measures
   - Least prone to bias
   - Expensive and difficult to implement

2. Third-party ratings
   - More practical than behavioural measures
   - Not available in all research contexts

3. Self-ratings
   - Most practical
   - Most prone to bias
In defense of self-report measures

- Soft skills are intangible and not easily measured.
- All measures – whether behavioural, 3rd party, self-rating – are inevitably susceptible to bias.
- Abilities can be judged from performance, but what about attitudes and values?
- Personality research has demonstrated the utility of self-report measures for predicting real-world outcomes.
Soft skills in LSAY

- Series of Longitudinal Surveys conducted since 1995
- Soft skills measure drafted for second wave of LSAY’s 2015 cohort
- Additional criteria beyond validity were:
  - Brevity
  - Appropriateness for young Australians
  - Relevance to education, employment outcomes
  - Broad applicability to a range of education and employment contexts
Methodology

- Partnership for 21st Century Skills used as base framework
  - www.p21.org
  - Based on collaboration between industry, academia, policy makers

- Considered scales included:
  - Creative self-efficacy (Beghetto 2006)
  - Problem solving confidence, approach style (Cassidy & Long 1996)
  - Critical and creative thinking; teamwork (Strom & Strom 2011)
  - Communication (McCroskey & McCroskey 2013)

- Exploratory principal components analysis

- Final measure comprised of 14 items
Results from PCA – Four factors

Factor 1: Problem solving (6 items)
- “I can generally see a way out of problem situations.”
- “I see problems as challenges to overcome.”

Factor 2: Creativity (3 items)
- “I am good at coming up with new ideas.”

Factor 3: Teamwork (3 items)
- “I stay focused on the task during group work.”

Factor 4: Oral communication (2 items)
- “I am good at presenting a talk to a group of acquaintances.”
## Gender

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<th>Females</th>
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Note: Scores standardised to represent a score out of a possible 10.
## Indigenous status

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# Language spoken at home

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### Sibling(s) in household

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### VET subject(s) at school

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## Planning to complete Year 12

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Caveats

• Influence of self-esteem

• Self-report measures of soft skills may more accurately be confidence in that skill

• But, may still be useful if related to education and employment outcomes
Next steps

• Validation paper

• Y15 cohort currently in field for 4th wave of data collection (out of 11 total)

• Longitudinal influence of skills on education and employment outcomes

• Change in skills as a function of change in circumstances

• https://www.lsay.edu.au/data/access

• https://www.lsay.edu.au/subscribe
References


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