OUTLINE

1. REVIEW OF STATUS QUO: DSM-III THROUGH -5 ERA
2. THE "OTHER" DSM-5 MODEL
3. CHALLENGES FACING A TRAIT-BASED MODEL
4. RESULTS OF A DAILY DIARY STUDY
WHY STUDY PERSONALITY PATHOLOGY?

- Commonplace (~10% epi; 20%-70% of patients)
- Self-Harm (e.g., cutting, burning) & Suicide.
- Harm to others (e.g., aggression, violence, criminal activity, sexual violence)
- Psychosocial Impairment (relationships, employment)
- Treatment/Service utilization (rates higher than MDD)
- Treatment course (Psychotherapy and pharma)
STATUS QUO: DSM-III THROUGH -5 ERA
THE CURRENT FRAMEWORK
(DSM-5 SECTION II)

• Personality in DSM is 10 *Discrete, Polythetic Categories*
  
  • *Discrete* - Each disorder is unique with boundaries
  
  • *Categorical* - You either have the disorder or not
  
  • *Polythetic* - Need a certain number of “criteria” from a larger group of possible criteria (e.g., 4/8 for schizoid)
THE CURRENT FRAMEWORK (DSM-5 SECTION II)

- Cluster A - Odd/Eccentric
  - Paranoid
  - Schizoid
  - Schizotypal
- Cluster B - Dramatic/Erratic
  - Antisocial
  - Borderline
  - Histrionic
  - Narcissistic
- Cluster C - Anxious/Avoidant
  - Avoidant
  - Dependent
  - Obsessive-Compulsive
VALIDITY OF THE CURRENT FRAMEWORK

• Discrete?
  • High rates of covariation (i.e., “comorbidity”) - $M \#$ of dxs = 2.8-4.6
  • Most common dx is practice is PD-NOS (now called Unspecified PD)

• Categorical?
  • No research in support of any one of the categories as such:
    • Quantitative models support dimensions (e.g., Conway et al., 2012; Hallquist & Wright, in press; Krueger et al., 2005, etc.).
    • 1 criterion of BPD is clinically impairing (Zimmerman et al., 2012)
    • Categorical model is incompatible with all theories!
    • Arbitrary thresholds (single study [Spitzer et al., 1979] for BPD and SZT)

• Polythetic?
  • Within class heterogeneity (e.g., 6 groupings of BPD, Wright et al., 2013)
  • Overlapping severity based on IRT models (i.e., 4 > 5 criteria)
DOES THIS MATTER?

- Clinically sub-optimal
  - Unspecified PD?
    - Not much information conveyed.
  - Quadrimorbid dxs?
    - Confusing. How to make sense of this?
- Pick the best fit dx?
  - What’s walking through the consulting room door?
DOES THIS MATTER?

• Scientifically problematic

• Who to include if you want to study:
  • Maintenance mechanisms of PD?
  • Genetics of PD?
  • Physiological correlates (e.g., fMRI)?
  • No link to basic personality science.
  • Models of basic P are dimensional.
AS A BRIEF REVIEW: BIG-5 OR FFM

- Extraversion
- Agreeableness
- Conscientiousness
- Neuroticism
- Openness/Intelect
- Intversion
- Antagonism
- Impulsivity
- Emotional Stability
- Closedness to Exper.
CAN THE BIG-5 PROVIDE THE STRUCTURE?

• Meta-analytic support for “Pathological Big-4” (O’Connor, 2005)
  • Negative Affectivity (Borderline, Avoidant, Dependent)
  • Antagonism (Narcissistic, Paranoid, Histrionic, Antisocial, Borderline)
  • Detachment (Avoidant, Schizoid, -Histrionic)
  • Constraint v. Disinhibition (Obsessive-Compulsive, -Antisocial, - Borderline)

• Combined “five-factor” structure (Markon et al., 2005)
  • Oddity, Eccentricity, Psychoticism ⇒ Openness to Experience
THE DSM-5 SECTION III MODEL
DSM-5 SECTION III

• Criterion A: Dimension of General PD Severity
  • Self
    • Identity
    • Self-Direction
  • Interpersonal
    • Empathy
    • Intimacy

• Criterion B: Individual Differences in PD Style
  • 25 Pathological Personality Features (i.e., traits)
  • 5 Higher-order domains:
    • Negative affectivity
    • Detachment
    • Antagonism
    • Disinhibition
    • Psychoticism
## DSM-5 Trait Model

<table>
<thead>
<tr>
<th>Negative Affectivity</th>
<th>Detachment</th>
<th>Antagonism</th>
<th>Disinhibition</th>
<th>Psychoticism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Lability</td>
<td>Withdrawal</td>
<td>Manipulativeness</td>
<td>Irresponsibility</td>
<td>Unusual Experiences And Beliefs</td>
</tr>
<tr>
<td>Anxiousness</td>
<td>Intimacy Avoidance</td>
<td>Deceitfulness</td>
<td>Impulsivity</td>
<td>Eccentricity</td>
</tr>
<tr>
<td>Separation Insecurity</td>
<td>Anhedonia</td>
<td>Grandiosity</td>
<td>Distractibility</td>
<td>Cognitive And Perceptual Dysreg.</td>
</tr>
<tr>
<td>Submissiveness</td>
<td>Restricted Affectivity</td>
<td>Attention Seeking</td>
<td>Risk Taking</td>
<td></td>
</tr>
<tr>
<td>Hostility</td>
<td>Depressivity</td>
<td>Callousness</td>
<td>Rigid Perfectionism (-)</td>
<td></td>
</tr>
<tr>
<td>Perseveration</td>
<td>Suspiciousness</td>
<td>Hostility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressivity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suspicousness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**DSM-5 SECTION III - EMERGING SUPPORT**

- **Criterion A: Dimension of General PD Severity**
  - Can be reliably assessed by undergrads with minimal training (Zimmermann et al., 2013)

- **Criterion B: Individual Differences in PD Style**
  - Structure replicates across samples, raters, and cultures (DeFruyt et al., 2012; Morey et al., 2013; Wright et al., 2012)
  - Can recover majority of Section II variance (Hopwood et al., 2012; Few et al., 2013)
  - Maps on to measures of Big-5/FFM (Gore & Widiger, 2013; Thomas et al., 2012; Wright & Simms, in press)
  - Correlates as expected with:
    - Interpersonal problems (Wright et al., 2012)
    - Pathological narcissism (Miller et al., 2013; Wright et al., 2013)
    - Psychopathy (Fossati et al., 2013)
    - MMPI PSY-5 (Anderson et al., 2012)
    - Pathological beliefs (Hopwood et al., 2013)
BENEFITS OF ADOPTING TRAIT APPROACH

• Dimensional traits resolve comorbidity issues
• Direct link to basic personality science
• Open the door to more powerful etiology/bio research
• Traits are powerful predictors of…
  • Relationship satisfaction
  • Employment achievement
  • Health and morbidity
  • Mortality
  • Mental disorders writ large
  • Psychiatric course and treatment response
CHALLENGES FACING A TRAIT-BASED MODEL
STRUCTURE VS. PROCESSES

- Theoretical models of personality pathology not limited to individual differences
- Focus is on dynamic processes
- Pathology is evident in maladaptive patterns of behavior
  - Rigidity vs. Flexibility
  - Stability vs. Oscillation
  - Extremity vs. Moderation
  - Match vs. Mismatch to situation
- Important to understand maladaptive behavior in context
  - Maladaptive self-regulation in certain contexts
STARTING TO ADDRESS THOSE ISSUES: RESULTS OF A DAILY DIARY STUDY
A PROCESS ACCOUNT OF A TRAIT

INPUT
- Environmental Event
- Internal Event

INTERMEDIARIES
- Interpretation/Appraisal
- Activation of goals
- Initiation of Self-regulatory forces

OUTPUT
- Manifestation of trait
- Symptom expression

Individual Differences in Links

FLEESON, 2012
BENEFITS OF A GENERAL PROCESS APPROACH

• Can keep the existing symptoms

• Translate into: input-intermediary-output chains
EXAMPLE SYMPTOM

• Mistrustfulness (a core feature of Paranoid PD)

• Ambiguous behavior from other (Input)

• Perceived as hostile, self-protection evoked (Intermediary)

• Preemptively attacks other (Output)
EXAMPLE SYMPTOM

• Separation Insecurity (a core feature of Borderline PD)
  • Insufficient warmth from significant other (Input)
  • Perceived as abandoning, panic ensues (Intermediary)
  • Frantic efforts enacted (Output)

• SYMPTOMS CAN BE TAILORED TO INDIVIDUAL.
STRESS PROCESSES IN P AND PD

• Transactional Model of Stress (Lazarus, 1991; Lazarus & Launier, 1978)

• Stress Generation (Hammen, 1991, see e.g. Liu & Alloy, 2010)
  • PDs - experience
  • Neuroticism - experience
  • Interpersonal functioning - experience

• Stress Sensitivity (see e.g., Suls & Martin, 2005)
  • Neuroticism - response
  • Agreeableness - response in certain situations

• Maladaptive Regulatory Strategies
HYPOTHESES

• **OVERARCHING AIM:** Study the Dynamic Processes of the daily expression of Personality Pathology
  - 100-day daily diary study of personality and its pathology

• **Hypothesis 1:** Individuals differ in their level of experienced stress
  - What proportion of reported daily stress is between-persons?

• **Hypothesis 2:** PD traits predict individual differences in experienced stress
  - Consistent with stress-generation, do PD traits predict daily stress experience?

• **Hypothesis 3:** Daily stress predicts PD symptomatology
  - What are the between- and within-person links among daily stress and PD symptoms?

• **Hypothesis 4:** PD traits contribute to an amplified stress response
  - Do PD traits explain potentiate the stress-symptom link?
SAMPLE

Clinical Sample of $N=628 \rightarrow 67\%$ personality disordered

Enrolled 116 for 100-Day Diary Study $\rightarrow 112$ participated

Gender: 65\% Female

Age: $M = 44.2$, $SD = 13.6$, $Range = 19-79$

Primary Race:
- 80\% European-American
- 16\% African-American
- 3\% Native American

Median income: $15,000 - $30,000
PROCEDURE

• Baseline self-report assessment

• Participants completed nightly diaries on Surveymonkey.com
  • Each evening between 8pm-12am
  • With paper backups

• 9234 Completed Diaries

• Mean participation rate = 82.45%
  • 2.4% paper diaries
INITIAL ASSESSMENT MEASURE

- Personality Inventory for DSM-5 (PID-5; Krueger et al., 2012)
- 220-Item self-report inventory of pathological personality traits
- 25 Primary scales load on five higher-order domains:
  - Negative Affectivity (NA)
  - Antagonism (ANT)
  - Detachment (DET)
  - Disinhibition (DIS)
  - Psychoticism (PSY)
DAILY MEASURES

• *Daily Inventory of Stressful Events* (DISE; Almeida et al., 2002)
  • 7 Items assessing experience and severity of various daily stressors
  • ML-EFA suggests 1-factor model at b/w and w/i is satisfactory

• *Daily Inventory of Personality Pathology Symptoms* (DIPPS; Wright et al., in preparation)
  • 30-item measure of PSY-5 referenced symptoms
  • Scale Not at all (0) - (7) Very much so
  • “In the past 24 hours...”
## DIPPS Domains

<table>
<thead>
<tr>
<th>Domain</th>
<th>Example Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative Emotionality</td>
<td>My mood was up and down.</td>
</tr>
<tr>
<td></td>
<td>I felt anxious.</td>
</tr>
<tr>
<td>Urgency</td>
<td>I acted on impulse when feeling upset.</td>
</tr>
<tr>
<td></td>
<td>I acted on my emotions.</td>
</tr>
<tr>
<td>Exhibitionism</td>
<td>I wanted people to notice my body.</td>
</tr>
<tr>
<td></td>
<td>I wanted people to notice my talents.</td>
</tr>
<tr>
<td>Detachment</td>
<td>I wasn’t interested in doing much of anything.</td>
</tr>
<tr>
<td></td>
<td>I didn’t want to be around others.</td>
</tr>
<tr>
<td>Hostility</td>
<td>I acted aggressively toward someone.</td>
</tr>
<tr>
<td></td>
<td>I felt like I wanted to hurt someone.</td>
</tr>
<tr>
<td>Manipulativeness</td>
<td>I lied to someone.</td>
</tr>
<tr>
<td></td>
<td>I took advantage of someone.</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>I did something on impulse.</td>
</tr>
<tr>
<td></td>
<td>I did something dangerous just for the thrill.</td>
</tr>
<tr>
<td>Constraint</td>
<td>I put work above everything else.</td>
</tr>
<tr>
<td></td>
<td>I made sure everything I did was perfect.</td>
</tr>
<tr>
<td>Psychoticism</td>
<td>I heard things that weren’t really there.</td>
</tr>
<tr>
<td></td>
<td>My thoughts were confusing.</td>
</tr>
</tbody>
</table>
TODAY’S INVESTIGATION: AN MLM APPROACH

\[ \text{Symptoms}_{ii} = \gamma_0 + \gamma_{01}(\text{MeanStress}_{ii}) + \gamma_{02}(\text{Trait}_{ii}) + \gamma_{10}(\text{DailyStress}_{ii}) + \gamma_{11}(\text{Trait}_{ii})(\text{DailyStress}_{ii}) \]
**H1: BETWEEN- VS. WITHIN-PERSON VARIANCE IN DAILY STRESS**

**INDIVIDUAL STRESSORS**
- 26%
- 74%

**SUM OF STRESSORS**
- 44%
- 56%

\[ ICC = \frac{\text{Variance}_{\text{Between}}}{\text{Variance}_{\text{Between}} + \text{Variance}_{\text{Within}}} \]
BETWEEN- VS. WITHIN-PERSON VARIANCE IN DAILY SYMPTOMS

INDIVIDUAL SYMPTOMS

- 48% Variance Between
- 52% Variance Within

SYMPTOM DOMAINS

- 55% Variance Between
- 45% Variance Within

\[
\text{ICC} = \frac{\text{Variance}_{\text{Between}}}{\text{Variance}_{\text{Between}} + \text{Variance}_{\text{Within}}}
\]
H2: PD TRAITS AND DAILY STRESS

<table>
<thead>
<tr>
<th></th>
<th>NA</th>
<th>ANT</th>
<th>DET</th>
<th>DIS</th>
<th>PSY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress</td>
<td>0.30</td>
<td>0.18</td>
<td>0.19</td>
<td>0.29</td>
<td>0.24</td>
</tr>
</tbody>
</table>

Coefficients presented in ES $r$. 
**H3: LINKING STRESS AND SYMPTOMS**

\[ \text{Symptoms}_{ii} = \gamma_{00} + \gamma_{01}(\text{Mean Stress}_i) + \gamma_{02}(\text{Trait}_i) + \gamma_{10}(\text{Daily Stress}_i) + \gamma_{11}(\text{Trait}_i)(\text{Daily Stress}_i) \]
### Results H3: Daily Stress & Symptoms

<table>
<thead>
<tr>
<th></th>
<th>Between-Person</th>
<th>Within-Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative Emotionality</td>
<td>0.65</td>
<td>0.83</td>
</tr>
<tr>
<td>Urgency</td>
<td>0.48</td>
<td>0.73</td>
</tr>
<tr>
<td>Hostility</td>
<td>0.67</td>
<td>0.77</td>
</tr>
<tr>
<td>Manipulativeness</td>
<td>0.29</td>
<td>0.50</td>
</tr>
<tr>
<td>Detachment</td>
<td>0.52</td>
<td>0.73</td>
</tr>
<tr>
<td>Exhibitionism</td>
<td>0.37</td>
<td>0.10</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>0.42</td>
<td>0.63</td>
</tr>
<tr>
<td>Constraint</td>
<td>0.44</td>
<td>0.46</td>
</tr>
<tr>
<td>Psychoticism</td>
<td>0.43</td>
<td>0.55</td>
</tr>
</tbody>
</table>

Coefficients presented in ES r.
H4.1: PREDICTING DAILY SYMPTOMS FROM TRAIT LEVEL

\[ \text{Symptoms}_{ii} = \gamma_0 + \gamma_01(\text{Mean Stress}_i) + \gamma_02(\text{Trait}_i) + \gamma_10(\text{Daily Stress}_{ii}) + \gamma_11(\text{Trait}_i)(\text{Daily Stress}_{ii}) \]
# RESULTS H4.1: DAILY SYMPTOMS FROM TRAITS

<table>
<thead>
<tr>
<th></th>
<th>Between-Person Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>Negative Emotionality</td>
<td>0.51</td>
</tr>
<tr>
<td>Urgency</td>
<td>0.39</td>
</tr>
<tr>
<td>Hostility</td>
<td>0.33</td>
</tr>
<tr>
<td>Manipulativeness</td>
<td>0.24</td>
</tr>
<tr>
<td>Detachment</td>
<td>0.44</td>
</tr>
<tr>
<td>Exhibitionism</td>
<td>0.13</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>0.31</td>
</tr>
<tr>
<td>Constraint</td>
<td>0.20</td>
</tr>
<tr>
<td>Psychoticism</td>
<td>0.25</td>
</tr>
</tbody>
</table>

Coeficients presented in ES $r$.

$\text{Symptoms}_{hi} = \gamma_{00} + \gamma_{01}(\text{MeanStress}_i) + \gamma_{02}(\text{Trait}_i) + \gamma_{10}(\text{DailyStress}_{hi}) + \gamma_{11}(\text{Trait}_i)(\text{DailyStress}_{hi})$
H4.2: PREDICTING DAILY STRESS SYMPTOM LINK

\[ \text{Symptoms}_{i} = \gamma_0 + \gamma_0 (\text{MeanStress}_i) + \gamma_2 (\text{Trait}_i) + \gamma_0 (\text{DailyStress}_i) + \gamma_1 (\text{Trait}_i) (\text{DailyStress}_i) \]
# RESULTS H4.2: AMPLIFYING EFFECT OF TRAITS

<table>
<thead>
<tr>
<th>Trait X Stress Cross-Level Interactions</th>
<th>NA</th>
<th>ANT</th>
<th>DET</th>
<th>DIS</th>
<th>PSY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative Emotionality</td>
<td>0.18</td>
<td>0.09</td>
<td>0.01</td>
<td>0.05</td>
<td>0.02</td>
</tr>
<tr>
<td>Urgency</td>
<td>0.27</td>
<td>0.17</td>
<td>0.10</td>
<td>0.22</td>
<td>0.22</td>
</tr>
<tr>
<td>Hostility</td>
<td>0.26</td>
<td>0.23</td>
<td>0.10</td>
<td>0.21</td>
<td>0.21</td>
</tr>
<tr>
<td>Manipulativness</td>
<td>0.02</td>
<td>0.15</td>
<td>0.13</td>
<td>0.17</td>
<td>0.15</td>
</tr>
<tr>
<td>Detachment</td>
<td>0.09</td>
<td>0.16</td>
<td>0.01</td>
<td>0.06</td>
<td>0.05</td>
</tr>
<tr>
<td>Exhibitionism</td>
<td>0.18</td>
<td>0.03</td>
<td>0.22</td>
<td>0.30</td>
<td>0.21</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>0.24</td>
<td>0.12</td>
<td>0.29</td>
<td>0.37</td>
<td>0.31</td>
</tr>
<tr>
<td>Constraint</td>
<td>0.00</td>
<td>0.05</td>
<td>0.10</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>Psychoticism</td>
<td>0.29</td>
<td>0.13</td>
<td>0.29</td>
<td>0.39</td>
<td>0.41</td>
</tr>
</tbody>
</table>

Coefficients presented in ES $r$. 

$$\text{Symptoms}_{it} = \gamma_{00} + \gamma_{01}(\text{MeanStress}_{it}) + \gamma_{02}(\text{Trait}_{i}) + \gamma_{10}(\text{DailyStress}_{it}) + \gamma_{11}(\text{Trait}_{i})(\text{DailyStress}_{it})$$
SUMMARY

• Individual (i.e., between-person) differences in the experience of daily stress

• Individual differences in symptom expression explained by level of pathological traits
  • Lacks specificity

• Daily symptomatology linked with daily stress
  • Individual-differences in the strength of within-person link
SUMMARY

• PD traits “potentiate” or amplify the symptomatic response to stress.

• Evidence for pervasive dysregulation:
  • Affective - Urgency
  • Interpersonal - Hostility, Exhibitionism
  • Behavioral - Impulsivity
  • Cognitive - Psychoticism
SUMMARY

• Moves us towards integrating trait and dynamic conceptions of PD
  • May get us to maintenance mechanisms

• Potential for developing bottom up, personalized diagnostic model (e.g., van Os et al., 2013)

• Promising for developing treatment for PD based on traits

• May be more palatable to front line clinicians
FUTURE DIRECTIONS

• Follow up with more fine-grained trait facets and specific symptoms

• Collect new sample with more variability in functioning

• Refine-measurement of daily symptoms and stress

• Collect new data at the within-day level

• Attempt to implement intervention with these processes as outcomes (e.g., multi-burst design)
MANY THANKS TO...

THE VERY GENEROUS PARTICIPANTS!

Helpful mentors & colleagues:
• Len Simms
• Tom Kwapił
• Bob Krueger
• Peter Molenaar
• Paul Pilkonis
• Paul Silvia
• Christopher Hopwood
• Aaron Pincus
• Doug Samuel
• Tim Trull
• Tom Widiger

National Institute of Mental Health
• F32 MH097325
• R01 MH080086

Lab Assistants:
• Michelle Atallah
• Vivaswath Ayyar
• Ainslie Evans
• Chloe Evans
• Jonathan Feliciano
• James Kostek
• Kelly Levine
• Alexandria Meranto
• Sana Naeem
• Gideon Park
• Adryona Ruggerio
• Esther Song