A Three-Fold Story of People, Their Experiences and Development

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• Much of psychology
  – Extrinsic influences on behaviour, thinking and feeling

• Personality science
  – Intrinsic influences on environment and experiences
A model of how intrinsic and extrinsic developmentally interact
Account for puzzling empirical phenomena
Implications for thinking of psychological constructs
Some things we know

- All traits have “heritable” variance, even most contextual ones
  - Rest is mostly unsystematic “environmental” variance
  - Specific environmental and genetic causes elusive

- Most traits are linked to various life outcomes
  - And thereby with experiences
• Whatever is **intrinsic pervasively taints people’s experiences**
  – Experiences “heritable” being linked with “heritable” traits
• **Most experiences linked with multiple traits**
  – And thereby with genetic or environmental influences on many traits

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   E1     E2     E3     E4
   T1 -----> T2 -----> T3 -----> T4

G    G
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• Whatever is intrinsic pervasively taints people’s experiences
  – Experiences “heritable” being linked with “heritable” traits
• Most experiences linked with multiple traits
  – And thereby with genetic or environmental influences on many traits
• If experiences influence personality, each linked to multiple traits
  – Very restrictive to believe otherwise
If experiences influence personality, each linked to multiple traits

- Very restrictive to believe otherwise
• An inevitable deduction:

Any genetic or experiential contribution to any trait can propagate into other traits.
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These genetic influence travel to all traits
Ubiquitous gene-environment correlations (transactions):
not just for individual traits, but across traits
Developmental “cross-bleeding model”
Consistent with some otherwise hard to explain findings
• Similar genetic and environmental trait covariance structures
  – Processes making families more similar structured similarly to process making siblings within families similar
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  – Processes making families more similar structured similarly to process making siblings within families similar

Genetic and environmental influences become bundled up over development

McCrae et al., 2001 J Pers; Loehlin et al., 2011, 2013 PAID
Heritable variance in clearly contextual phenomena

- **Unique** variance in hundreds of personality test items heritable
  - I like redecorating
  - I like roller coasters

Mõttus et al., 2017, 2018 JPSP
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Genetic influences on some traits become “smeared” across all traits

Mõttus et al., 2017, 2018 JPSP
Specific environmental or genetic causes of trait variance elusive

- Propagate across traits
- Not aligned with individual traits
- Interact with those on other traits (multiplicative)
Genetic influences look partly “non-additive” (multiplicative)

Keller et al., 2005 Beh Gen; Mõttus et al., in press JPSP
• Genetic influences look partly “non-additive” (multiplicativc)

Influences on one trait can travel to another, given other genetically influenced pathways

Keller et al., 2005 Beh Gen; Mõttus et al., in press JPSP
What does this mean for trait constructs?
Personality traits as we see them:

Phenotypic, psychological-only phenomena

Possibly limited genetic or environmental mechanisms unique to specific trait constructs

See also Turkheimer et al., 2014 Annual Rev
Personality is real, partly “biological” phenomenon

- But trait constructs may be developmentally emergent
  - Not aligned with *distinct* biological or environmental mechanisms

- Personality best understood by *studying phenotypic development*
  - Looking for traits in the genome and brain may explain little variance
But personality is all enduring patterns of behaviour, thinking, feeling and wanting

- Hence the model may apply to any stable psychological constructs
  - Not just those often associated with personality science (the Big Five)

Self-Control, Theory of Mind, Locus of Control, Executive Functions, You-Name-It
Thank you for listening!

- Second most influential empirical personality journal
- Fast editorial process
- No page limit
- Emphasis on transparency (including pre-registration)

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