EMOTIONAL DEVELOPMENT: WHAT ARE THE CONCEPTUAL ROOTS?

Insights from Developmental Psychology

“

I want to understand how the temperament-parenting interplay affects typical and atypical (child) development.”

NEED SYMPOSIUM 11-05-2017

PROF. DR. SARAH DE PAUW
DEPARTMENT OF SPECIAL NEEDS EDUCATION

MY BACKGROUND

Developmental Psychology
Special Needs Education

“Primary reaction patterns”>“Temperament”

OVERVIEW

1. Does temperament matter?
2. What is temperament and how does it develop?
3. What is the relationship with Emotional Development?
4. Temperament in the study of developmental disabilities
5. Implications for research and practice on Emotional Development

1. IS TEMPERAMENT IMPORTANT?

TEMPERAMENT FACTORS ARE POWERFUL* PREDICTORS OF...

- Mental health conditions
- Socio-economic success
- Scholastic functioning
- Resilience
- Physiological functioning, health, mortality risks
- Burn-out
- Emotional and behavioral problems
- Relation satisfaction
- Quality of life
- Occupational attainment
- Social inclusion
- Criminal careers

*As powerful as cognitive abilities and SES in producing many adult outcomes
- In typical development (e.g., Roberts et al., 2007; Caspi, 2005; Moffitt et al. 2015)
2A. WHAT IS TEMPERAMENT?

Not a consensus on a single model, yet general consensus:
- Manifestation from infancy onward
- Presumably strong genetic or neurobiological basis
- At least, moderate consistency across situations and time
- Multidimensional nature
- Biologically-based foundation of later-developing personality

(Goldsmith et al., 1987; Mervielde & De Pauw, 2012; De Pauw, 2014, 2017)

DIFFERENT TEMPERAMENT APPROACHES

Thomas & Chess (1977):
Behavioral styles - HOW

- New York Longitudinal Study (1963)
- In-depth observations of infants
- 9 dimensions: Activity level, rhythmicity, adaptability, approach-withdrawal, threshold of responsiveness, quality of mood, intensity of reaction, distractibility, task persistence

Goldsmith & Campos (1982):
Emotional processes

Mary Rothbart (1981):
Attentional Self-regulation

Buss & Plomin (1984):
Activity - Criterial approach
Goldsmith & Campos (1982): Temperament = emotional in nature
Individual differences in behavioral tendencies, indexed by expressive actions of basic emotions (not cognitive)

Rothbart & Goldsmith (2003): Psychobiological model
Constitutionally-based differences in REACTIVITY and SELF-REGULATION

REACTIVITY in AFFECT and ACTIVITY: determined by responsiveness of underlying psychobiological processes

SELF-REGULATION: processes enabling the modulation of this automatic, involuntary reactivity

DIFFERENT TEMPERAMENT APPROACHES

7 decades of research:
— No real consensus on the nature and number of temperament dimensions
— Discussion about age-specific versus age-independent temperament assessment
⇒ Large proliferation of temperament constructs, instruments and methodologies
⇒ Little empirical research on their interrelations
⇒ Hinders the systematic integration of research finding but also implementation in clinical practice
DIFFERENT TEMPERAMENT APPROACHES

- The environment is assumed to interact with temperament to produce personality.

Early building blocks (Cicchetti, 1990)
Life-long, yet distinct, component (Rothbart, 2012)

TEMPERAMENT VERSUS PERSONALITY??

However, decades from research in personality psychology now conclude: “Temperament IS NOT the biologically-based precursor of personality”

Arguments against this historical divide stem from:
- Behavioral genetic studies
- Ethological studies
- Longitudinal studies

(see for reviews: McGue et al., 2000; Shiner & DeYoung, 2013; De Pauw, 2014, 2017)

TEMPERAMENT VERSUS PERSONALITY??

McAdams and Pals (2006):
Different levels within the study of personality:

Personality narratives
- Characteristic adaptations - wide range, specific to particular time, place, role (e.g., goals, values...)

Basic traits - relative consistencies in behaviors, cognitions, and emotions across contexts and across time

TRAIT STRUCTURE ACROSS DEVELOPMENT

<table>
<thead>
<tr>
<th>Infancy &amp; Toddlerhood</th>
<th>Little Six (&gt; 2.5 years)</th>
<th>Big Five</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity</td>
<td>Activity</td>
<td>Extraversion</td>
</tr>
<tr>
<td>Positive affect</td>
<td>Sociability</td>
<td></td>
</tr>
<tr>
<td>Fearful distress</td>
<td>Emotionality</td>
<td>Neuroticism</td>
</tr>
<tr>
<td>Irritable distress</td>
<td>Manageability</td>
<td>Agreeableness</td>
</tr>
<tr>
<td>Attention span (Effortful Control)*</td>
<td>Conscientiousness</td>
<td>Conscientiousness</td>
</tr>
<tr>
<td>Orienting</td>
<td>Sensitivity</td>
<td>Openness-to-experience</td>
</tr>
<tr>
<td>Sensitivity</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. HOW DOES TEMPERAMENT DEVELOP?

TEMPERAMENT DEVELOPMENT SHOW MODERATE STABILITY...


... AND MODERATE CHANGE!


Latent growth curves across early childhood (N= 365), middle childhood to late adolescence (N=579)

Activity ↓, Sociability = & ↑, Emotionality ↑ & ↓ (not for ♀), Manageability ↓ & =
3. WHAT IS THE RELATIONSHIP WITH EMOTIONAL DEVELOPMENT?

HOW IS TEMPERAMENT RELATED TO EMOTIONAL DEVELOPMENT?

**Temperament**
- Characteristics of the individual BEYOND the cognitive level
- Emotion (regulation) is central

**Emotional development**
- Characteristics of the individual BEYOND the cognitive level
- Emotion (regulation) is central

**Temperament**
- Characteristics of the individual BEYOND the cognitive level
- Emotion (regulation) is central

**Emotional development**
- Characteristics of the individual BEYOND the cognitive level
- Emotion (regulation) is central

- **FOCUS ON IDIOGRAPHIC DEVELOPMENT**
  - (INDIVIDUAL DIFFERENCES)
  - Looking for age-independent, behavioral consistencies, across situations and time
  - Continuous development

- **FOCUS ON NORMATIVE DEVELOPMENT**
  - (COMMONALITIES)
  - Looking for attainment of specific developmental goals in specific situations
  - Discontinuous development
HOW IS TEMPERAMENT RELATED TO EMOTIONAL DEVELOPMENT?

**Fish:** Continuous development

**Butterfly:** Discontinuous development

**Humans:** Both patterns of development

Intriguing, fundamental question: is this person low in temperamental Manageability OR low(er) in Emotional Development?

### Temperament

- Characteristics of the individual beyond the cognitive level
- Emotion (regulation) is central

### Emotional Development

- Characteristics of the individual beyond the cognitive level
- Emotion (regulation) is central

**FOCUS ON IDIOGRAPHIC DEVELOPMENT (INDIVIDUAL DIFFERENCES)**

- Looking for age-independent, behavioral consistencies
- Continuous development
- Focus on “HOW IS this person?”
- Evaluation of traits ACROSS interactions
- 5-point scale: dimensional construct

**FOCUS ON NORMATIVE DEVELOPMENT (COMMONALITIES)**

- Looking for attainment of specific developmental tasks
- Discontinuous development
- Focus on “WHAT does this person DO?”
- Evaluation of processes IN interactions
- Yes/No: categorical construct

**WRAP UP**

- Use different lenses on development (qualitative vs. quantitative growth, normative milestones vs uniqueness)
- Share a significant part of their vocabularies
- Can complement each other in a holistic assessment approach
3. TEMPERAMENT IN THE STUDY OF DEVELOPMENTAL DISABILITIES

#1. EVERY PERSON HAS A TEMPERAMENT

"Although not every child has a disorder, every child has a temperament."


#2. 'TEMPERAMENT AND PERSONALITY FUNCTIONS' ARE INCLUDED IN THE ICF-(CY) MODEL (WHO, 2011)

<table>
<thead>
<tr>
<th>Health Condition (disorder/disease)</th>
<th>Environmental Factors</th>
<th>Personal Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body function &amp; structure (Impairment)</td>
<td>Activities (Limitation)</td>
<td>Participation (Restriction)</td>
</tr>
</tbody>
</table>

b126. Global mental functions – Structures of the nervous system

"Promising but urgently more research needed..."
(Woods, Groves, & Harper, 2012)
#3. NOT A SYSTEMATIC RESEARCH AGENDA

The reviewed conceptual confusion among trait concepts hampers the systematic accumulation of knowledge.

Two promising research avenues:

- Diagnostic relevance
  Traits may help to describe behavioral phenotypes across and within specific syndromes.

- Modifier impact
  Traits may act as non-syndrome-specific moderators of developmental outcomes (psychosocial adjustment)

(De Pauw et al., 2011)

#4. EVALUATION OF TEMPERAMENTAL PHENOTYPES

Central research question: "Which temperamental traits distinguish person with and without (a specific) disability?"

- Early diagnosis
- Lifetime assessment mild symptoms
- Broader autism phenotype
- Differential diagnosis ASD from other developmental disorders

- Lingering positive personality stereotype
- 'Down syndrome advantage?'?

CONSENSUS (MAN)

Activity
Sociability
Emotionality
Manageability
Conscientiousness
Sensitivity

Positive Emotions
Negative Affect
Anger
Effortful Control
Orienting Sensitivity

Extraversion
Neuroticism
Benevolence
Conscientiousness
Openness-to-experience

Novelty Seeking
Harm-Avoidance
Self-Directedness
Cooperativeness
Achievement
Self-Transcendence


Trait taxonomy encompassing 6 higher-order domains and 26 content classes based on empirical trait relationships:


STEP 2. ALLOCATION OF TRAITS BASED ON AN EMPIRICALLY-ROOTED TRAIT TAXONOMY

ACT SOC EMO MAN CON SEN

Activity
Shyness
Internality of Reaction
Adaptability/Mood
Perseverance
Sensory Threshold

Positive Emotions
Negative Affect
Anger
Effortful Control
Orienting Sensitivity

Extraversion
Neuroticism
Benevolence
Conscientiousness
Openness-to-experience

Novelty Seeking
Harm-Avoidance
Self-Directedness
Cooperativeness
Achievement
Self-Transcendence

WHAT IS THE IMPACT OF COMPARING WITH DEVELOPMENTAL DELAYED CONTROLS?

Delayed development hypothesis:
Only differences with TD, not with DD

Deficit hypothesis:
Differences remain, even when DD is taken into account.

(Ziegler & Harter, 1969)

Meta-analysis of mean-level differences: Hedges' $g$

<table>
<thead>
<tr>
<th></th>
<th>k</th>
<th>ACT</th>
<th>SOC</th>
<th>EMO</th>
<th>MAN</th>
<th>CON</th>
<th>SEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASD - TD</td>
<td>39-51</td>
<td>-.09</td>
<td>-.84***</td>
<td>+.58***</td>
<td>-.79***</td>
<td>-.81***</td>
<td>-.57***</td>
</tr>
<tr>
<td>ASD - DD</td>
<td>9-15</td>
<td>-.12</td>
<td>-.72***</td>
<td>+.11</td>
<td>-.47**</td>
<td>-.65**</td>
<td>-.37**</td>
</tr>
</tbody>
</table>

#4. TRAIT PROFILES FOR AUTISM AND DOWN SYNDROME

The ASD trait profile confirms traits as essential and associated features of autism.

The DS trait profile is less pronounced and contradicts the lingering ‘positive’ stereotype in DS.

Meta-analysis of mean-level differences: Hedges' $g$

<table>
<thead>
<tr>
<th></th>
<th>k</th>
<th>ACT</th>
<th>SOC</th>
<th>EMO</th>
<th>MAN</th>
<th>CON</th>
<th>SEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASD - TD</td>
<td>39-51</td>
<td>-.09</td>
<td>-.84***</td>
<td>+.58***</td>
<td>-.79***</td>
<td>-.81***</td>
<td>-.57***</td>
</tr>
<tr>
<td>ASD - DD</td>
<td>9-15</td>
<td>-.12</td>
<td>-.72***</td>
<td>+.11</td>
<td>-.47**</td>
<td>-.65**</td>
<td>-.37**</td>
</tr>
<tr>
<td>DS</td>
<td>18-25</td>
<td>-.02</td>
<td>+.08</td>
<td>-.24***</td>
<td>.10</td>
<td>-.37**</td>
<td>-.24**</td>
</tr>
</tbody>
</table>
#5. APPRECIATING TRAIT VARIABILITY IN TEMPERAMENT

Meta analysis of variance differences: Antilog VR's

<table>
<thead>
<tr>
<th></th>
<th>k</th>
<th>ACT</th>
<th>SOC</th>
<th>EMO</th>
<th>MAN</th>
<th>CON</th>
<th>SEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASD–TD</td>
<td>36–43</td>
<td>1.43&quot;</td>
<td>1.15</td>
<td>1.30&quot;</td>
<td>1.33&quot;</td>
<td>1.04</td>
<td>1.38&quot;</td>
</tr>
<tr>
<td>ASD–DD</td>
<td>9–13</td>
<td>.88</td>
<td>.83</td>
<td>1.39</td>
<td>1.13</td>
<td>1.10</td>
<td>1.39</td>
</tr>
<tr>
<td>DS</td>
<td>8–15</td>
<td>1.00</td>
<td>1.05</td>
<td>1.06</td>
<td>.96</td>
<td>.97</td>
<td></td>
</tr>
</tbody>
</table>

Variance ratios greater than 1.0 indicate greater variability in individuals with disability.

⇒ Individuals with Autism and Down syndrome exhibit similar or even more trait variance than controls.
⇒ These results counter stereotypes and prejudices based on mean-level profiles!

#6. TRAITS ARE MODERATORS OF PSYCHOSOCIAL ADJUSTMENT

Diagnostic relevance

<table>
<thead>
<tr>
<th>ACT</th>
<th>SOC</th>
<th>EMO</th>
<th>MAN</th>
<th>CON</th>
<th>SEN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Modifier impact

 Traits help to describe behavioral phenotypes across and within specific syndromes.

Traits act as non-syndrome-specific moderators of developmental outcomes (psychosocial adjustment) (De Pauw et al., 2011)

Particular temperamental traits render individuals with DD more vulnerable or resistant to developing problem behaviors.

ACT   SOC   EMO   MAN   CON   SEN

Internalizing
Externalizing

Replicated in and across children with autism, ADHD, Down syndrome, and cerebral palsy, cross-sectionally as well as longitudinally (De Pauw et al., in preparation)

#7. EFFECT OF ENVIRONMENT DEPENDS UPON TEMPERAMENT

Modifier impact

Traits act as non-syndrome-specific moderators of developmental outcomes (psychosocial adjustment) (De Pauw et al., 2011)

Negative controlling parenting evokes more internalizing and externalizing, but especially in children high on emotionality.
WRAP UP 2.

The temperament approach gives vocabulary and encourages to describe and appreciate INDIVIDUALITY in persons with developmental disabilities.

5. IMPLICATIONS FOR RESEARCH AND PRACTICE ON ED

TEMPERAMENT AS A VALUABLE, EXTRA TOOL TO EVALUATE EMOTIONAL DEVELOPMENT AND MENTAL HEALTH ISSUES

Step 1: Assessment of causal factors, central processing aspects and maintaining factors

- a. In person-environment interaction
- b. In person
- c. In environment

Step 2: Integrative/multimodal case report and diagnosis

- a. Biopsychosocial and developmental armwrestling playing a role in the development of problem behavior
- b. Developmental mechanisms
- c. Diagnostic evaluation of the problem behavior

Step 3: Support plan

- a. Holistic approach of the recovery of the psychological well-being of the person
- b. Integrative treatment of the conditions leading to the problem behavior

(Došen et al., 2008, p. 51; Vandevelde & Peters, 2017)

APPRECIATING UNIQUENESS:

- Temperament provides language to describe an individual's strengths and challenges in higher interactions with the environment.

- Temperamental information can be taken into account when evaluating an individual's position in Emotional Development.
TEMPERAMENT AS A VALUABLE, EXTRA TOOL TO EVALUATE EMOTIONAL DEVELOPMENT AND MENTAL HEALTH ISSUES

**Step 2: Integrative/multimodal case report and diagnosis**
- a. Biopsychosocial and developmental elements playing a role in the development of problem behavior
- b. Developmental mechanisms
- c. Diagnostic evaluation of the problem behavior

**Signal function**
- "Red flags": hint for comorbidity (e.g., similarity to trait profile of ASD)
- "Risk factors": hint for the development of behavioral or emotional difficulties
- "Change from the usual state": change from baseline traits can hint for the onset of mental health problems

**Stimulating Goodness-of-Fit** (Thomas & Chess, 1977)
- Tailoring support to the basic tendencies of the person promotes well-being and may foster growth in ED.
- Balance between 'Adapting a person to his/her environment' (e.g., creating opportunities for shy person to overcome his/her fears) versus 'Adapting the environment to the person' (e.g., empathy and encouragement for a shy person, no criticism, overprotection)

Thank you for your attention!
Sarah.DePauw@UGent.be