Validity of a Contextualized Conscientiousness Scale for Ph.D. Candidate Performance

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Practical Issue

- Ph.D. output of Dutch universities leaves room for improvement
- Selection and coaching of Ph.D. candidates leaves room for improvement
- Relation between performance of Ph.D. candidates and personality is relatively unexplored

Bottom-up approach

- "Real practical question in The Utrecht School of Governance"
- Qualitative research among various stakeholders
- Derive test items (Big 5 type structure)
- Construct a 0-version of the instrument (PPQ: Ph.D. Personality Questionnaire)
- Get feedback from the users
- Validation study

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Testimonials by Ph.D. advisors with respect to the 0-version

- "Leads to better thinking about the specific competencies needed"
- "Helps to make coaching plans"
- "Fine tunes personalized coaching"
- "Makes vague notions concrete"

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Increased interest in Ph.D. candidate performance

- Newspaper articles
- Mastering your Ph.D. + Science column by Noordam & Gosling
- Studies among Ph.D. candidates

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Theoretical issue: "validity challenge"

- Narrow traits: more specific than the Big Five
- Frame-of-reference ("context specific items"): general "situational clue" added

Artificial solutions in terms of face

validity or ecological validity

Design of the validation study

- Web-based survey among Ph.D. candidates:
- 62 PPQ items (random order per testee) N=242 and 50 Big Five items from the IPIP-pool (N=103)
- Email-survey among Ph.D. advisors (N=107)
- English language
- Extensive phone and email protocols
- Difficult data collection (assisted by Jojanneke Struis, Miriam Heemskerk and Thomas Faith)

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Respondents

- Wide range of disciplines: Psychology, Medicine, Science, Philosophy, Art studies
- Dutch and non-Dutch (5%)

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Performance ratings (10-point scales)

- *General functioning*
- *Academic quality*
- *Work progress*
- *Performance with respect to publications*
- *Teaching*
- *Meeting deadlines*
- *Performance during conferences*
- *Interpersonal functioning at the university*
- *Estimated probability to obtain the Ph.D. within the prescribed period* (usually 4 years)

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What about the Big Five???

No relation with performance criteria…

Contextualized Conscientiousness

- 7 items reflecting accurate time management, working in a structured and self-propelled way, setting one's own research priorities and keeping appointments
- Alpha = .73

Correlations of the customized conscientiousness scale with the Big Five dimensions (N= 103)

Big Five Dimension	Correlation
Extraversion	-.09
Agreeableness	.11
Openness	-.20*
Conscientiousness	.52**
Emotional stability	.14

*p < .05 (two-tailed)
** p < .01 (two-tailed)

Regression of the performance criteria on customized conscientiousness (N=103).

Performance criteria	Beta contextualized conscientiousness	R
Work progress	.27**	.29**
Meeting deadlines	.34**	.38**
Estimated probability to obtain the Ph.D. within the prescribed period	.41**	.42**

Note. there are no other significant predictors. The regression results for the other six performance criteria were not significant.** *p* < .001 (two-tailed)

Hierarchical Regression Results (N=60)
1st Big Five, 2nd contextualized items

Performance criteria	Beta	R^2	ΔR^2
Work progress	.38*	.20	.10*
Meeting deadlines	.35*	.17	.08*
Estimated probability to obtain the Ph.D. within the prescribed period	.40**	.20	.12**

  * $p < .05$ (two-tailed)
 ** $p < .001$ (two-tailed)

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Conclusions: customized conscientiousness:

- shows adequate construct validity
- shows incremental validity above the Big Five
- relatively high measurement efficiency, that is, 7 items vs. 10 for the Big Five
- despite a lower reliability than that of the Big Five scale (α = .73 vs. .80).

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Discussion

- Standard personality items are "disrespectful of context" and "lack meaning", that is why their criterion validity is low??

- Contextualized personality items are aristotelic and Big Five items platonic??

- Can contextualized personality items contribute??

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This is the end…

- Questions?