

A decorative graphic on the left side of the slide, consisting of a grid of blue squares in various shades (light blue, medium blue, and dark blue) arranged in a stepped pattern that descends from the top left towards the bottom left.

Psychotherapy for emerging borderline personality disorder

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The real authors of this presentation

- Prof Carla **Sharp**, U. Houston
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- Two recent reviews:
 - “Borderline personality disorder in adolescence: An expert research review with implications for clinical practice”, European Child and Adolescent Psychiatry, in press
 - “Practitioner review: Borderline personality disorder in adolescence: Recent conceptualization, intervention, and implications for clinical practice”, J. Child Psychology and Psychiatry, in press

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What we know about the treatment of emerging BPD

- DBT
- MBT
- ERT
- HYPE
- Pharmacotherapy

Pharmacotherapy

Very limited evidence

- A cautious stance towards medication must be adopted
- Medication should be restricted to the treatment of comorbid conditions

Two observational studies

- 8-week trial of 3mg flupenthixol showed benefits
 - Kutcher, 1995
- Reported benefits for methylphenidate on both BPD and ADHD in adolescents with comorbidity
 - Golubchik, 2008

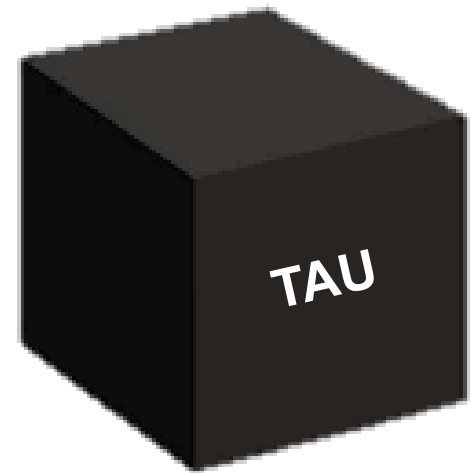
However, given **numerous risks and side-effects**, it is strongly recommended to avoid medication with this population leaving us with **psychosocial treatments**



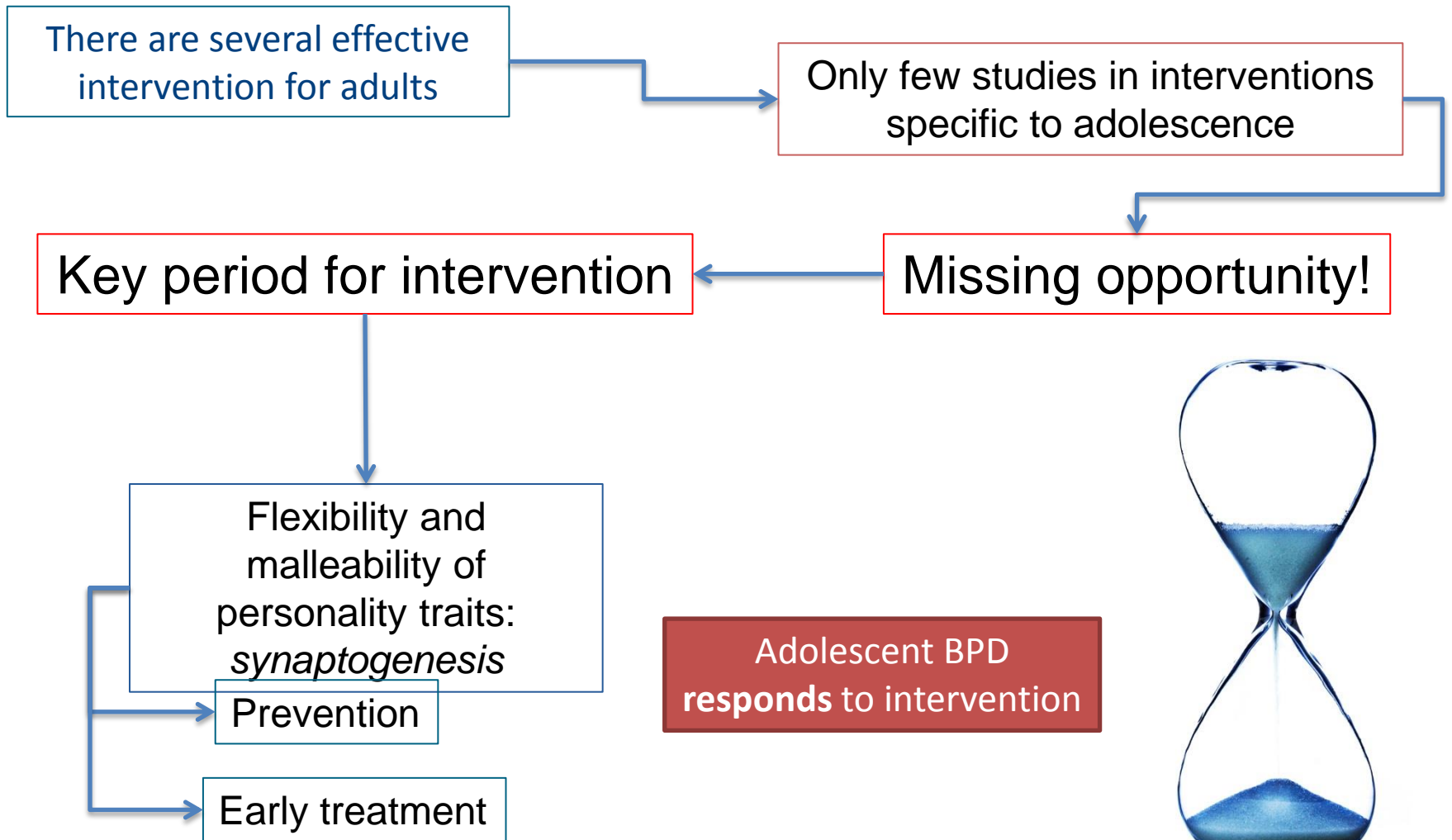
Are evidence based psychotherapies better than TAU?



We need to understand both disorder and treatment mechanisms to enhance treatment effectiveness



BPD in adolescence: Treatment



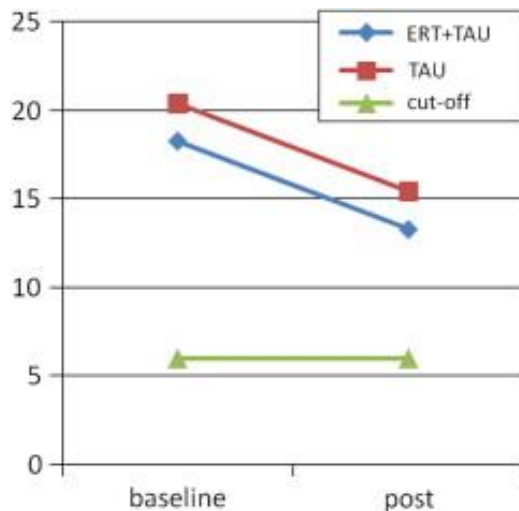
RCTs of Treatments for Adolescent Suicide Attempters

- **Nine** randomized controlled trials (RCTs)
- **Group therapy** including both **cognitive-behavioral** and **psychodynamic** techniques (Wood, Trainor, Rothwell, Moore & Harrington, 2001)
 - **failed to be replicated** in two subsequent follow-up trials (Green et al., 2011; Hazell et al., 2009)
- **Multi-systemic therapy** (Huey et al., 2004) reduce hospitalisation
- **Mentalization-based treatment** (Rossouw & Fonagy, 2012);
- **Integrated CBT** for co-morbid alcohol abuse disorders and suicidal thoughts or behaviors (Esposito-Smythers, Spirito, Kahler, Hunt, & Monti, 2011).
- **Dialectic Behavior Therapy** (Mehun et al., 2014)
- Trials that did **not** yield significant **decreases in suicide attempts**
 - a green card **offering rapid**, no questions asked **hospital admission** if requested (Cotgrove, Zirinsky, Black & Weston, 1995)
 - brief home-based **problem solving intervention** (Harrington et al., 1998)
 - a skills-based approach targeting **problem-solving and affect management** (Donaldson, Spirito, & Esposito-Smythers, 2005)
 - **a youth-nominated support team** (plus a second trial using a slightly modified version of the approach; King et al., 2006, 2009).

Less intensive interventions

Emotion regulation training (ERT)

- Manualised **group** training
- Developed as **add-on** to **TAU**
- Utilises the **structure** of Systems Training for Emotional Predictability and Problem Solving (**STEPPS**)
- Complemented with **DBT elements** and **CBT** (van Gemer et al., 2009; Bartels, Crotty & Blum, 1997)
- Studies have **not** shown **superiority** over TAU (Schuppert et al., 2012)



Borderline Personality Disorder Severity Index (BPDSI-IV) mean values (total score) at baseline and after intervention

Dialectical Behavioural Therapy (DBT)

General

- Cognitive-behavioural therapy using **change** and **acceptance techniques** within a **dialectical framework**
- Originally developed **for** chronic suicidal **adults** with BPD (Miller et al., 1997)

Adapted for adolescent populations

- **Developmentally** appropriate themes
- Involves **families** and parents
- **Reduced length**
- **Reduced** number of **skills** taught
- Addition of an adolescent-specific skills module (Miller et al., 1997)

Evidence

- Meta-analysis found that DBT for BPD adolescents is **superior** than **TAU**:
 - Reductions in **hospitalizations**
 - **Attrition**
 - Behavioural **incidents** (McPherson et al., 2013)
- A recent **Norwegian RCT** combined DBT (brief, 19 weeks) with other interventions
 - Medium to **large ESs** compared to TAU for **suicidal ideation**, depression and BPD symptoms (Mehlum et al., 2014) maintained at **1 year**



Mentalization-Based Treatment (MBT)

General

- Based on psychodynamic psychotherapy and **attachment** theory
- Aims at the **recovering of MZ** to help patients regulate thoughts and feelings
- Aims at achieving functional **interpersonal relationships** (Bateman & Fonagy, 2010)

Adapted for adolescent populations

- MBT-A consists of **weekly individual** sessions for 12 months
- Combined with **monthly MBT-F (families)** sessions (Roussouw & Fonagy, 2012)

Evidence

- RCT on **73 BPD adolescents** vs. TAU
 - MBT more effective in **decreasing self-harm** and depression
 - Positive changes were **mediated** by **increase** in ability to **mentalize** and decrease in **attachment avoidance** (Roussouw & Fonagy, 2012)
- **Naturalistic pilot study** showed the feasibility and effectiveness of inpatient MBT-A (N= 11 females)
 - Significant **decrease in symptoms**
 - Improvements in personality function and quality of life at 1 year of treatment ($d = .58-1.46$) (Laurensen et al., 2014)



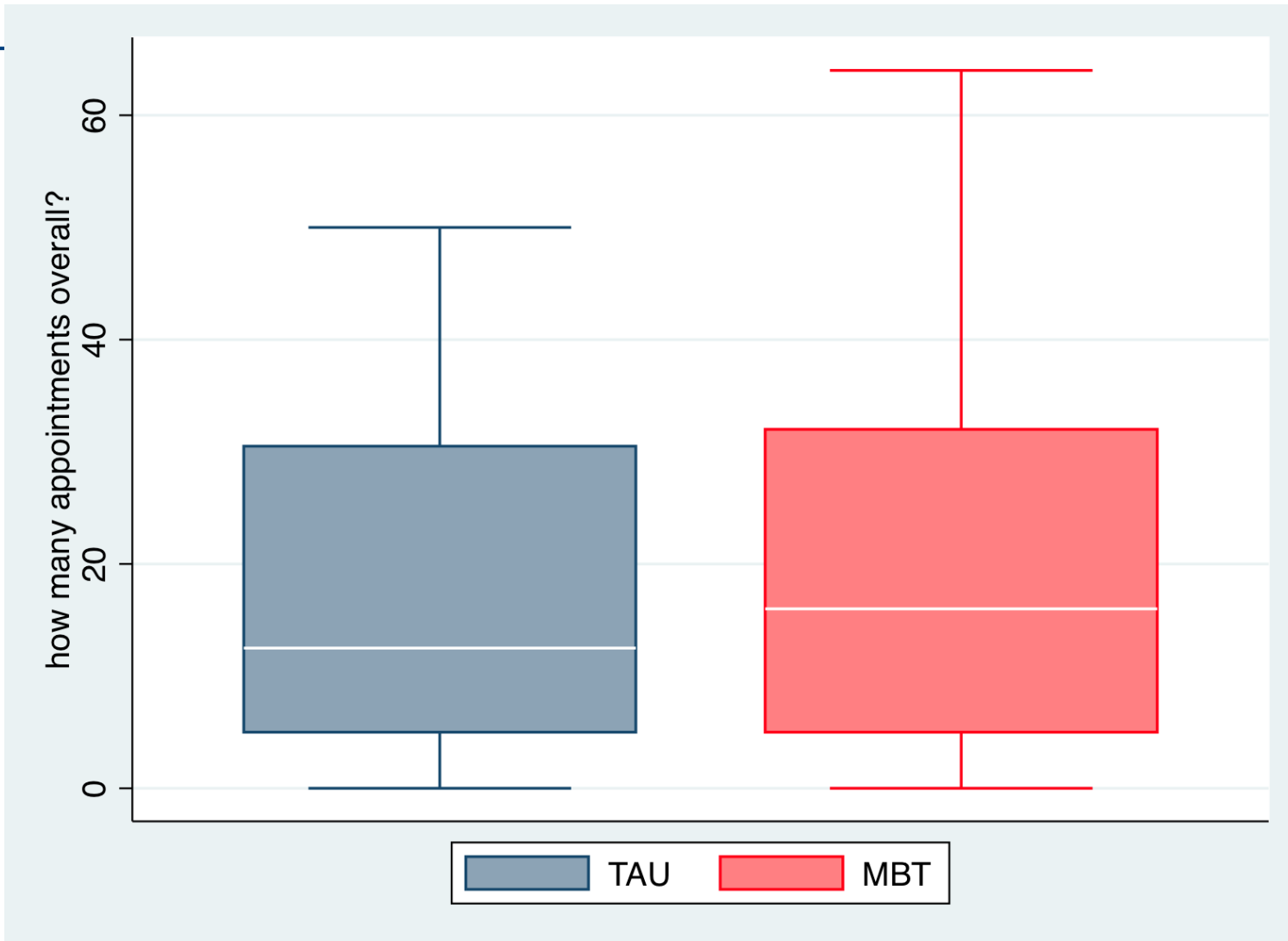
STUDY DESIGN

- Random allocation of young people presenting with self harm to either MBT or TAU
- N=80
- Assessments done every 3 months and at 12 months
- Assessment methods:
 - Risk taking and self harm: RTSHI (Vrouva, 2010)
 - Mood: MFQ (Angold, 1995)
 - BPD traits: BPFSC (Crick, 2005) and CH-BPD (Zanarini, 2007)
 - Dissociation: ADES (Armstrong, 1997)
 - Mentalization: HIF (Sandell, 2008)
 - Attachment: ECR (Brennan, 1998) and IPPA (Armsden, 1987)

Demographics of sample

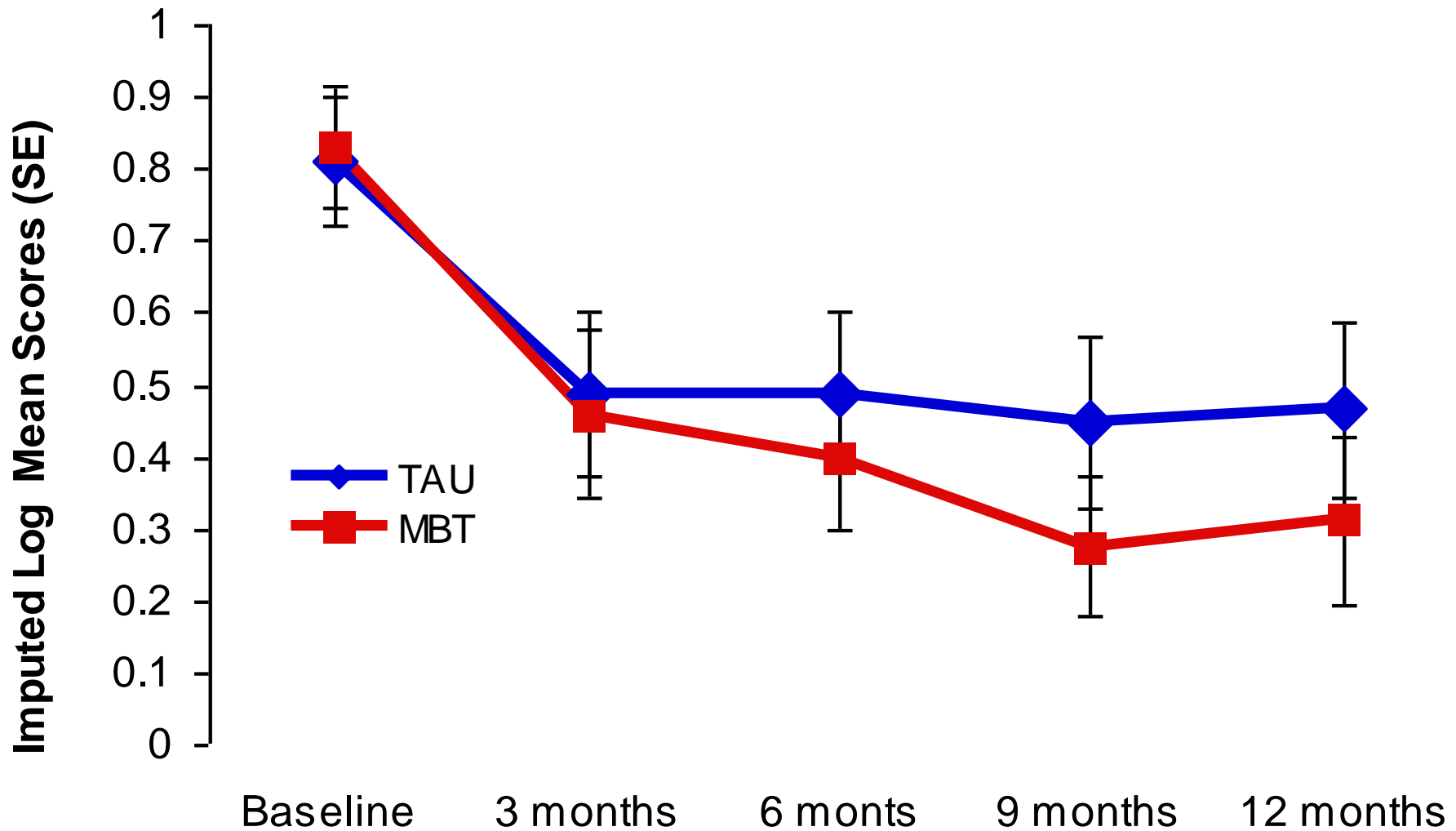
Characteristics at Baseline	TAU	MBT	Test Statistic	$p=$
Female, n/N (%)	35/40(87.5%)	33/40(82.5%)	$\chi^2(1)<1$	n.s.
Age, y, mean (SD)	14.8 (1.2)	15.4 (1.3)	t(78)=2.01	0.041
Chronicity of Self harming			$\chi^2(1)<1$	n.s.
less than 3 months	16/40(40%)	16/40(40%)		
3-5 months ago	4/40(10%)	7/40(17.5%)		
6-11 months ago	6/40(15%)	2/40(5%)		
1-2 years ago	11/40(27.5%)	12/40(30%)		
over 2 years ago	3/40(7.5%)	3/40(7.5%)		
Depression (MFQ \geq 8), n/N (%)	38/40(95%)	39/40(98%)	$\chi^2(1)<1$	n.s.
BPD (CI-BPD \geq 5)	28/40(70%)	30/40(75%)	$\chi^2(1)<1$	n.s.

Overall number of appointments



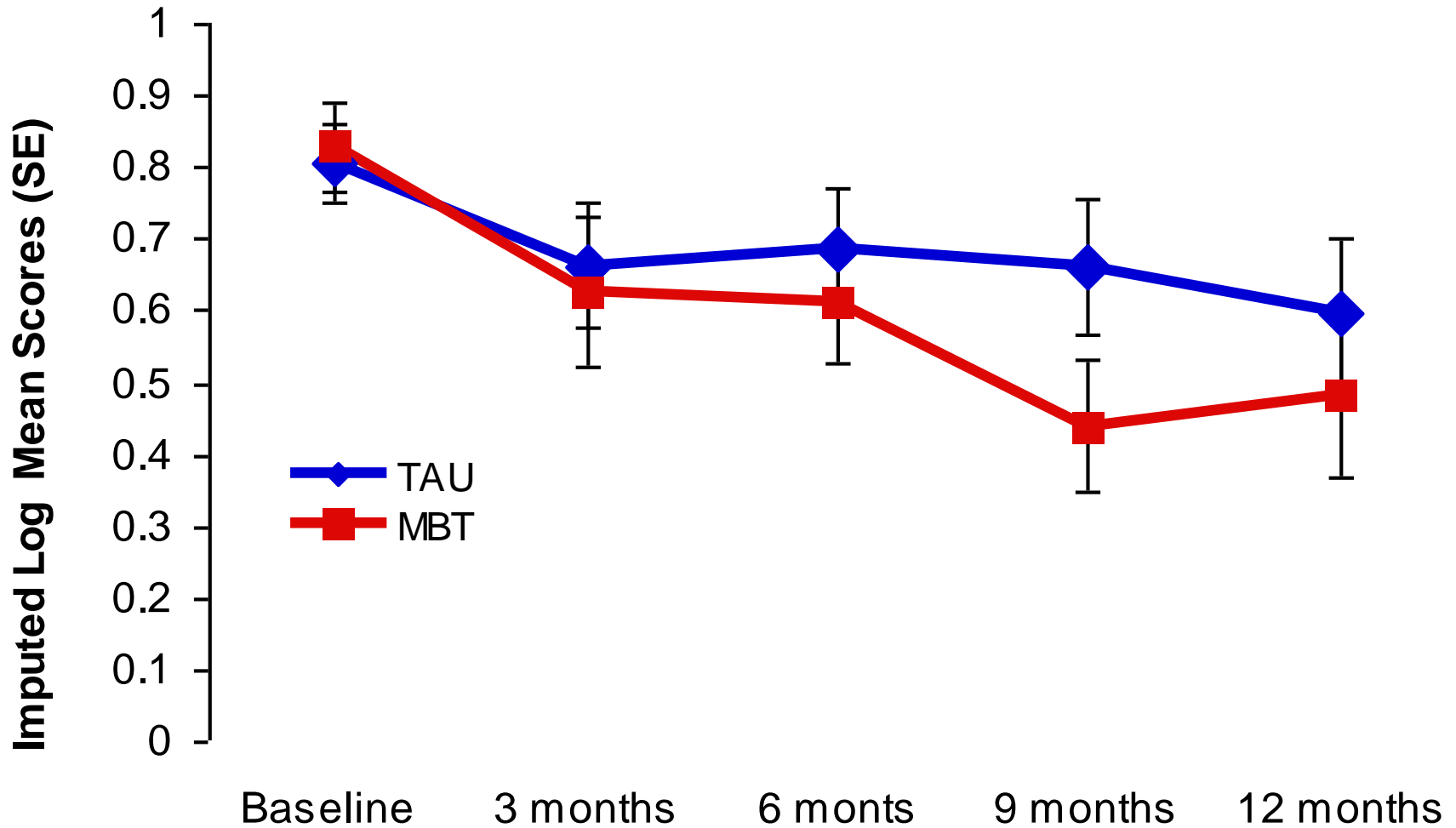
Group difference: $\beta=2.95$, 95% CI: -4.28, 10.17, $t(78)=0.81$, $p<0.419$, $d=0.18$

Self harm scores on the RSHI



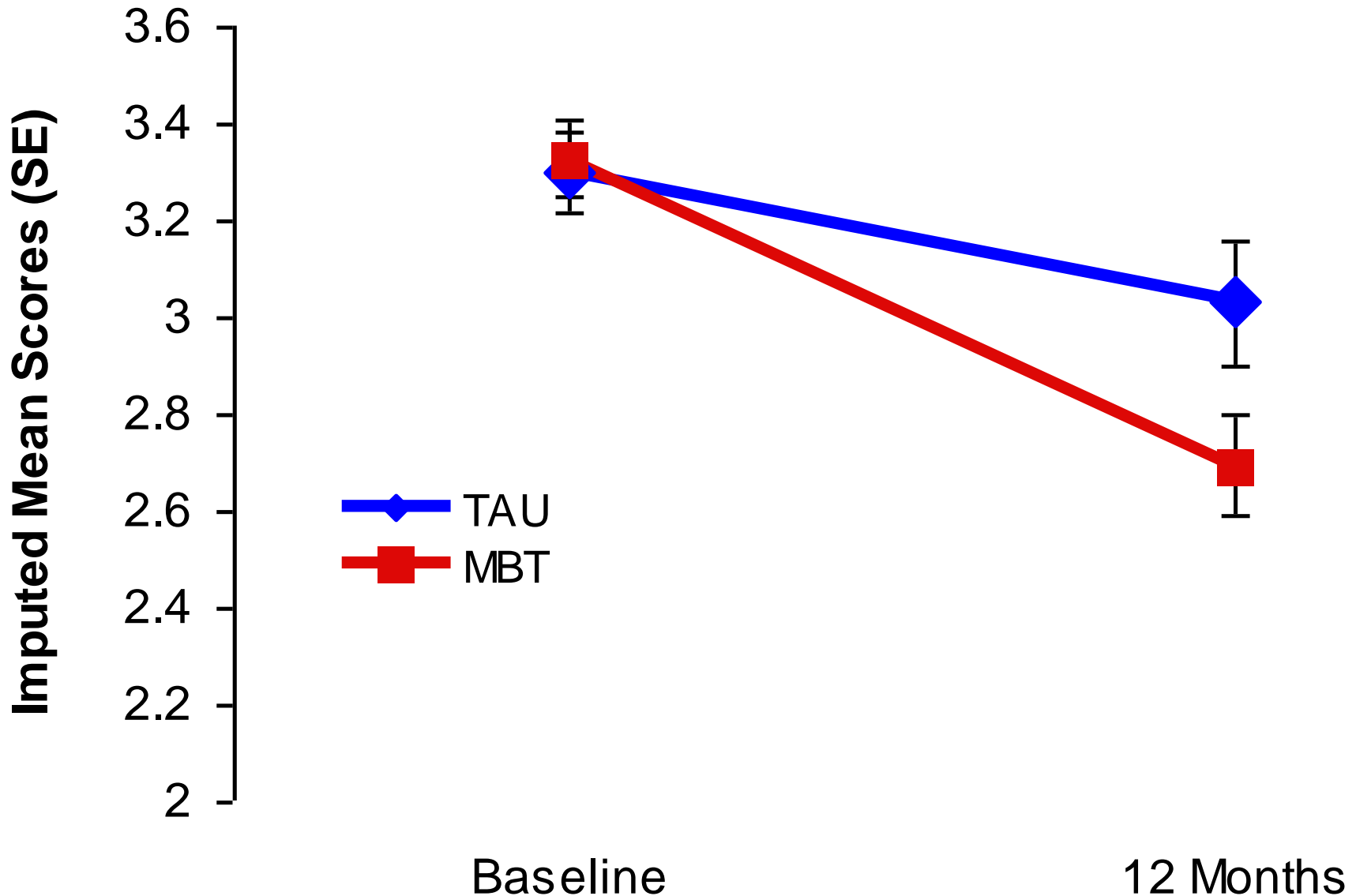
Group differential rate of change: $\beta = -0.049$, 95% CI: -0.09, -0.02, $t(159) = -2.49$, $p < 0.013$, $d = 0.39$

Depression scores on the MFQ



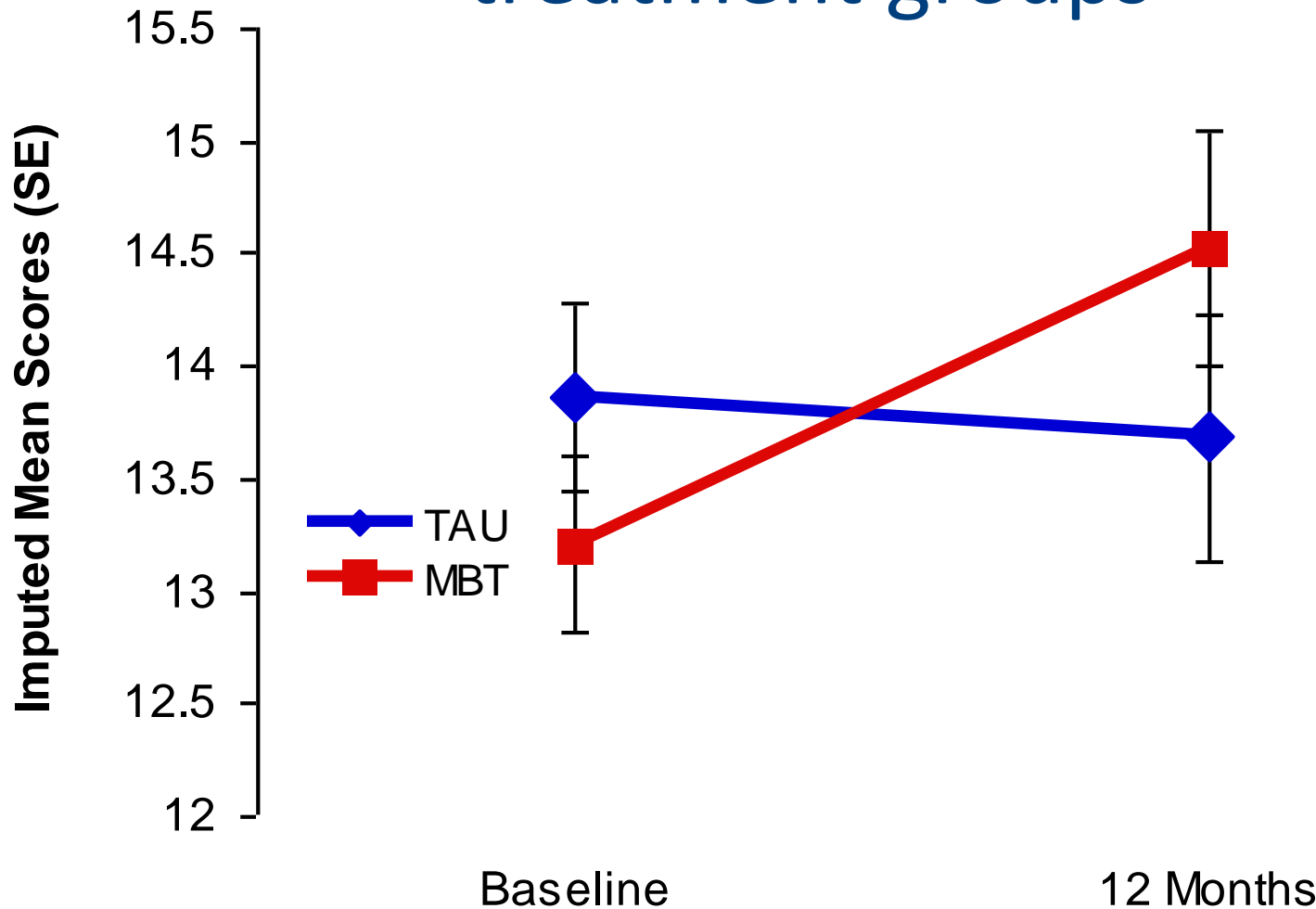
Group differential rate of change: $\beta = -0.046$, 95% CI: -0.09, -0.01, $t(159) = -2.25$, $p < 0.024$, $d = 0.36$

Borderline personality features scores



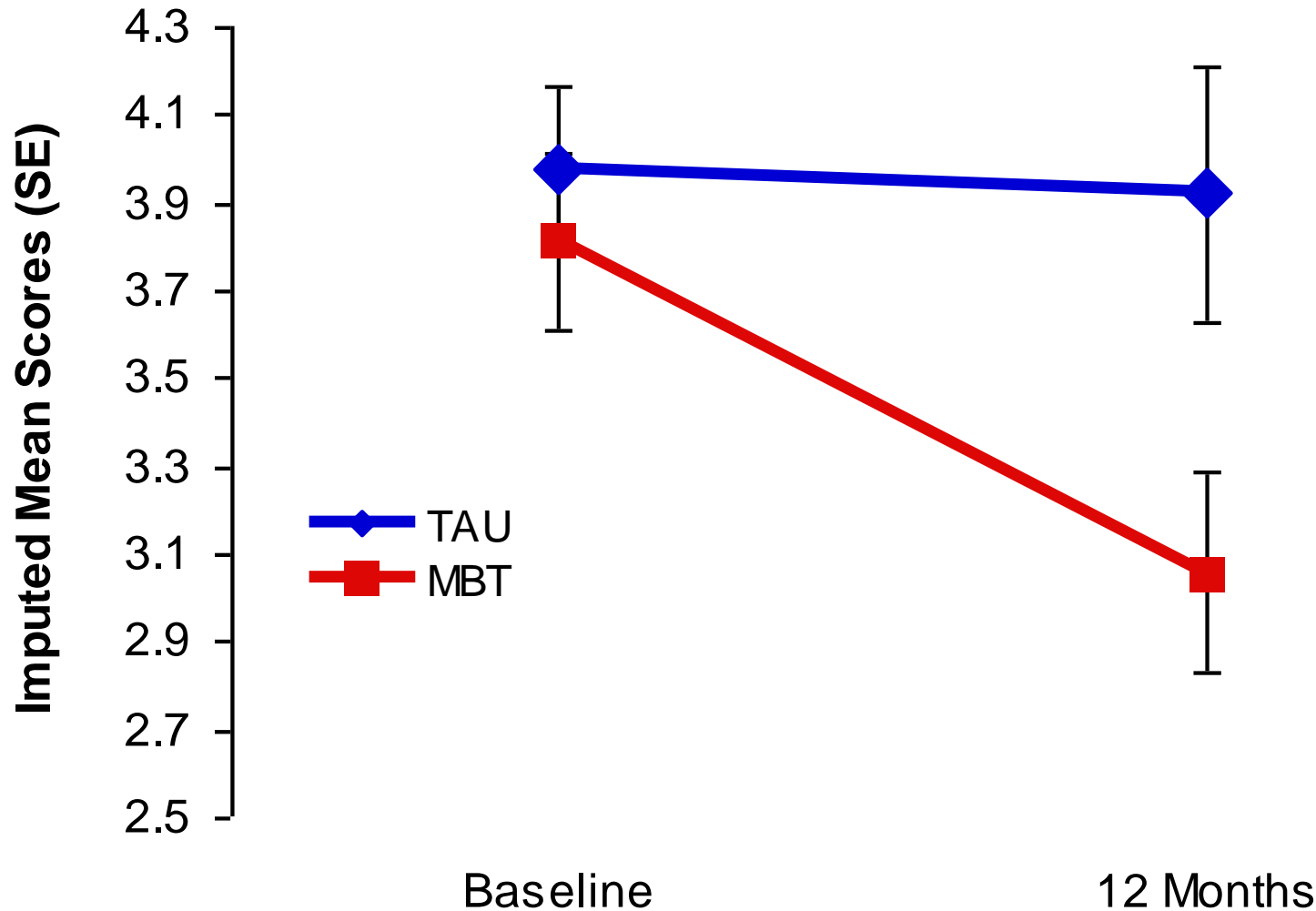
Group differential rate of change: $\beta = -0.361$, 95% CI: -0.7, -0.03, $p < 0.034$, $d = 0.34$

Mentalizing scores on the HIFQ for treatment groups



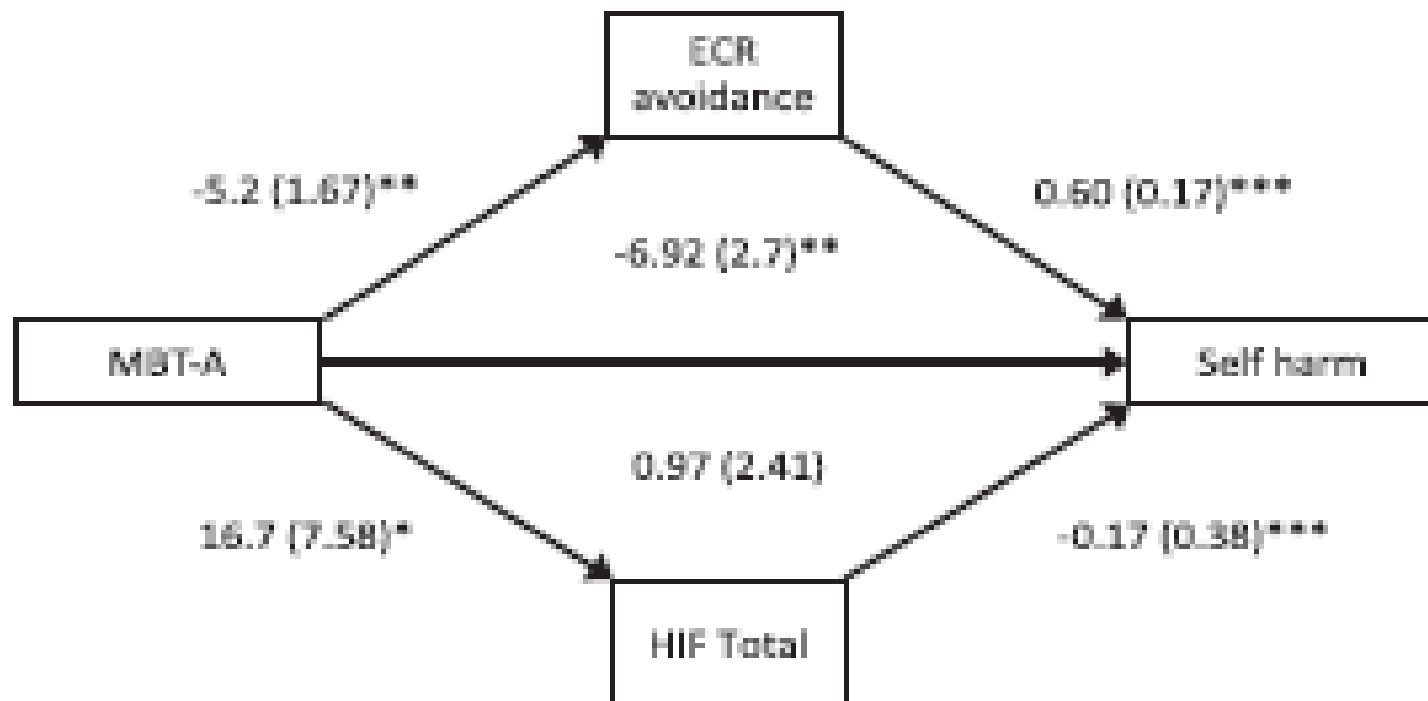
Group differential rate of change: $\beta=1.49$, 95% CI: 0, 2.98, $t(159)=1.99$, $p<0.049$, $d=0.32$

Attachment avoidance scores from Experiences in Close Relationships Questionnaire for groups



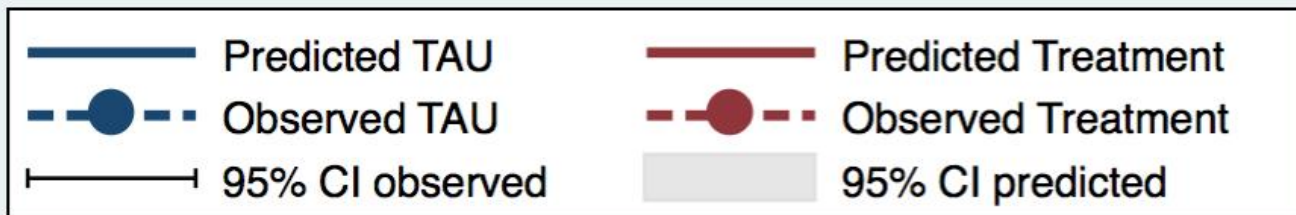
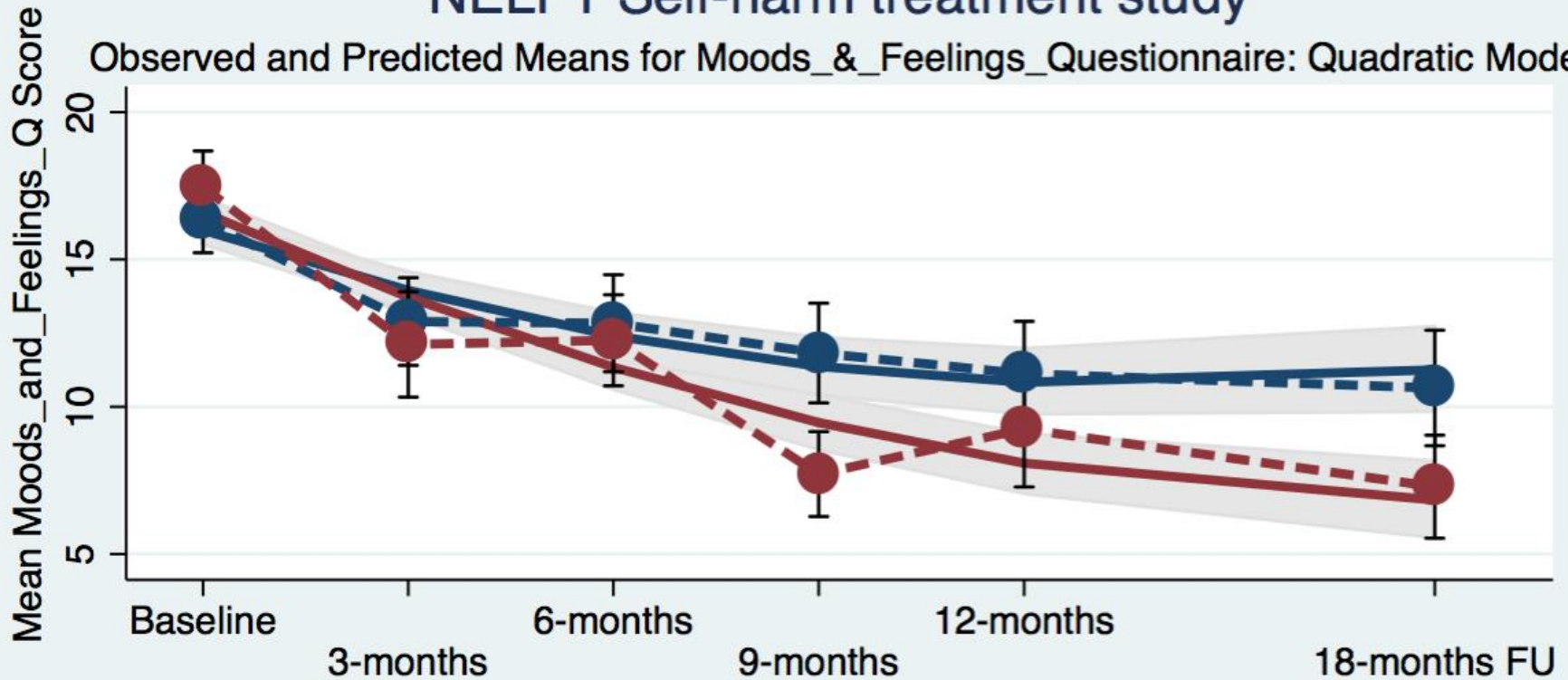
Group differential rate of change: $\beta = -0.696$, 95% CI: -1.48, 0.08, $t(159) = -1.75$, $p < 0.081$, $d = 0.28$

FIGURE 2 Mediation of effect of mentalization-based treatment for self-harm in adolescents (MBT-A) on self-harm scores at the end of treatment. Note: Path coefficients (SE) are shown with the association of MBT-A on self-harm. The coefficient for the path controlling for specific indirect effect of Experience of Close Relationships Inventory (ECR) avoidance and How I Feel Questionnaire (HIF) change is shown in italics. * $p < .05$, ** $p < .01$, *** $p < .001$.



NELFT Self-harm treatment study

Observed and Predicted Means for Moods_&_Feelings_Questionnaire: Quadratic Model

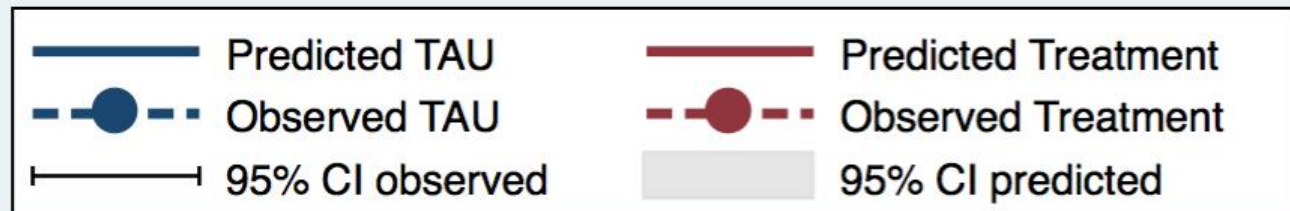
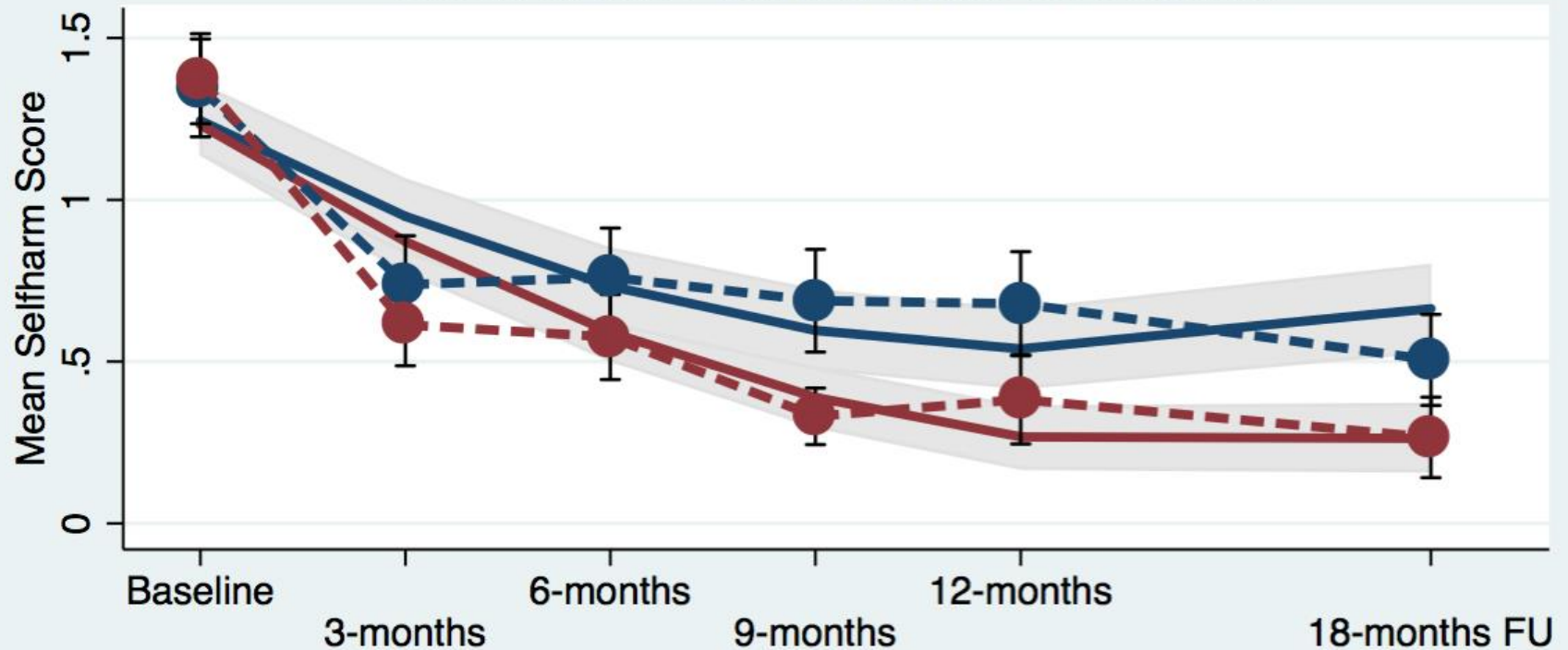


Adjusted for Age: Random Slope

Group differential rate of change: Beta=-0.838, 95% CI: -1.45, -0.23, $t(437)=-2.69$, $p<0.0035$, $d=0.26$

NELFT Self-harm treatment study

Observed and Predicted Means for selfharmr



Adjusted for Age: Random Slope

Less intensive interventions

Helping Young People Early (HYPE)

- **Team based**, integrated intervention that includes (Chansen et al., 2009)
 - Assertive “psychologically informed” case management
 - **Active engagement** of families
 - **General psychiatric care** (assessment and treatment of comorbidities)
 - Community **outreach**
 - **Crisis team** and brief inpatient care
 - Access to a psychosocial recovery programme
 - Individual and group **supervision** of staff
- All elements organised within a psychotherapeutic framework of **Cognitive Analytic Therapy** (CAT), which obtains faster results than TAU (but not better) (Chanen et al., 2008)
- Focus on **problematic relationships** and their dysfunctional patterns



Evidence for all specialised interventions is still scarce

But it is possible to conclude that specialised early intervention for BPD is more effective than TAU

The effect CBT for depression across time 1977-2014

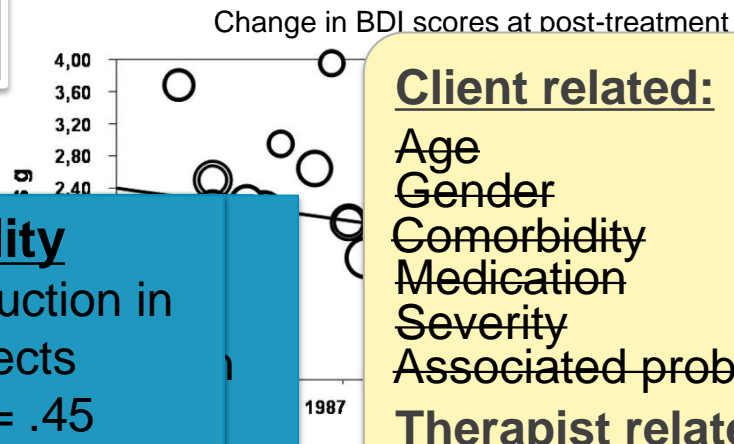
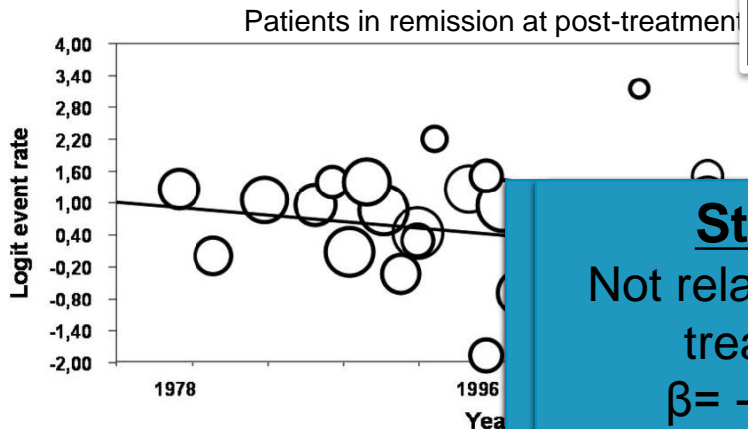
A meta-analysis by Johnsen & Friberg, 2015

K= 70 published studies
 Within-group (pre-post) k=53
 Between-groups with waiting list, k= 17
 Average quality of studies (RCT-PQRS)= 28.4 (7.5)

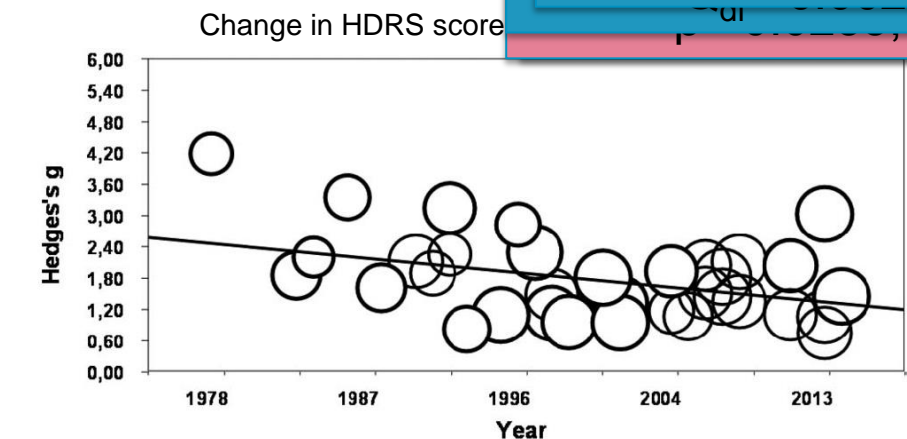
N= 2,426
 Average n(sd)= 34.6 (34.1)
 Males= 30.9%
 Patients with comorbidity= 43%

Average CBT sessions= 14.6 (5.12)
 Mean baseline BDI= 26.1 (4.1)
 Males= 30.9%
 Patients with comorbidity= 43%

WHY?



Study quality
 Not related to reduction in treatment effects
 $\beta = -0.0085, p = .45$
 $Q_{df} = 0.0021, p = .89$



Client related:

- Age
- Gender
- Comorbidity
- Medication
- Severity
- Associated problems

Therapist related:

- Competency

Treatment related:

- Number of sessions
- Beck's manual
- Adherence check
- Analysis method
- Study quality

57% of patients
 Average weight
 $g = 1.58 (1.43 - 1.73)$
 Average weight
 $g = 1.69 (1.48 - 1.90)$

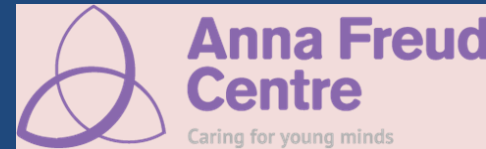
Is emerging BPD a valid
and useful construct for
clinicians?
Four key questions

Is emerging BPD a valid and useful construct?

- Is **reliable** and clinically **meaningful** diagnosis possible?
- Do we have a plausible understanding of the **disease mechanisms**?
- Are evidence-based **treatments available**?
- Can they be **disseminated** and implemented in different settings?

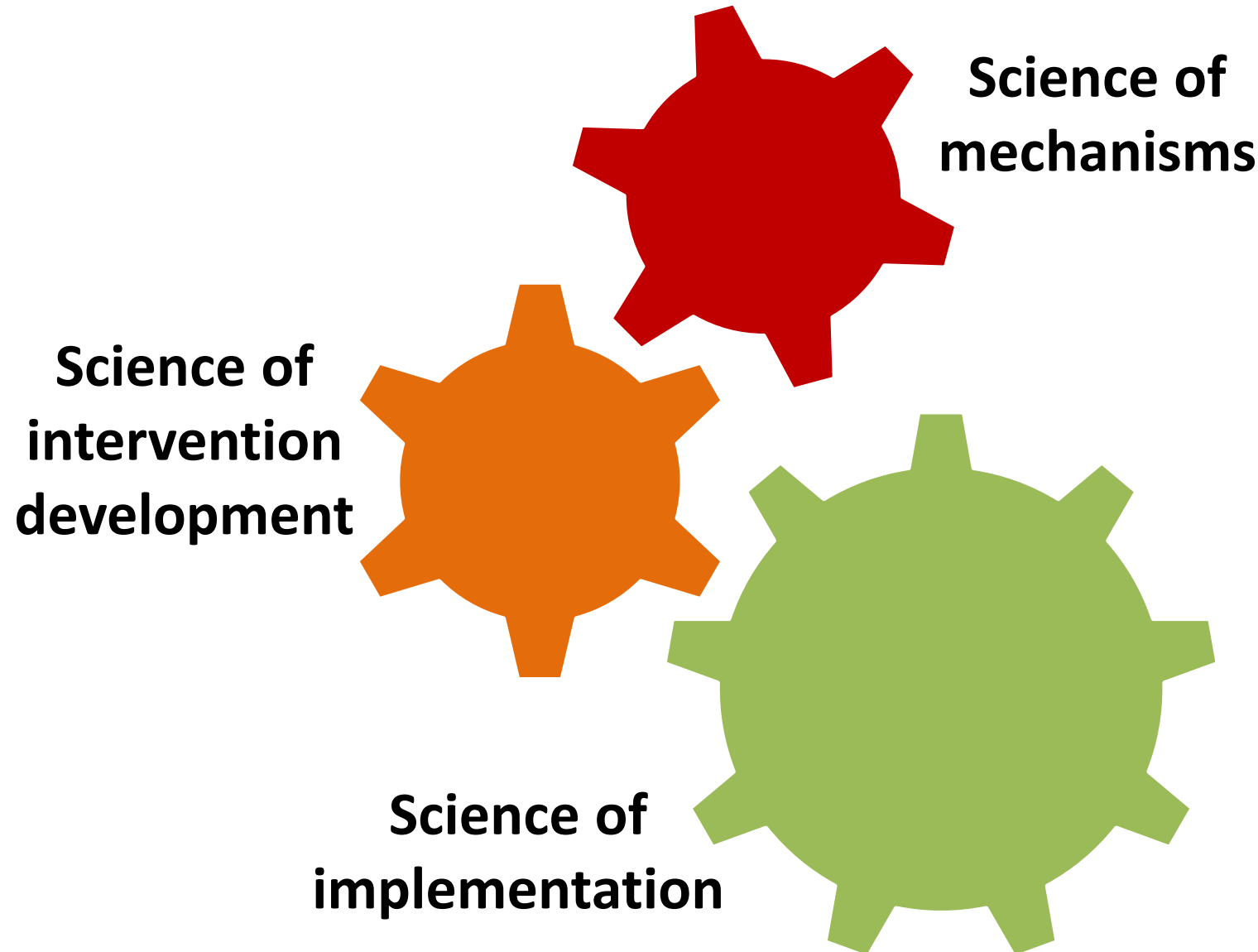
Leadership Skills in CAMHS: International Perspective

Summer School 17-21 August, London

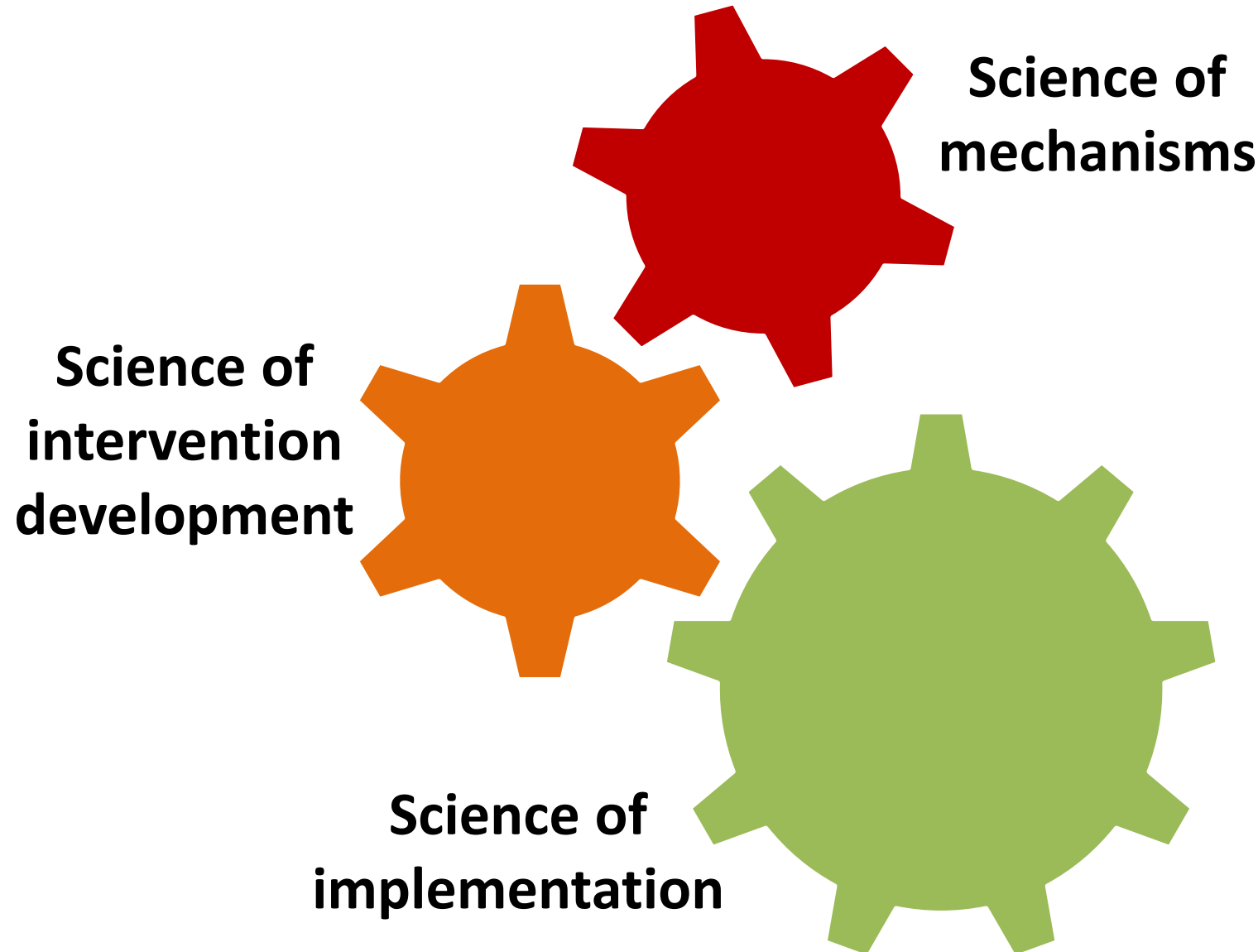


- Unique overview of best CAMHS practice
- Cutting edge evidence, policy, outcomes, payments and user participation
- International perspective across different health and welfare systems
- Leadership in service planning, delivery and evaluation

From bench to consulting room



From bench to consulting room

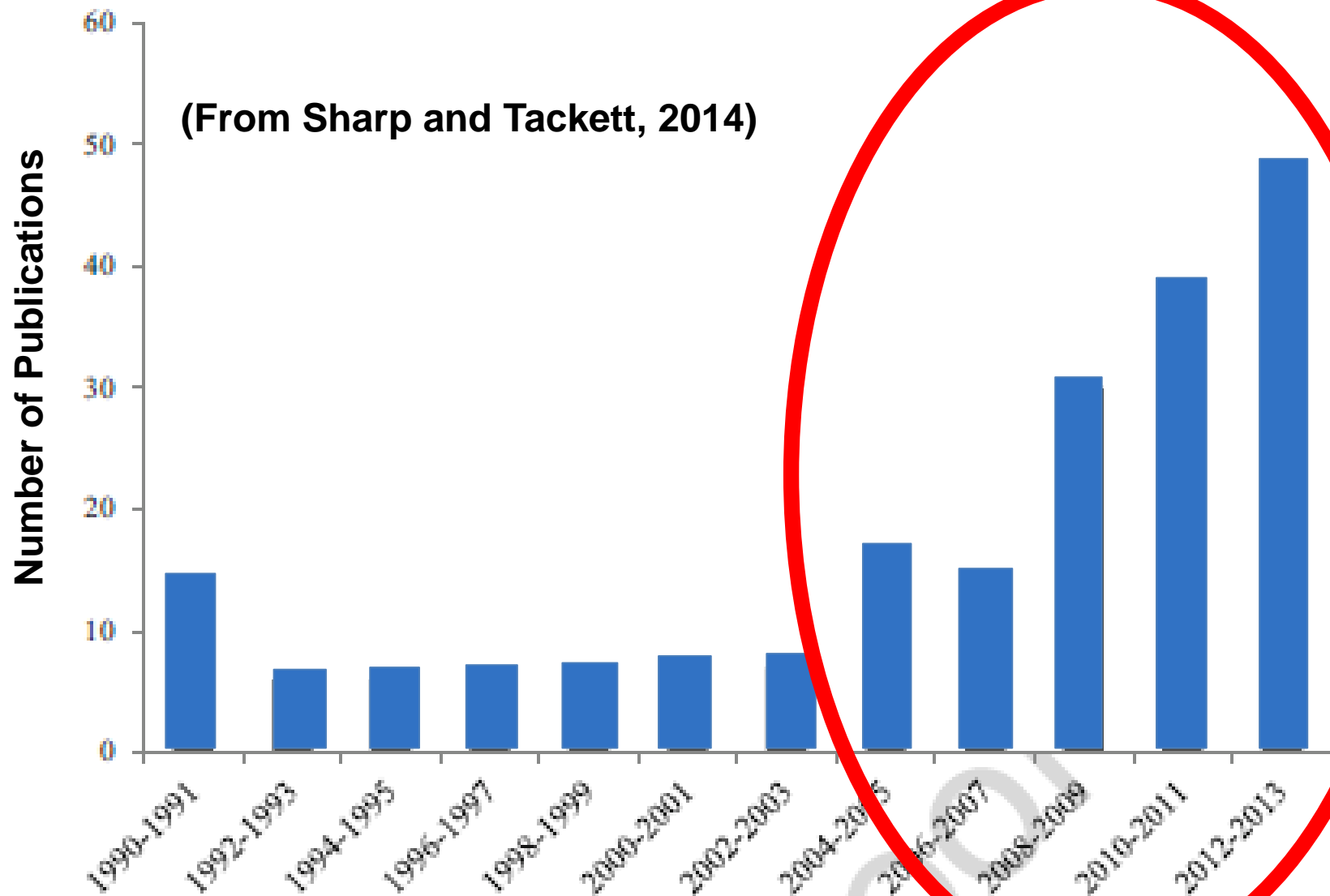


Can BPD be diagnosed
in adolescence?

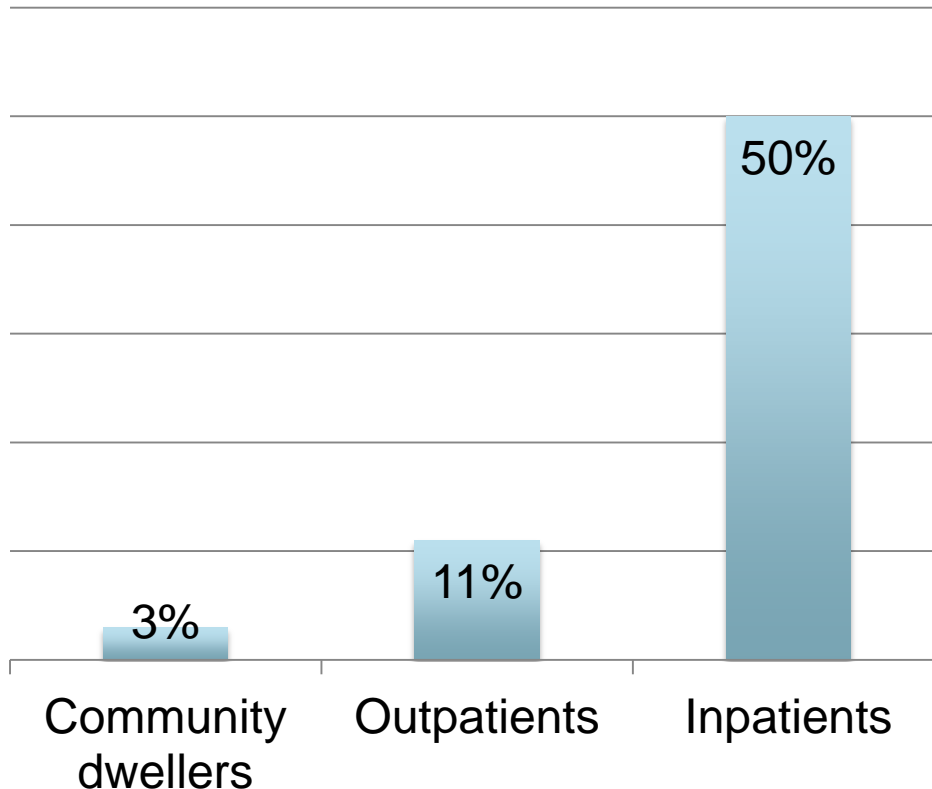
Can BPD be diagnosed in adolescence?

- Almost **2/3rd** (63%) of British psychiatrists considered the diagnosis **invalid** when surveyed in 2009 (Griffiths, 2011)
- Concerns about **stigma** (BPD→IPD?)
 - Intense persistent distress
- Difficult to distinguish BPD from ‘normal’ **adolescent turmoil**
- **Incomplete personality development** in this age group

Research articles on adolescent BPD 1990- 2013



BPD in adolescence: prevalence studies



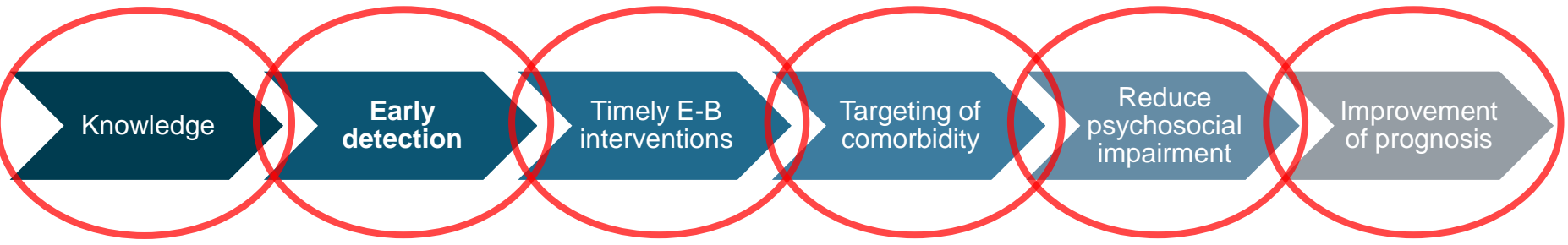
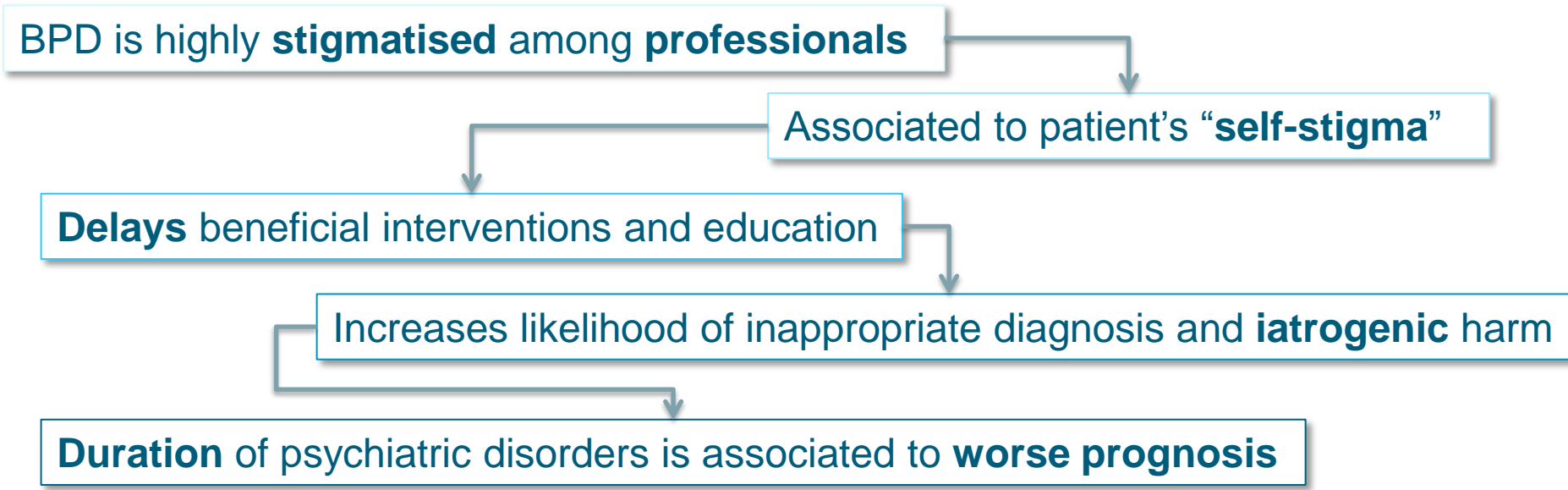
The disorder identifies a group of adolescents with **high comorbidity** and **poor outcome**

It predicts current **psychopathology**, psychosocial **dysfunction**, and negative longitudinal **outcomes**

Similar prevalences to those found in **adults**

Diagnosing BPD in adolescence

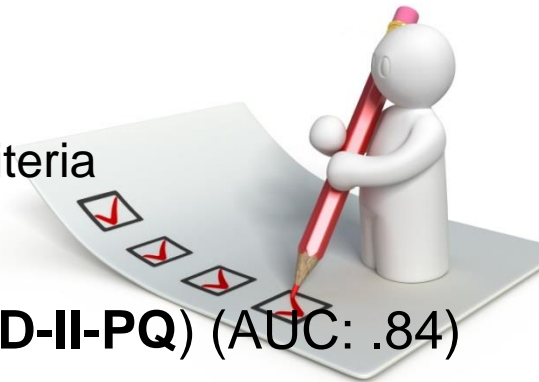
Main barrier: STIGMA



Early detection of adolescent BPD: Instruments

Interviews

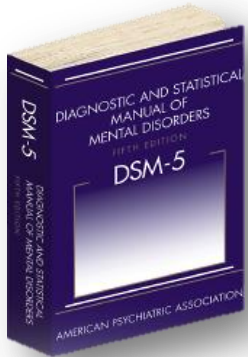
- Structured Clinical Interview for DSM-IV Axis II Personality Disorders (**SCID-II**)
- ICD-10 International Personality Disorder Examination (**IPDE**)
- Childhood Interview for DSM-IV Borderline Personality Disorder (**CI-BPD**)
 - Multiples sources recommended
 - Most interviews still lack developmentally sensitive criteria



Self-reports

- BPD items of the SCID-II Pers. Questionnaire (**SCID-II-PQ**) (AUC: .84)
- Borderline Pers. Questionnaire (**BPQ**) (Specificity: .90; Sensitivity: .68)
- McLean Screening Instrument for BPD (MSI-BPD) (Spec: .66; Sens: .69)
- Borderline Personality Features Scale for Children (**BPFS-C**) and parents (**BPFS-P**) (Specificity: .84; Sensitivity: .85)
 - *BPD should **never** be diagnosed **only** through **questionnaires***

BPD in adolescence as a reliable diagnosis



Personality disorder categories can be applied to children

- Maladaptive traits are pervasive and persistent (≥ 1 year)
- Considered unlikely to be limited to a developmental stage

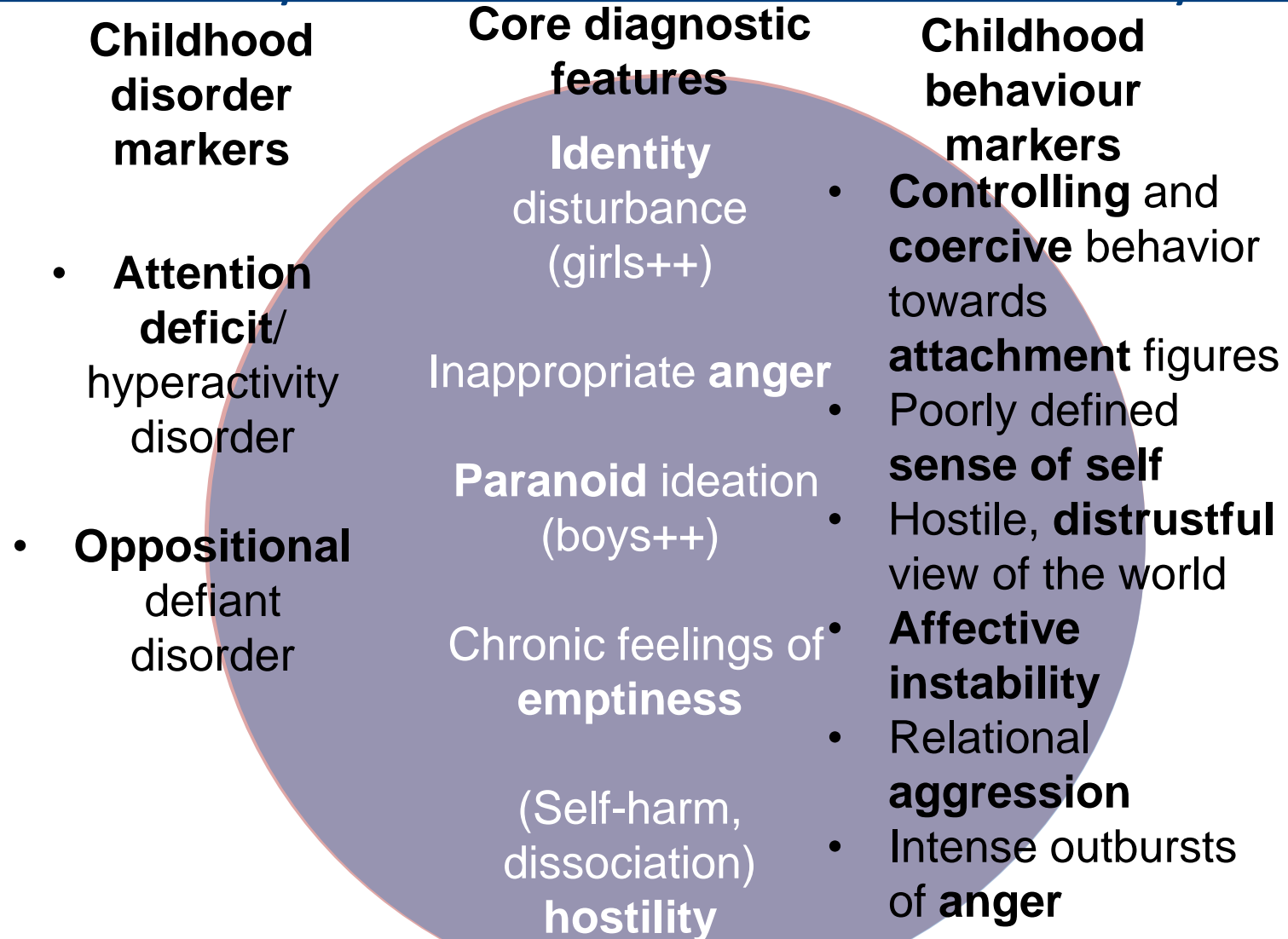
There has been a five-fold increase in empirical studies for BPD in adolescents in the last 10 years (Sharp & Tackett, 2014)

Several National Health Guidelines include the diagnosis

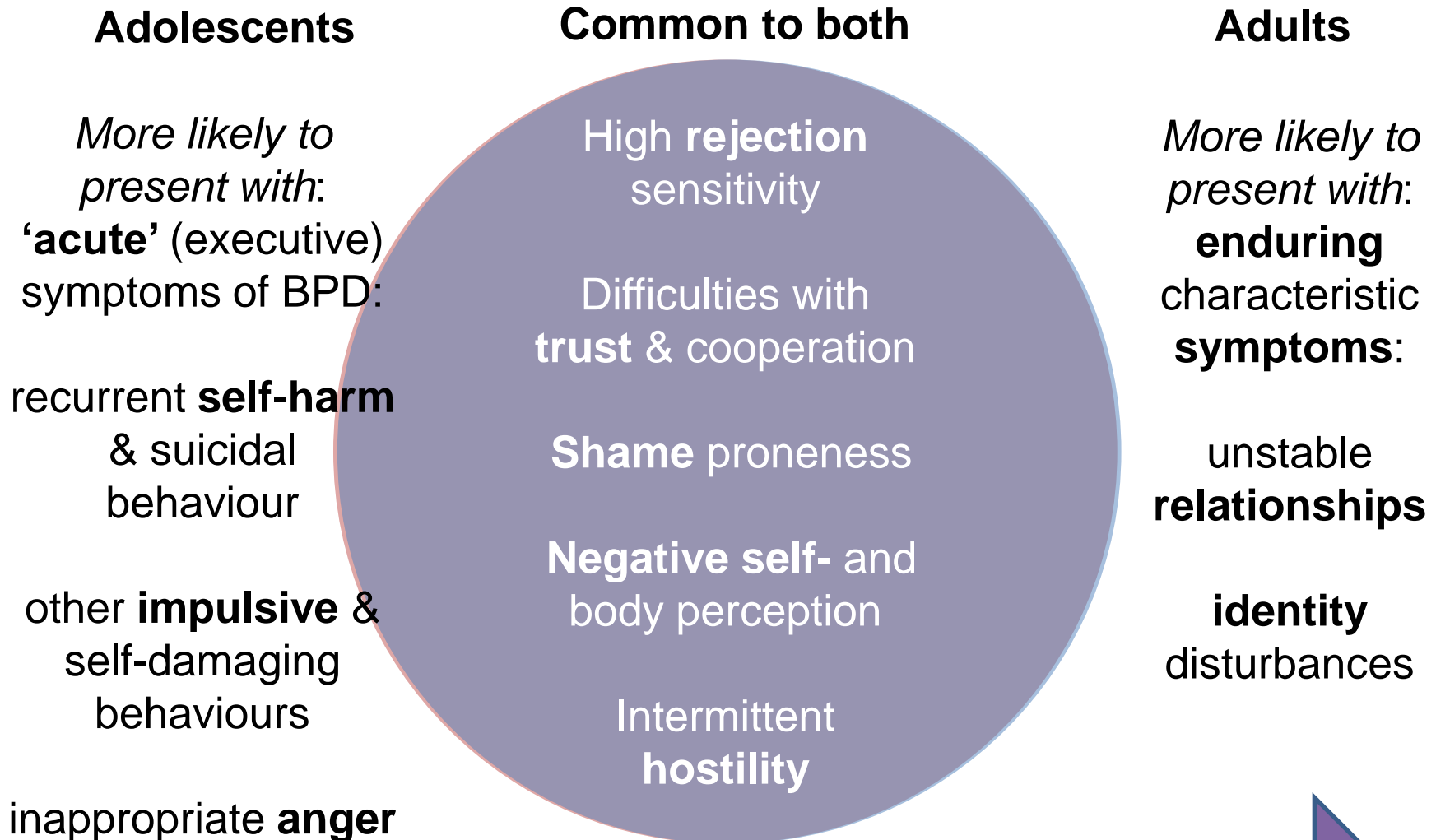
- Britain (NICE, 2009)
- Australia (NHMRC, 2013)
- Germany (Bohus et al., 2008)
- The Netherlands (Landelijke Stuurgroep Multidisciplinaire Richtlijnontwikkeling in de GGZ, 2008; Landelijk Kenniscentrum Kinder- en Jeugdpsychiatrie, 2011)

Reliability and validity of BPD diagnosis in adolescence is comparable to that in adulthood (Chanen et al., 2008; Kaess et al., 2014; Miller et al., 2008; Westen et al., 2014)

Best nominated symptom identifiers for BPD in adolescence and early childhood markers of vulnerability

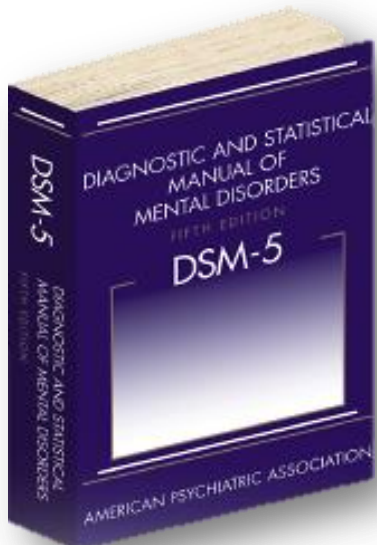


BPD in adolescents and adults



Heterotypic continuity: a developmental process of continuing and consistent impairment with changing manifestations

Conceptualizing BPD from a **dimensional**, rather than a **categorical**, approach is particularly pertinent in adolescents, as a dimensional approach may better account for the **developmental variability** and **heterogeneity** observed during this age period



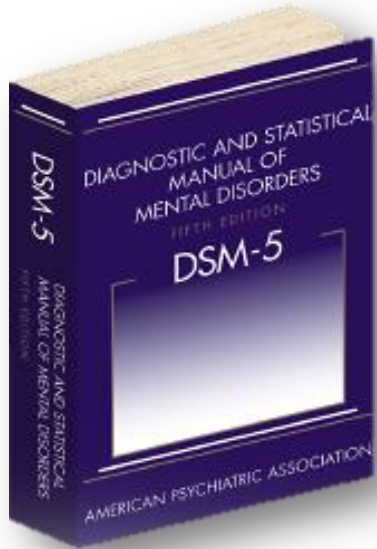
Section 3: Dimensional model of personality pathology

- **Impairments in self**
- **Difficulties in relatedness**

A sensitive and precise diagnosis could be achieved by **combining** both approaches

Dimensional – Categorical

DSM-5: BPD in adolescence



DSM-5 maintains the historical caution to **attribute** personality problems to an adolescent only in “**relatively unusual circumstances**” (APA, 2013; p. 647)

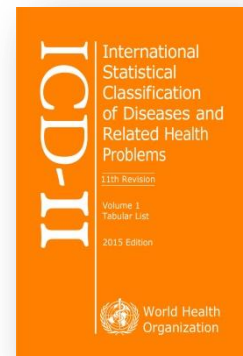
Criteria A Judgment of severity of problems in

- identity
- self-direction
- empathy
- intimacy

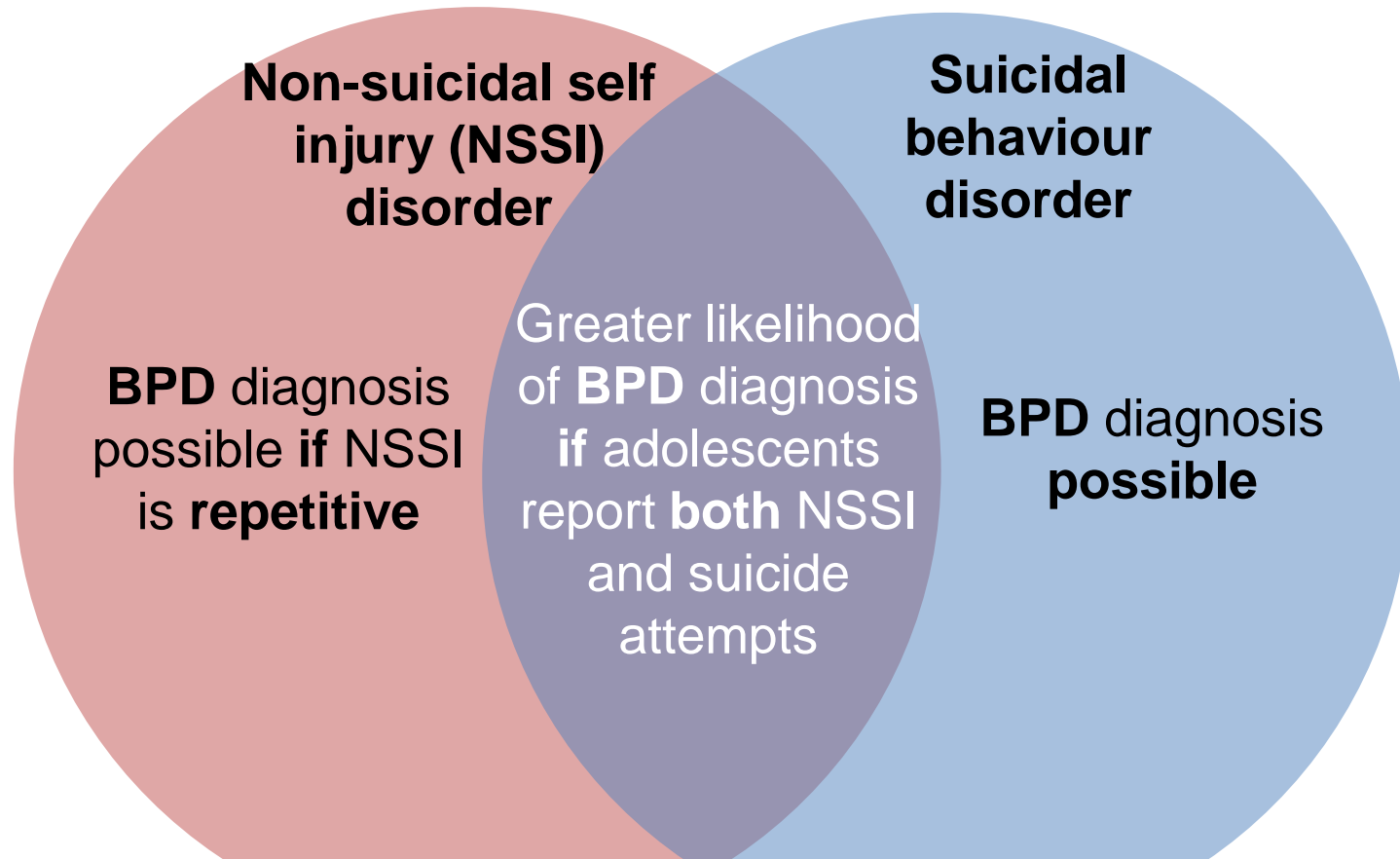
Criteria B 4 or more of

- emotional lability
- anxiousness
- separation insecurity
- depressivity
- impulsivity
- risk taking
- hostility

ICD 11 has legitimised the diagnosis



Relation of BPD to NSSI and suicidal behavior disorder (DSM-5 section 3)



Descriptive **diagnoses of pure behaviours** or symptoms may **detract** from important **underlying** psychopathological **factors** (e.g. **dimensional features** of personality pathology) and **prevent** specific **interventions**

Stability and course of BPD: A summary

- **Categorical stability** of BPD is **modest** in both adolescents and adults
- **Dimensional** stability is **moderate**
- BPD symptoms usually **appear in adolescence, peak in early adulthood**, then **decline**
- **Some** individuals **do not** experience age-related **decline** of symptoms
- While **impulsive** symptoms **reduce** over time, **affective symptoms** are more likely to **persist**
- Need to **distinguish** acute mental **states** from **traits** that indicate a more general pattern of maladaptive & dysfunctional behaviours
- **Remission from** categorical **diagnosis** does **not** imply remitted patients are **healthy**

Comorbidity

High psychiatric comorbidity and low psychosocial functioning

- **Significant percentage of BPD adolescents meet criteria for externalising problems relative to other inpatients**
 - ADHD
 - Oppositional disorder
 - Conduct disorder
- **Substance-related disorders**
- **Internalising disorders**
 - Mood disorders
 - OCD
 - PTSD
 - Separation anxiety
 - Social phobia
- **Up to 60% of BPD adolescents have complex comorbidity**
 - Confluence of internalising and externalising disorders
 - e.g. having any mood or anxiety disorders plus a disorder of impulsivity



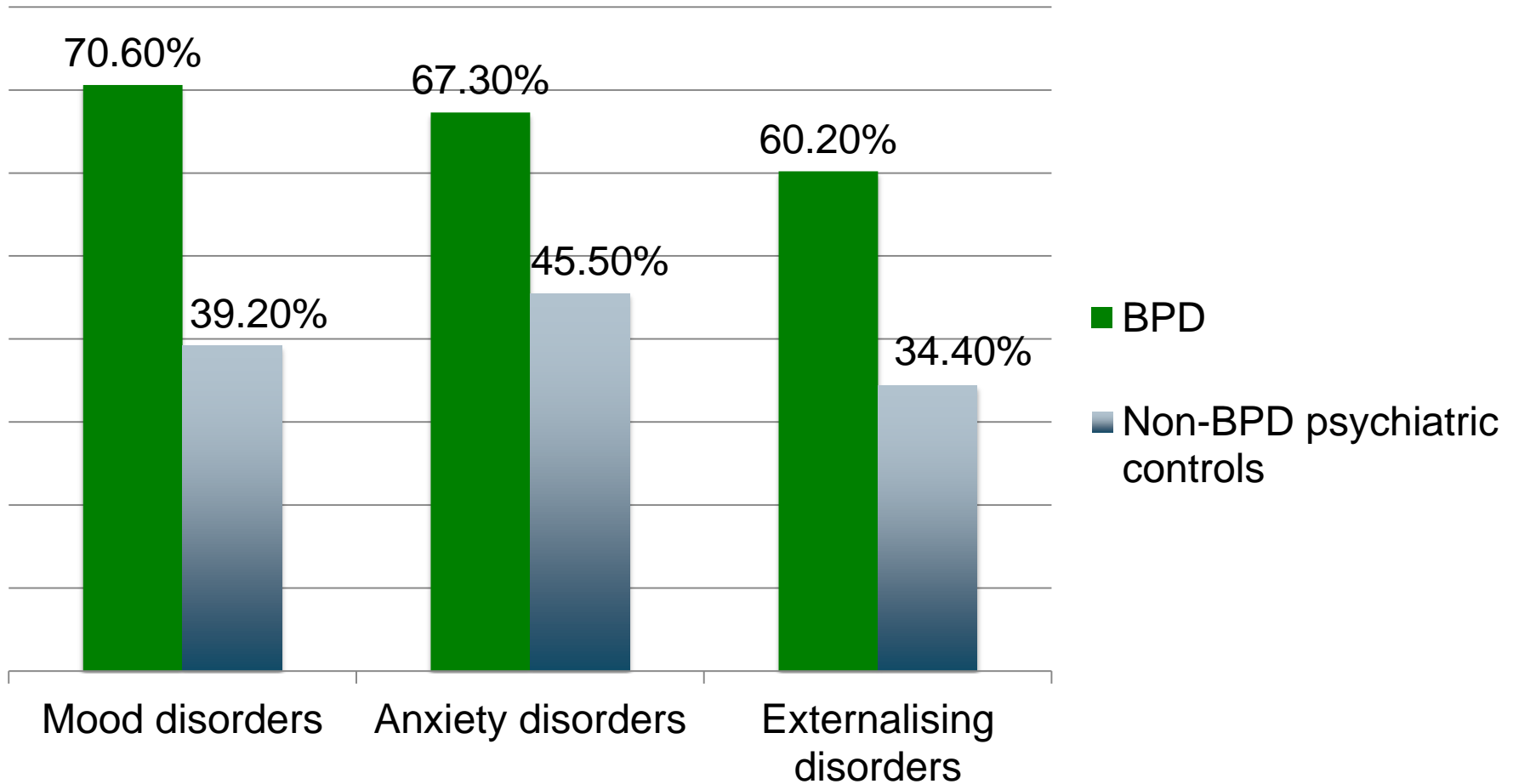
Ha et al., 2014; Eaton, 2011

Disruptive behaviour disorders and depressive symptoms in childhood predict adolescent BPD diagnosis

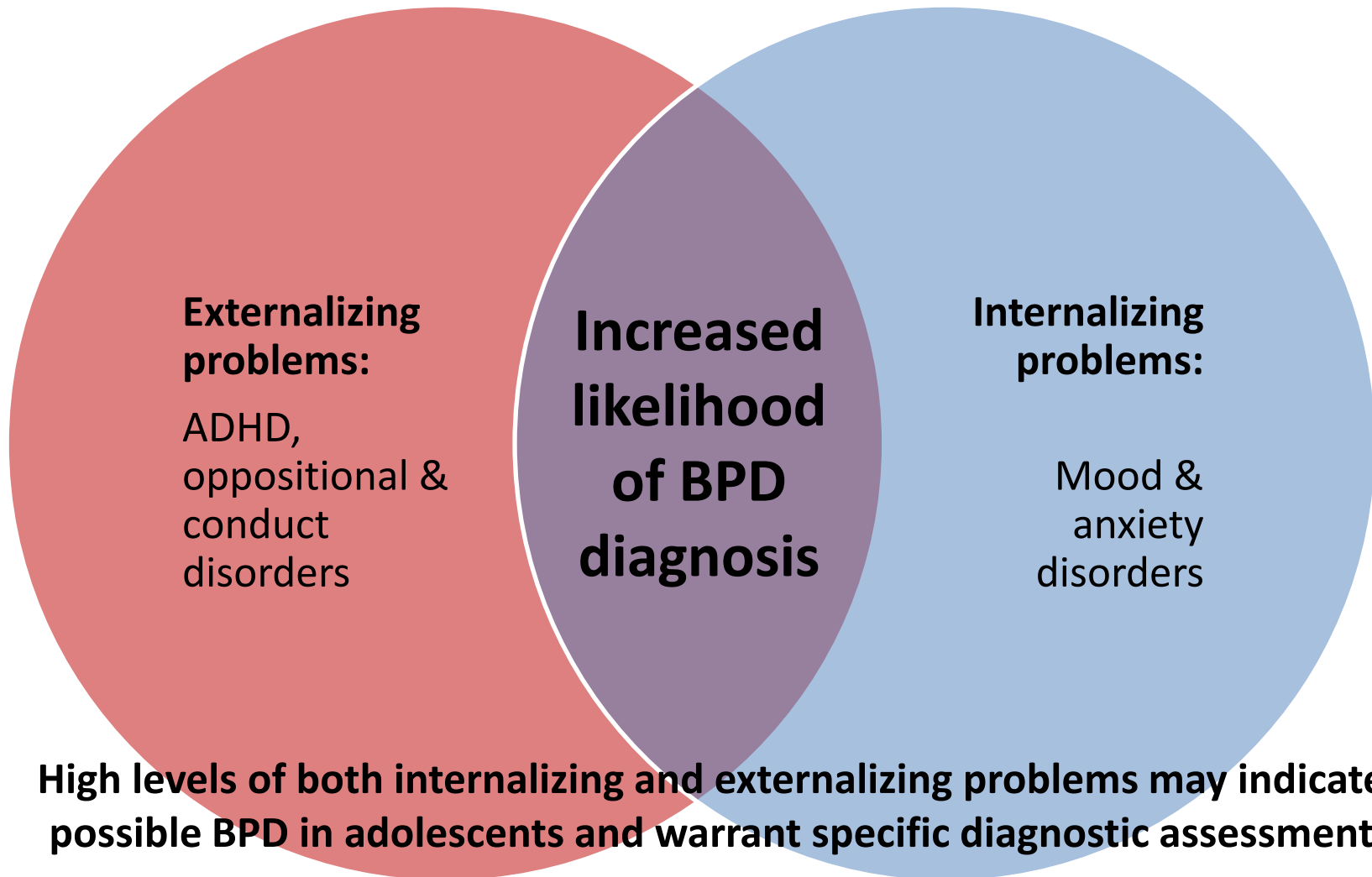
Comorbidity

High psychiatric comorbidity and low psychosocial functioning

Comorbidity in adolescent inpatients



Complex comorbidity of BPD in adolescence



What we know about
the mechanisms of
BPD in adolescence

What we know about the mechanisms of BPD in adolescence

- Genetics
- Neuroimaging
- Neurobiology
- Environmental factors
- Psychological mechanisms

Are core impairments in BPD intrinsically related?

- **3** recent large family **twin** studies suggest a common pathway model with one highly **heritable** general **BPD factor**
 - Distel et al, 2010; Gunderson et al, 2011; Reichborn-Kjennerud et al, 2013
- **Factor analytic** studies in adolescents suggest that BPD in adolescence is best represented by a **single** hierarchical **superordinate factor**
 - Sharp et al, 2012; Michonski et al, 2013

Mechanisms of BPD in adolescents

Recent twin studies suggest a common pathway to BPD with one highly heritable general BPD factor

BPD in adolescence is best represented by a single hierarchical superordinate factor

Genetics

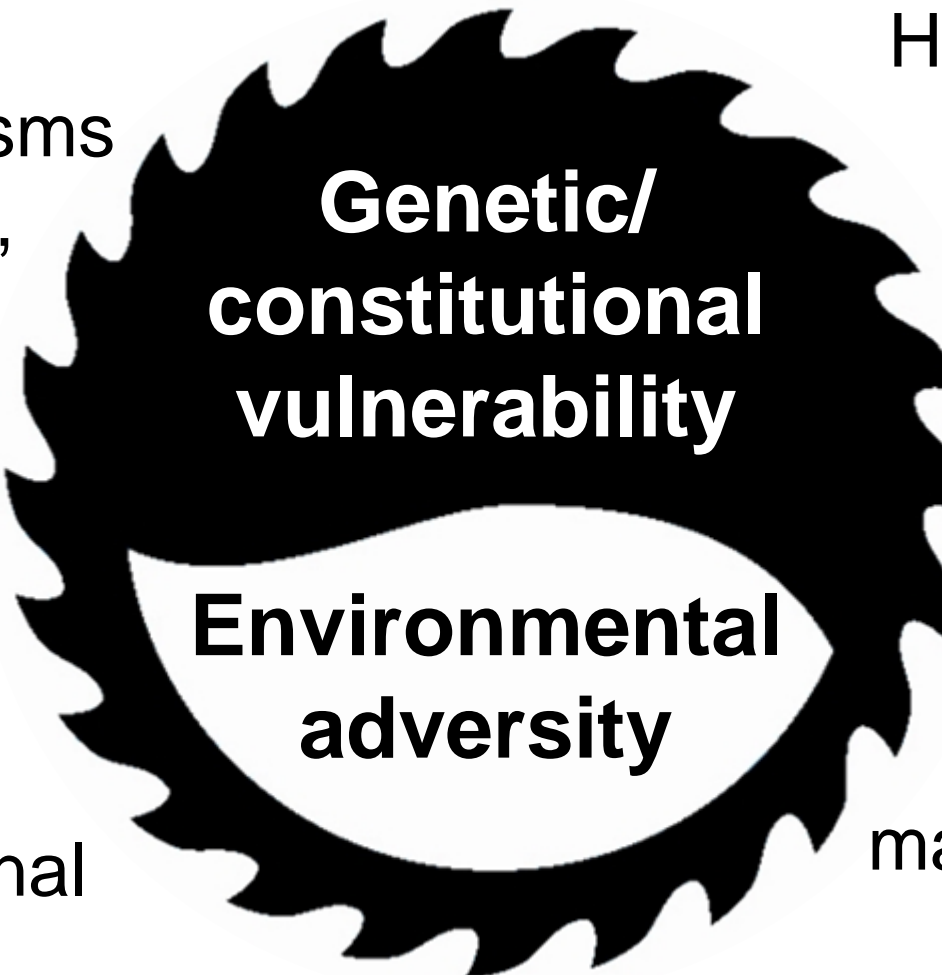
- **Heritability** of 40-50% in adults
- **No specific gene** has been associated to BPD
- Adolescents (9-15 y.o.) who carry the s-allele of the **5-HTTLPR** have higher levels of BPD
- History of **maltreatment** predicted BPD features at age 12 for those young people **with family history** of psychopathology

Environment

- Key factors associated to BPD: **abuse** and **neglect**, problematic family environment, and **low SES**
- **Maltreatment** increases likelihood of BPD (adj **OR: 7.7**)
- **Low SES** is a totally **independent** predictor of BPD
 - Countries with larger **income inequality** have greater prevalence of BPD and associated problems
- **Attachment problems** are strong predictors
 - **Maternal withdrawal** at 18 months predicts BPD in late adolescence
 - Early adversity, **disorganised attachment** and **parental hostility** predict BPD features in middle childhood, adolescence and adulthood
- **Peer to peer abuse** (bullying, e-bullying, peer rejection, teen dating violence, chronic exclusion)

GxE interaction predisposing to BPD: A vicious cycle

Gene
polymorphisms
(5-HTTLPR,
DAT-1)



**Genetic/
constitutional
vulnerability**

Heritability
42-60%

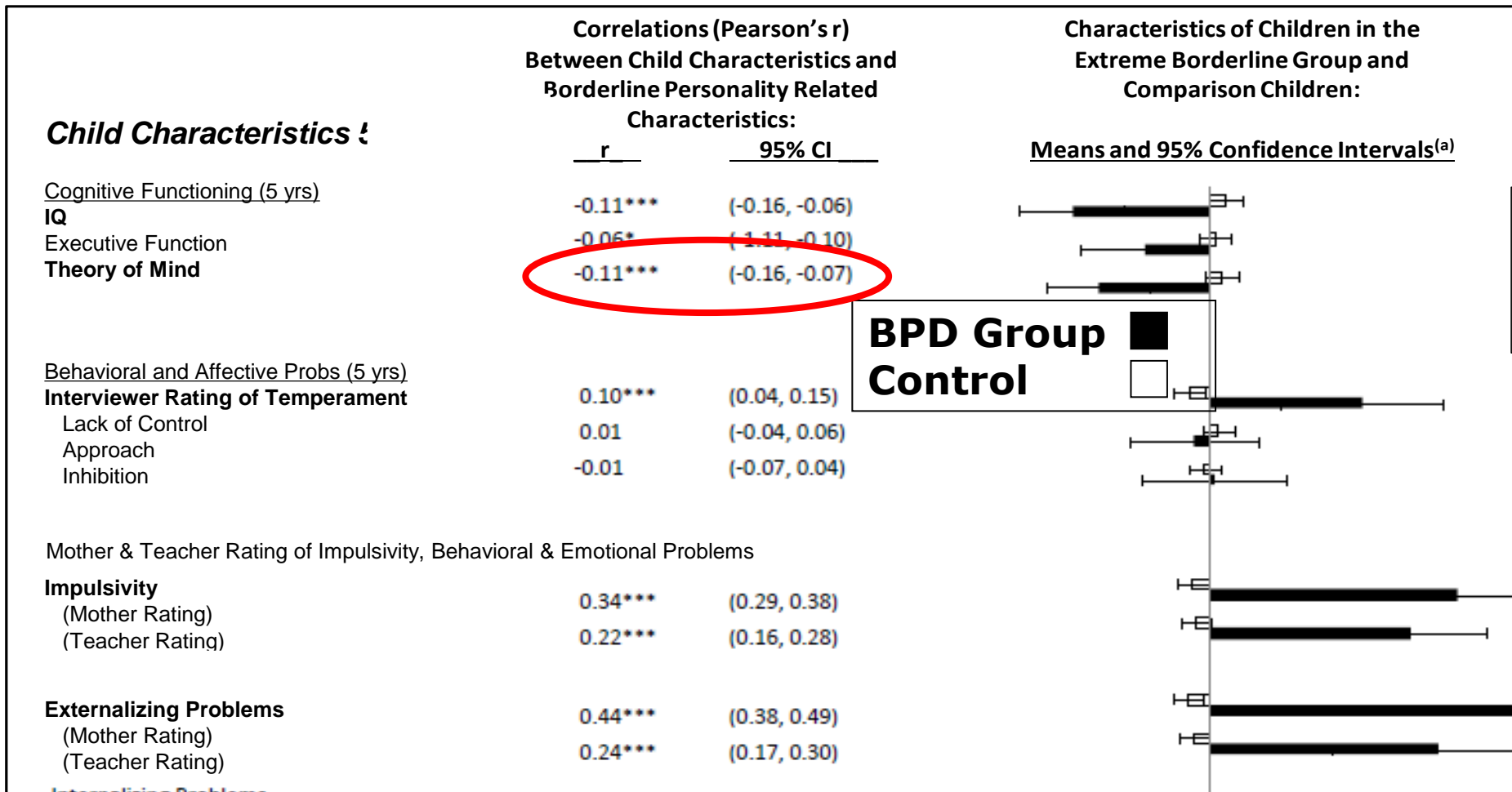
Social
exclusion,
early maternal
separation

**Environmental
adversity**

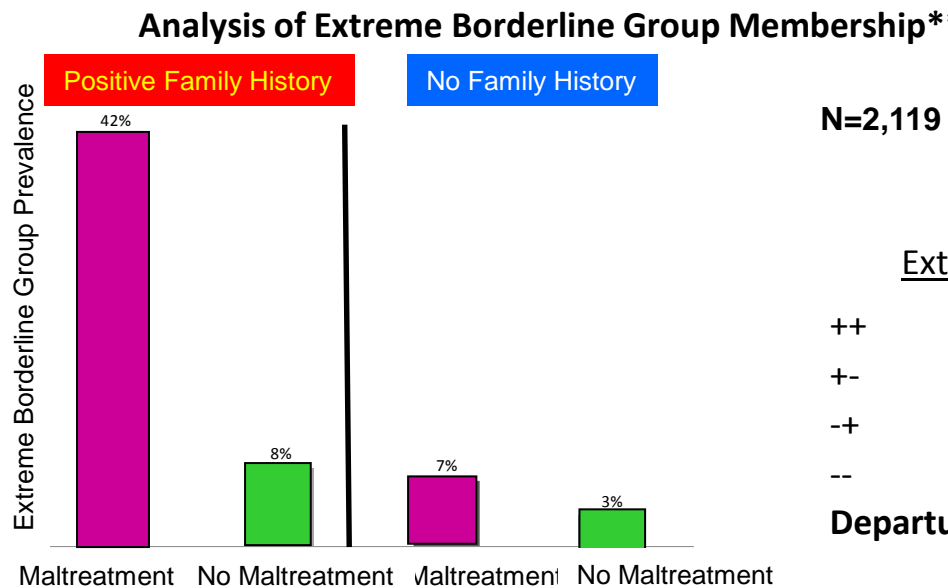
Abuse,
neglect,
maladaptive
parenting
peer bullying

Antecedents and co-morbidities of BPD related characteristics in 12 year old children (Belsky et al., 2012): Age 5 ToM

Figure 1. Psychiatric Antecedents and Comorbidities of Borderline Personality Related Characteristics in 12 Year Old



Interaction between family history of psychiatric illness and history of maltreatment on BPD symptoms



N=2,119

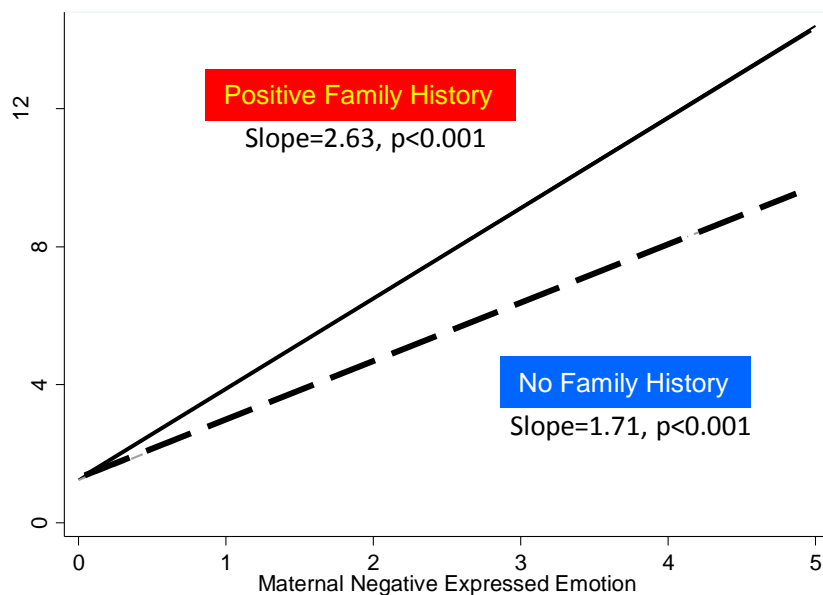
	<u>Extreme Group</u>	<u>Comparison Children</u>	<u>RR</u>
++	20	28	13.41
+-	48	562	2.53
-+	3	42	2.15
--	44	1,372	1.00

Departure from Additivity = 9.73 95% CI (1.90 , 15.73)

Belsky, Caspi, Arseneault, Bleidorn, Fonagy, Goodman, Houts, and Moffitt (2012)
Dev & Psychopathology, 24(1), 251-265

Interaction between family history of mental illness and maternal negativity

Panel A. Analysis of Dimensional Borderline Personality Related Characteristics Scale Score*



Model	Coefficient (p-value)			
	Maternal Negative Expressed Emotion		Family History	
Test of Diathesis-Stress Interaction, Between Families				
I.	2.05	(0.000)	1.41	(0.000)
II.	1.71	(0.000)	0.03	(0.474)
Test of Diathesis-Stress Interaction, Within Families				
III.	1.45	(0.000)	--	
IV.	1.18	(0.000)	--	

II. Between Families Interaction Beta=0.92 p<0.001

IV. Within Families Interaction Beta=0.92 p<0.001

Belsky, Caspi, Arseneault, Bleidorn, Fonagy, Goodman, Houts, and Moffitt (2012)

Dev & Psychopathology 24(1), 251-265

Mechanisms of BPD in adolescents

Neurologic

Reduced volumes of amygdala, hippocampus, OFC and ACC in adults

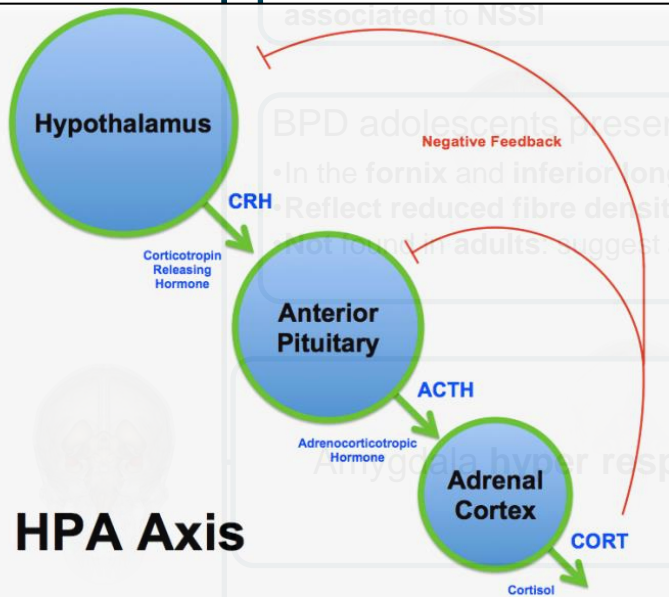
- Key areas for **emotion regulation** and social **information** processing
- Average **decrease** in size of **11%** for the **hippocampus** and **13%** for the **amygdala**
- These **results** are **contradictory** in **adolescence**, but **ACC** and **OFC** volume reductions are

Present decreased fractional anisotropy

- In the fornix and inferior longitudinal fasciculus
- Reflect reduced fibre density, **axonal diameter**, and **myelination** in white matter.
- Suggest a transient impairment of a developing BPD

Responsive, as in adults, associated to repeated NSSI

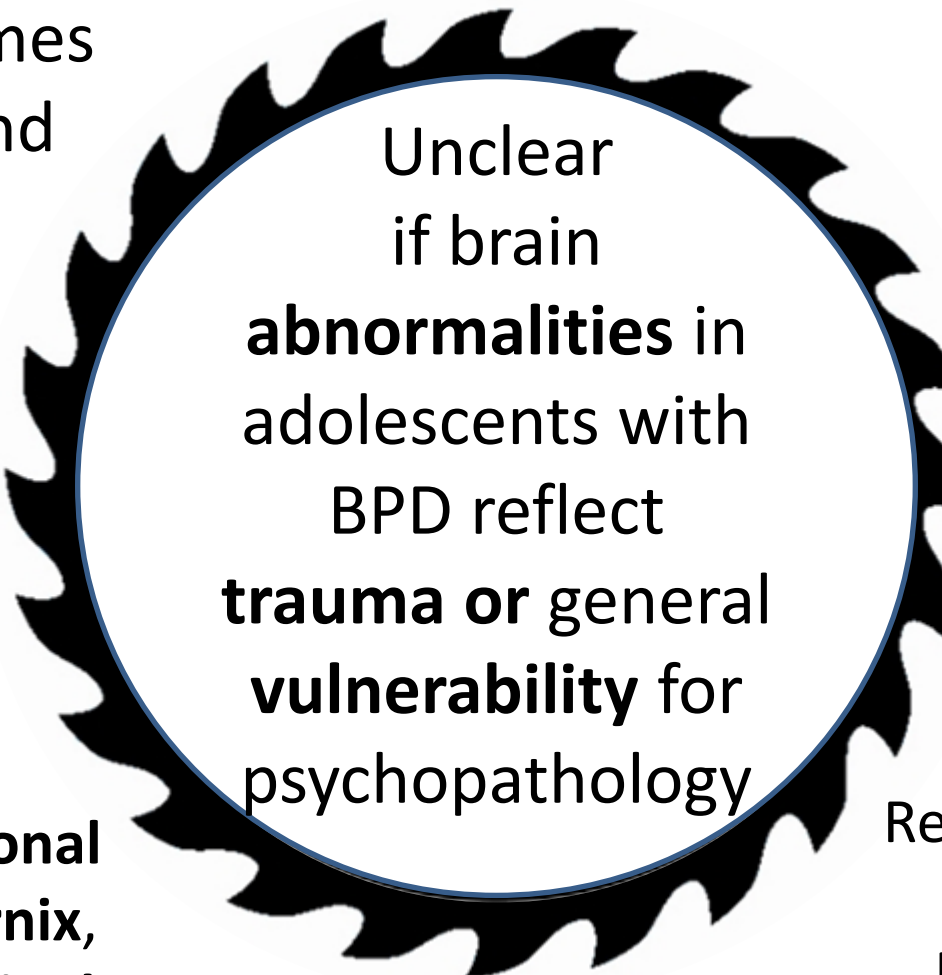
Dysfunctions in hypothalamic-pituitary-adrenal (**HPA**) axis (**maladaptive stress response** in the development of the disorder in the presence of trauma history)



GxE interaction at the neurological level?

Reduced volumes of **left ACC** and **right OFC**

Atypical **hippocampal asymmetry**



Unclear if brain **abnormalities** in adolescents with BPD reflect **trauma or general vulnerability** for psychopathology

Decreased **fractional anisotropy** in **fornix**, **inferior longitudinal fasciculus**

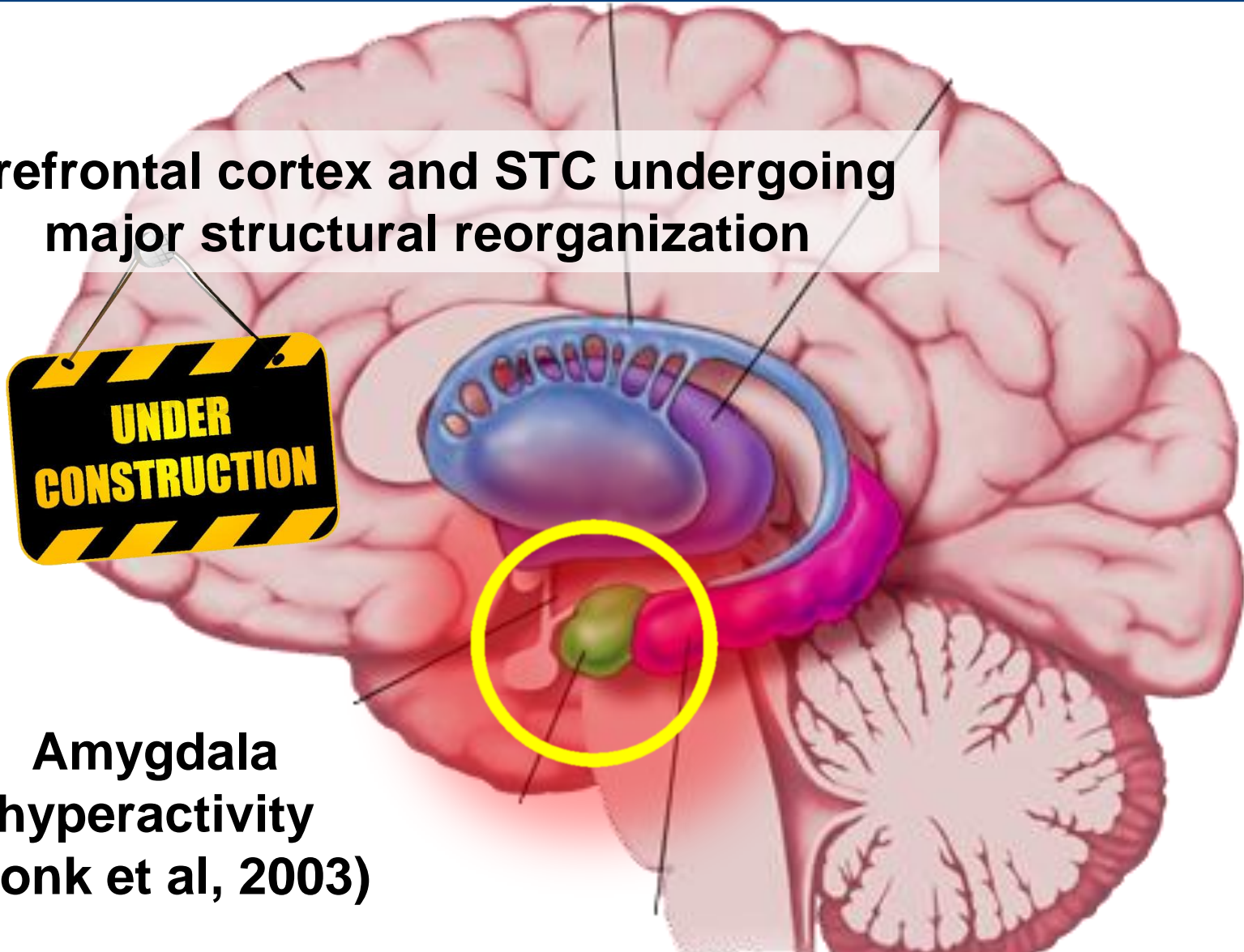
Reduced volumes of **amygdala** and **hippocampus** in some studies

The challenges of adolescence

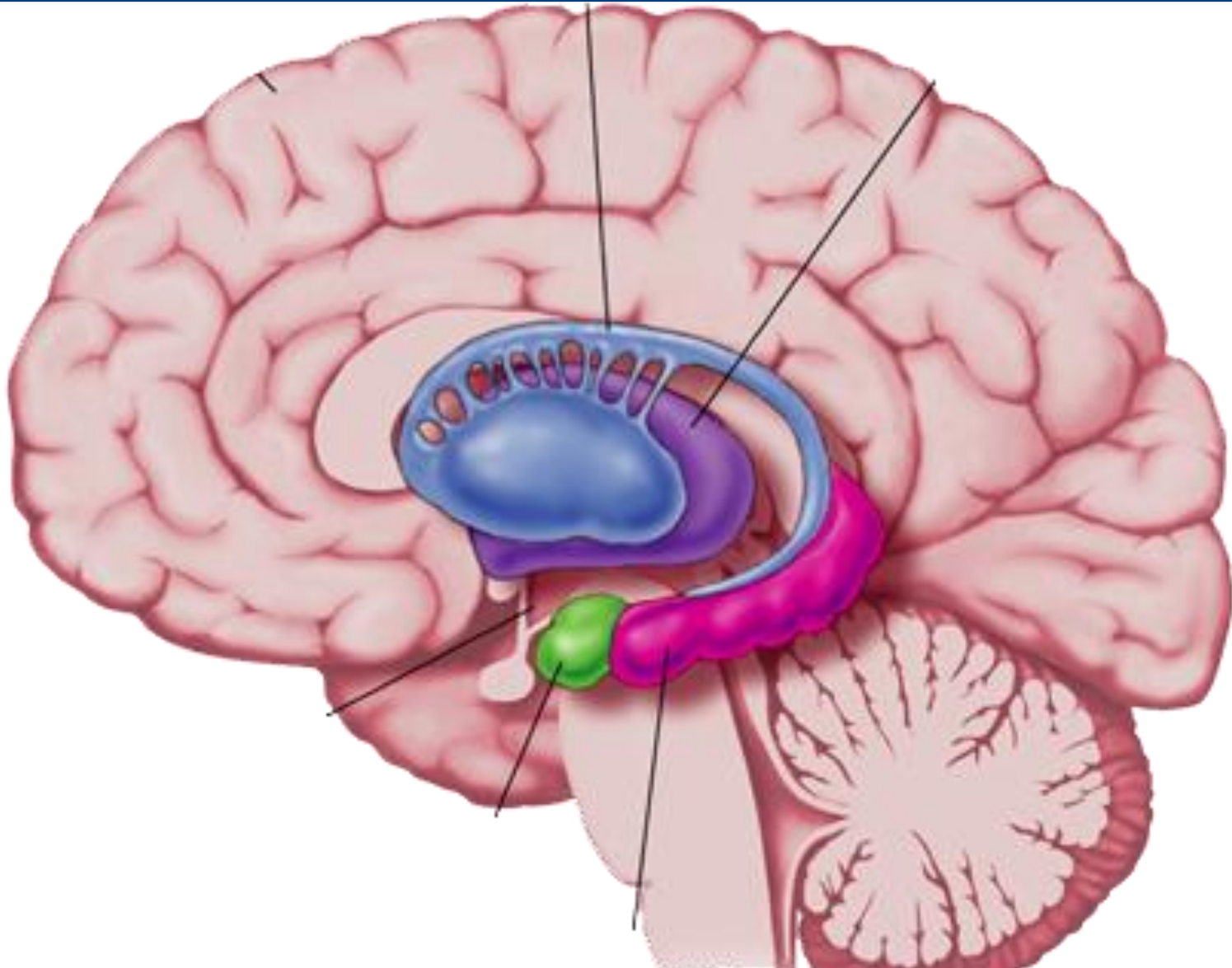
Prefrontal cortex and STC undergoing major structural reorganization



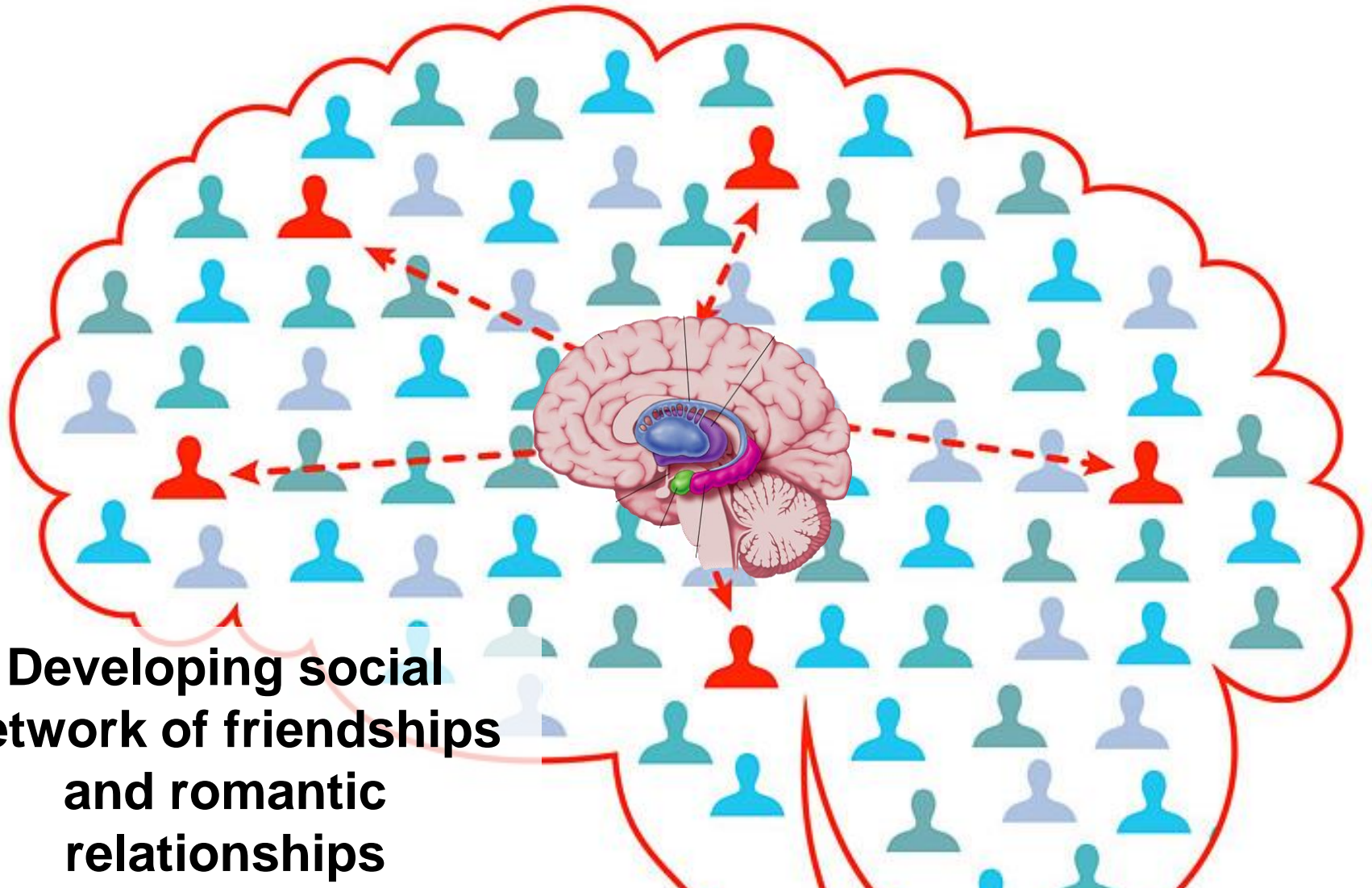
**Amygdala
hyperactivity
(Monk et al, 2003)**



The challenges of adolescence



The challenges of adolescence



**Developing social
network of friendships
and romantic
relationships**

Mechanisms of BPD in adolescents (Debane, 2014)

Social

Since 1986 **activity** of YP **with** their **families** decreased, in favour of activities with peers

Low socioeconomic status is an **independent risk** factor for adolescent BPD

New **educational challenges** and competition

Bullying, peer rejection experiences

Adolescent with BPD are more **vulnerable to media** influence

The **evolutionary advantage** of being able to adapt to hostile environments in infancy (e.g. maltreated children become more **sensitive to threats**) could generate chronic **epistemic hypervigilance**

Mechanisms of BPD in adolescents

Psychological

BPD patients present **heightened affective instability** compared to controls

- Not exclusive of BPD: **also** found in **PTSD** and **Binge Eating**

Social emotions are central for BPD

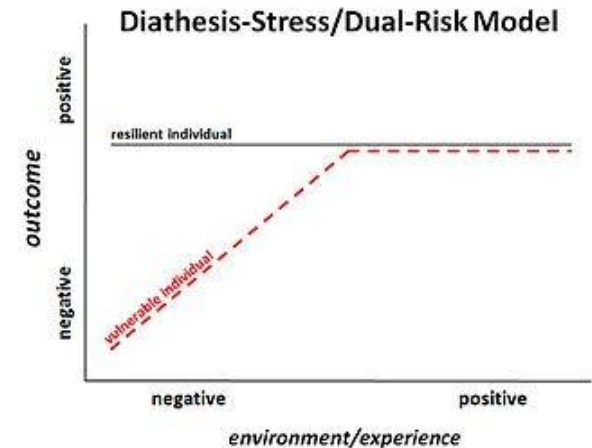
- **Shame**, disgust, fear of **social rejection**
- May give rise to marked **dissociative** symptoms
- Dissociative symptoms, in turn, are related to **hypoalgesia**

Rejection sensitivity, provocation of **aggressive** behaviour, **inability** to become involved in **trustful** and **cooperative** behaviour

Impairments in **mentalizing**

- Mentalizing brain areas undergo massive **synaptogenesis** during adolescence
- Characterised by **hypermentalizing**: excessive or **overinterpretative**

Diathesis-stress approaches



Linehan and cols (1993; 2009)

Trait vulnerability

- Sensitivity-reactivity
- Impulsivity



Aberrant socialisation mechanisms in the family

- Acquisition of poor emotion regulation skills



BPD

Fonagy and cols (2000; 2009)

Heritability

- Innate ToM
- Sensitive temperament



Early attachment experiences

- Development of social cognition:
- **MENTALIZATION** (hypermentalizing)



BPD

Inside Out: A Major eMotion Picture from PIXAR

Social cognition in BPD

Facial emotion recognition

- **Hypersensitivity** to subtle facial cues of negative emotions
- Increased arousal that impairs recognition of overt emotions
- **Faster eye movements to the eyes of negative faces**
 - Enhanced **amygdala** activation
 - **Reduced** by administration of **oxytocin**



Trust appraisal and rejection sensitivity

- **Neutral faces are less trustworthy**
 - NOT reduced by administration of **oxytocin**



Cognitive empathy

- **Impaired ToM – impaired perspective taking**
- **Enhanced performance in RME**
 - It does not require explicit meta-representation of the other's mind
- **Lower activation of theory of mind brain circuit**
 - Even during enhanced performance at RME

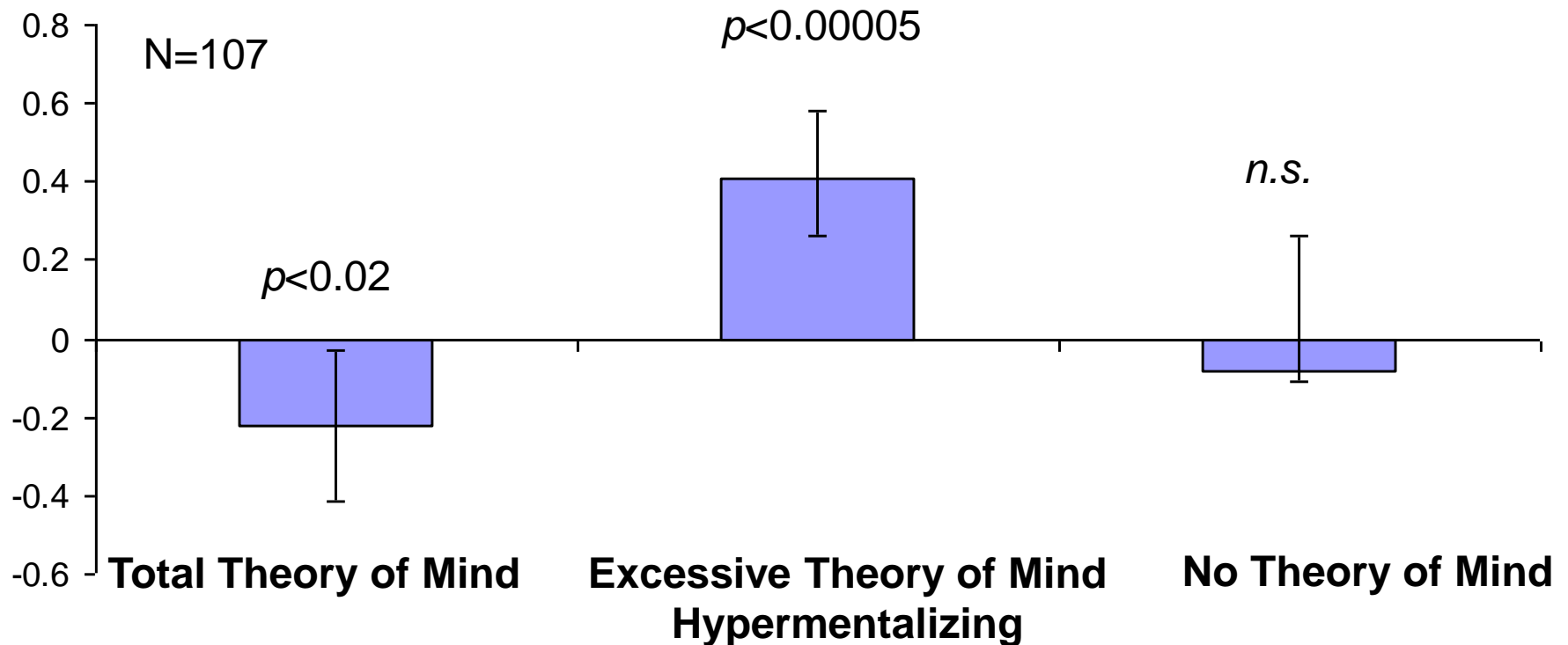


Affective empathy

- Automatic (**unconscious**) imitation of **negative expressions**
 - **Enhanced right-mid insular activity** (self-origin of emotions)
 - **Reduced anterior insula** (other-origin of emotions)

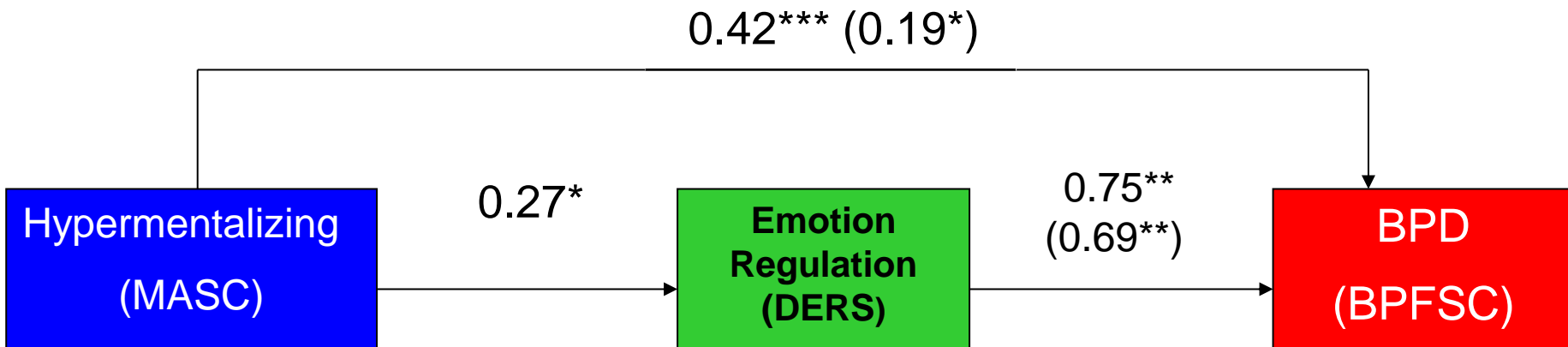


Correlation Between Movie for the Assessment of Social Cognition (MASC) and Borderline Personality Features Scale for Children



Hypermentalizing leads to emotion dysregulation which leads to borderline personality features

(Sharp et al., 2011, *J.Am. Acad. Child. Adol. Psychiat.*, *60*, 563-573.)



*p < .05, **p < .01, ***p < .001

Variable	B	SE B	β	R ²	P
Step 1					
Hypermentalizing	1.56	.370	.383**	.15	.0001
Step 2					
Hypermentalizing	.793	.270	.194*	.58	< .0001
DERS	.375	.036	.686**		

Attachment and adolescent BPD (Sharp et al. submitted)

- **Attachment representations** of adolescents with emergent PD
 - **Rejection** and abandonment
 - **Incoherent** and disorganized representations of close relationships
- **Moderate continuity** from childhood to adulthood
 - **Long lasting** effects on developing relationships (increasingly important in transition to adulthood)
- **Increased demand** on capacities for attachment may **overwhelm some youths** as they negotiate **new intimate relationships** → peaking of PD symptoms goes **beyond parental influence**

The effect of attachment-related stress on the capacity to mentalize (Nolte, Hudac, Mayes, Fonagy & Pelphrey, 2013)

Subjects to make **two types of judgments** in three conditions:

- **Attachment** stress story related to their personal history,
- **General** stressful memory (e.g. exam) and
- **No stress.**



Resentful

Bored

Which attitude?



Which age?

Twenty-three

Thirty

Examples of single trial stimuli, RMET (top), control task (bottom).

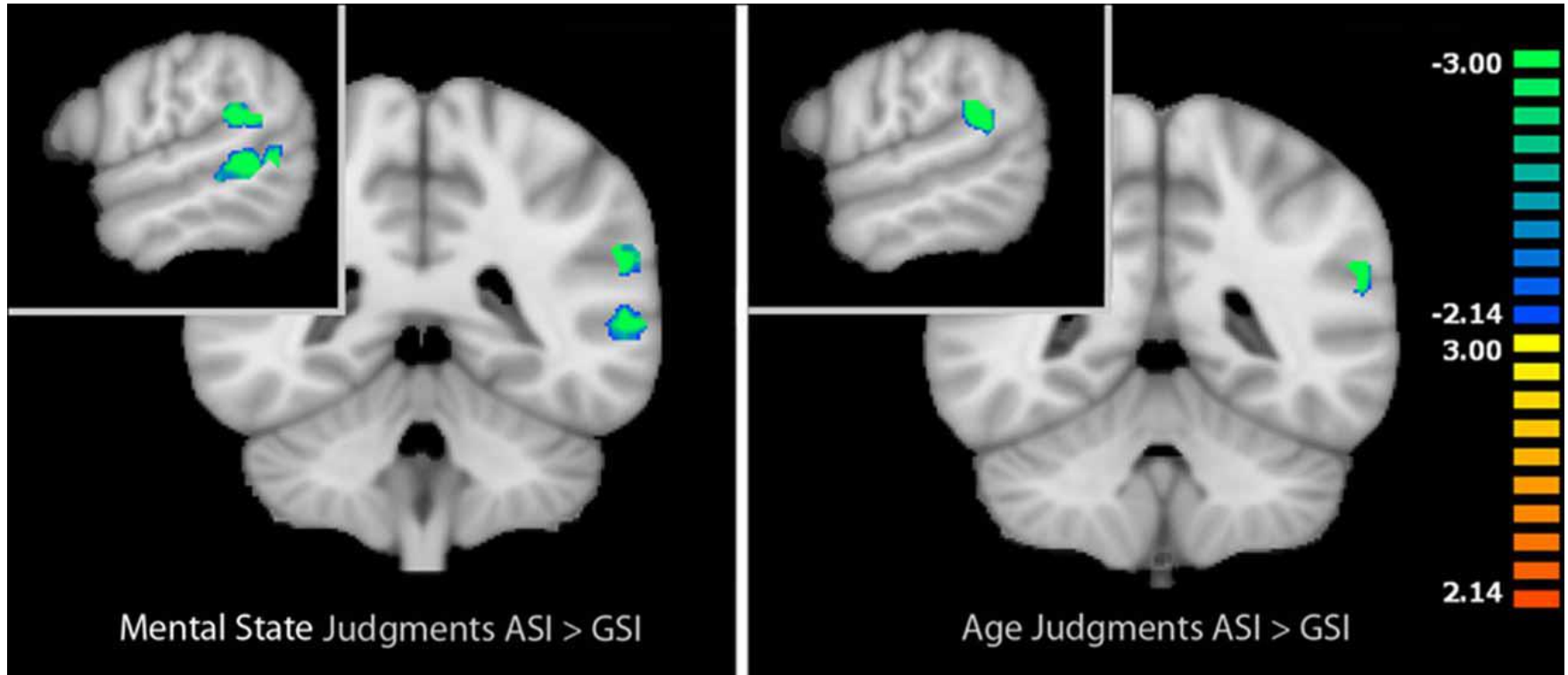
Frontiers in Human Neuroscience, 7, Article 816

Stimuli
&
Design

Regions that showed **differential activation** between mental state and age judgments in the baseline RMET-R that were **modulated by stress induction type**. (Attachment related stress versus general stress) Nolte et al. (2013)

Mental state judgments

Age judgments

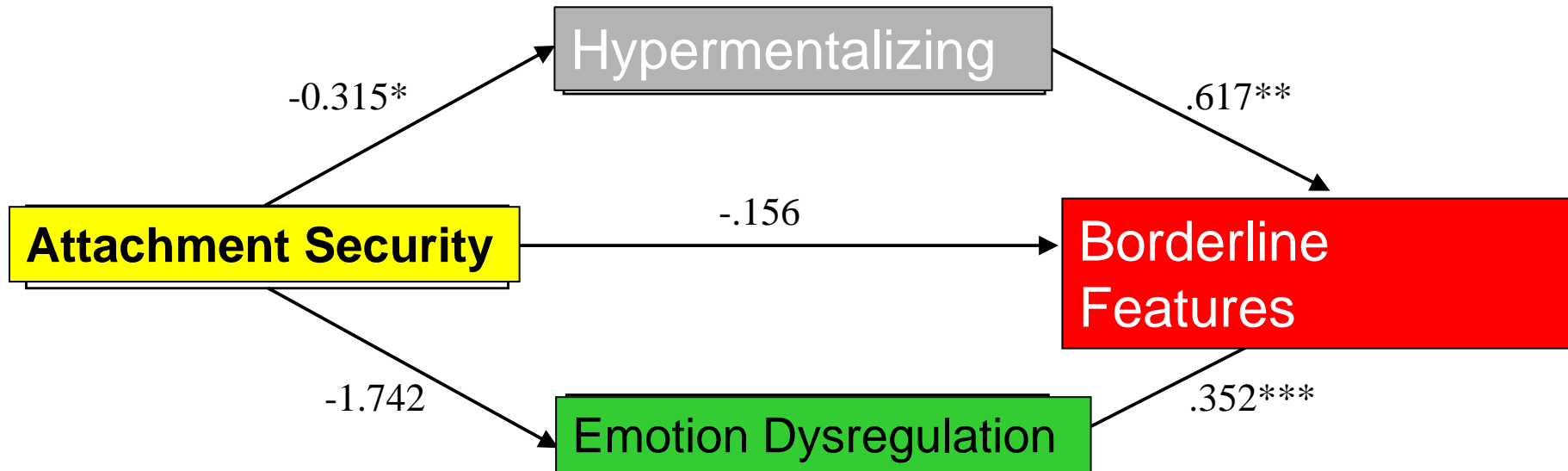


Attachment Stress Induction resulted in **reduced mentalization-related activation** in the left posterior superior temporal sulcus(STS),left inferior frontal gyrus and left temporoparietal junction(TPJ).

The Menninger Study of Adolescent Personality Disorder

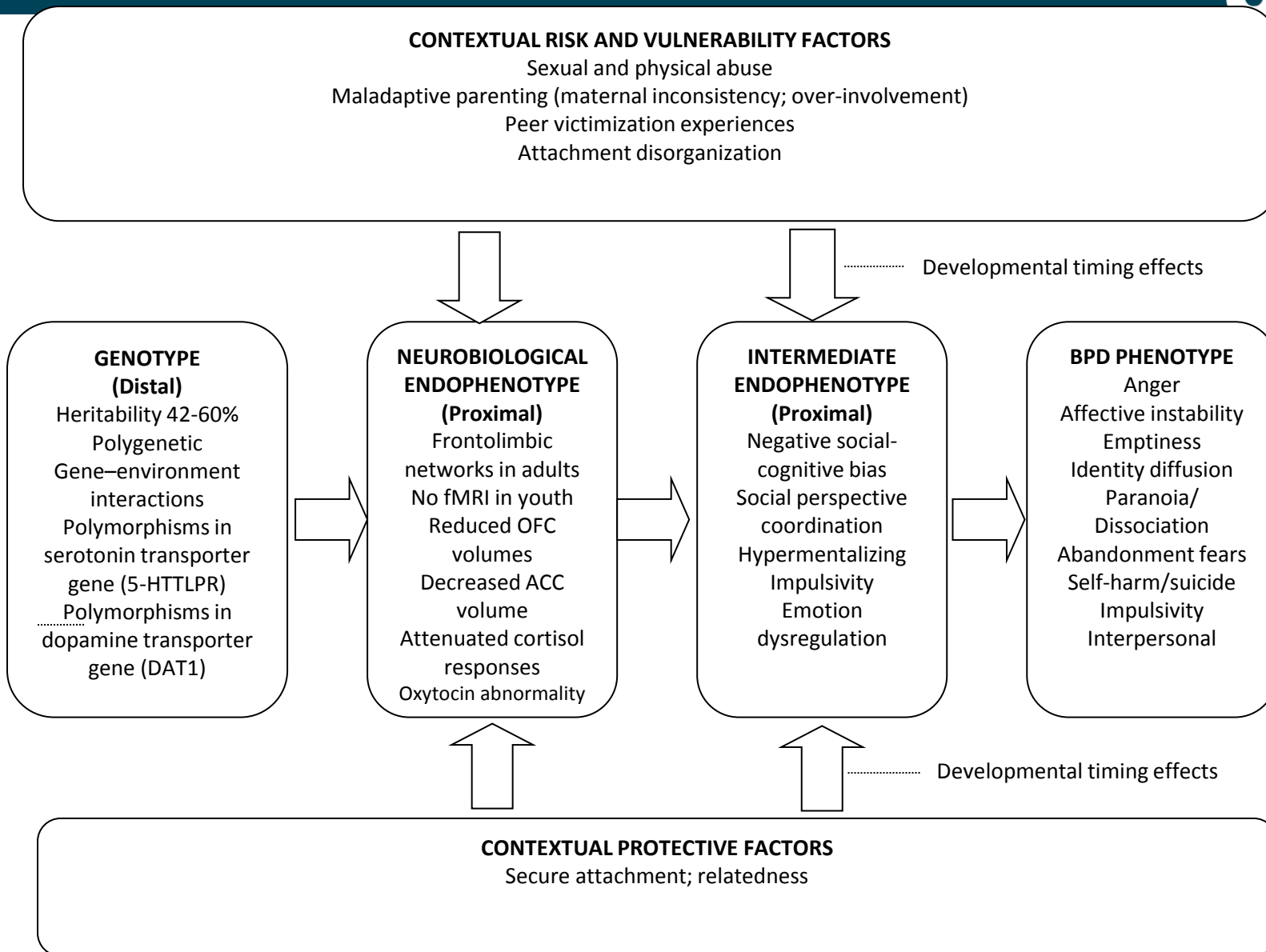
- N = 259 (mean age 15.42, SD = 1.43)
- 63.1% females
- 31% (n = 80) met criteria for BPD
- **Measures**
 - **Child Attachment Interview** (Target et al., 2007) – Coherence scale
 - **Movie Assessment of Social Cognition** (Dziobek et al., 2006)
 - **Difficulties in Emotion Regulation Scale** (Gratz & Roemer, 2004)
 - **Borderline Personality Disorder Features Scale** (Crick et al., 2005)

Multi-mediational model



Conclusions

- **Attachment stress** specifically derails mentalizing judgments (Nolte et al., 2013)
- **Attachment schemas** predict **mentalizing** in adolescence (see e.g. Dykas & Cassidy, 2011; Sharp, Fonagy, & Allen, 2012).
- Potentiating affect **attachment insecurity** in **derailing** the development of **optimal mentalizing** capacity is proposed.
- **MZ and ER compete** in a mediational model.



Etiological factors in the development of adolescent BPD.

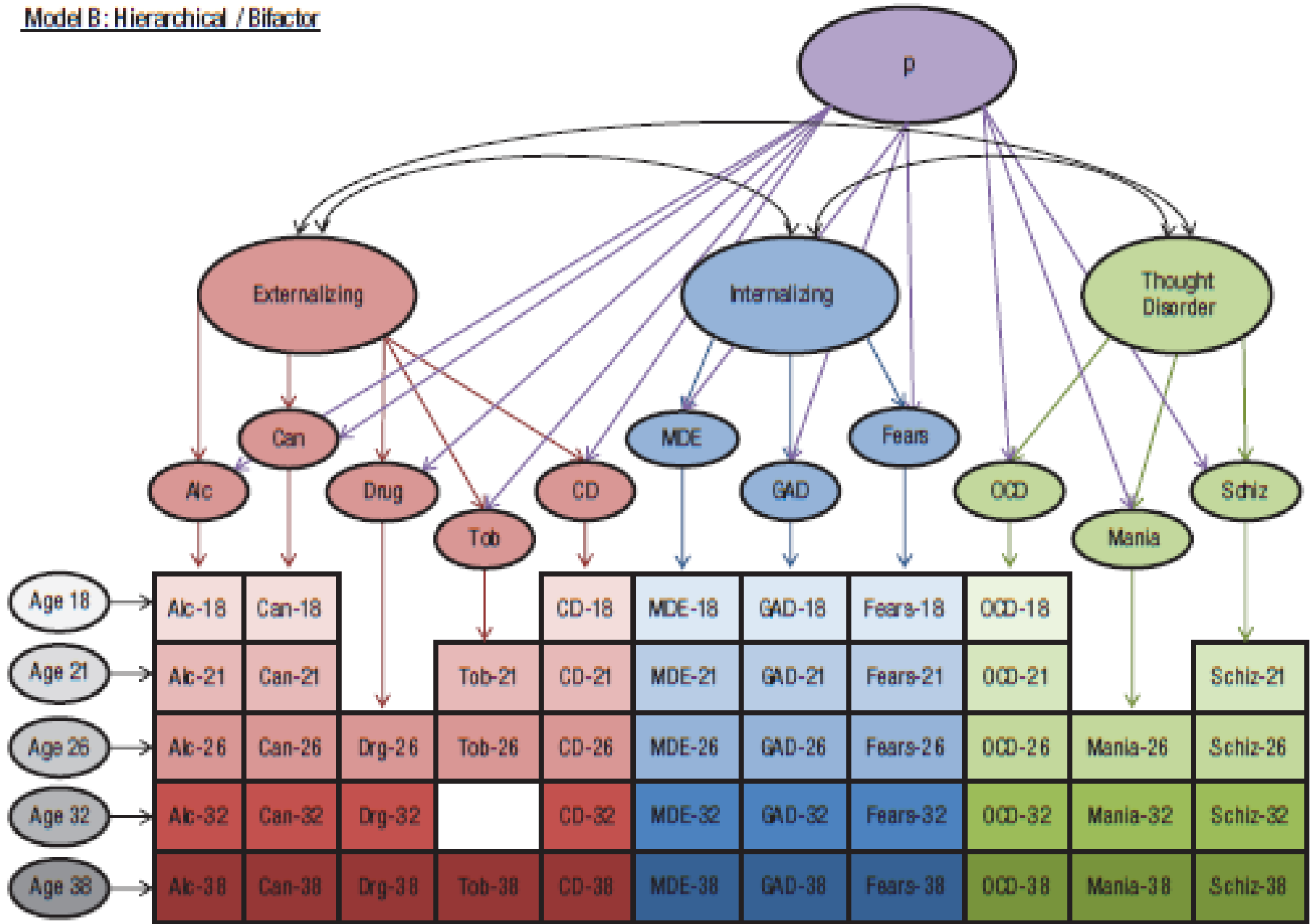
Resilience and BPD: A developmental view

Life-course structure to psychopathology

Need for longitudinal research designs

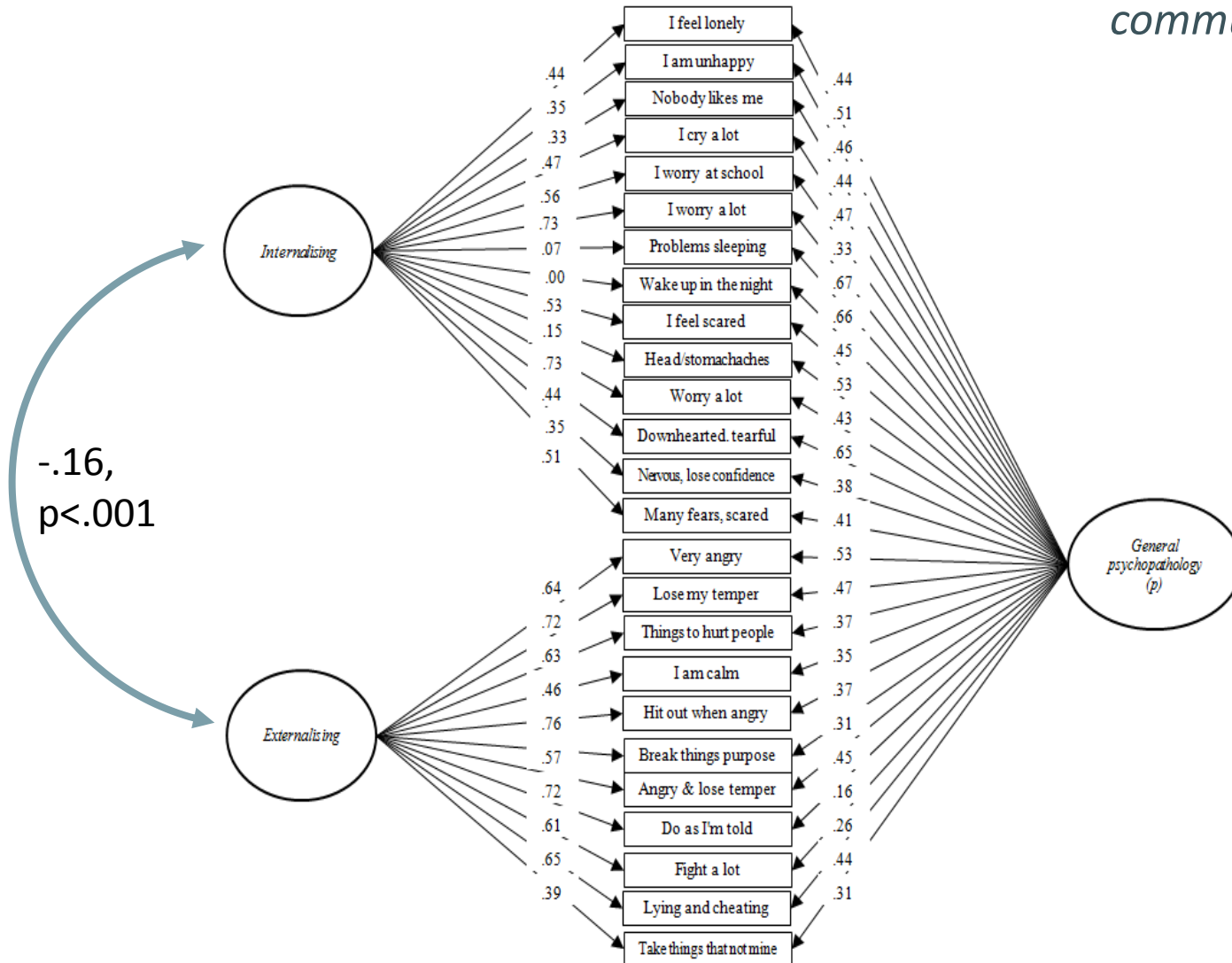
- **Extant research** on structure of psychopathology focuses on individuals who report **symptoms within** a specified **period**
 - Biggest puzzle is why people change clinical presentations over time (adolescent conduct problem adult depression)
- **Mixing single-episode**, one-off cases **with recurrent** and chronic cases which differ in:
 - **extent** of their **comorbid** conditions
 - the **severity** of their conditions
 - **etiology** of their conditions.
- Some individuals more **prone to persistent psychopathology**.

Model B: Hierarchical / Bifactor



Bi-factor model with the item-loadings

community-based sample
aged 11-14 years
(N= 23, 477)



Logistic regression predicting future caseness

Predictor N=10,270	B	Wald Chi-square	Odds-ratio
2-factor model			
Internalising	.49***	76.4	1.80
Externalising	1.41***	689.64	4.11
Bi-factor model			
Internalising	.22	4.43	1.25
Externalising	1.43***	413.74	4.16
P-Factor	2.33***	479.01	10.30

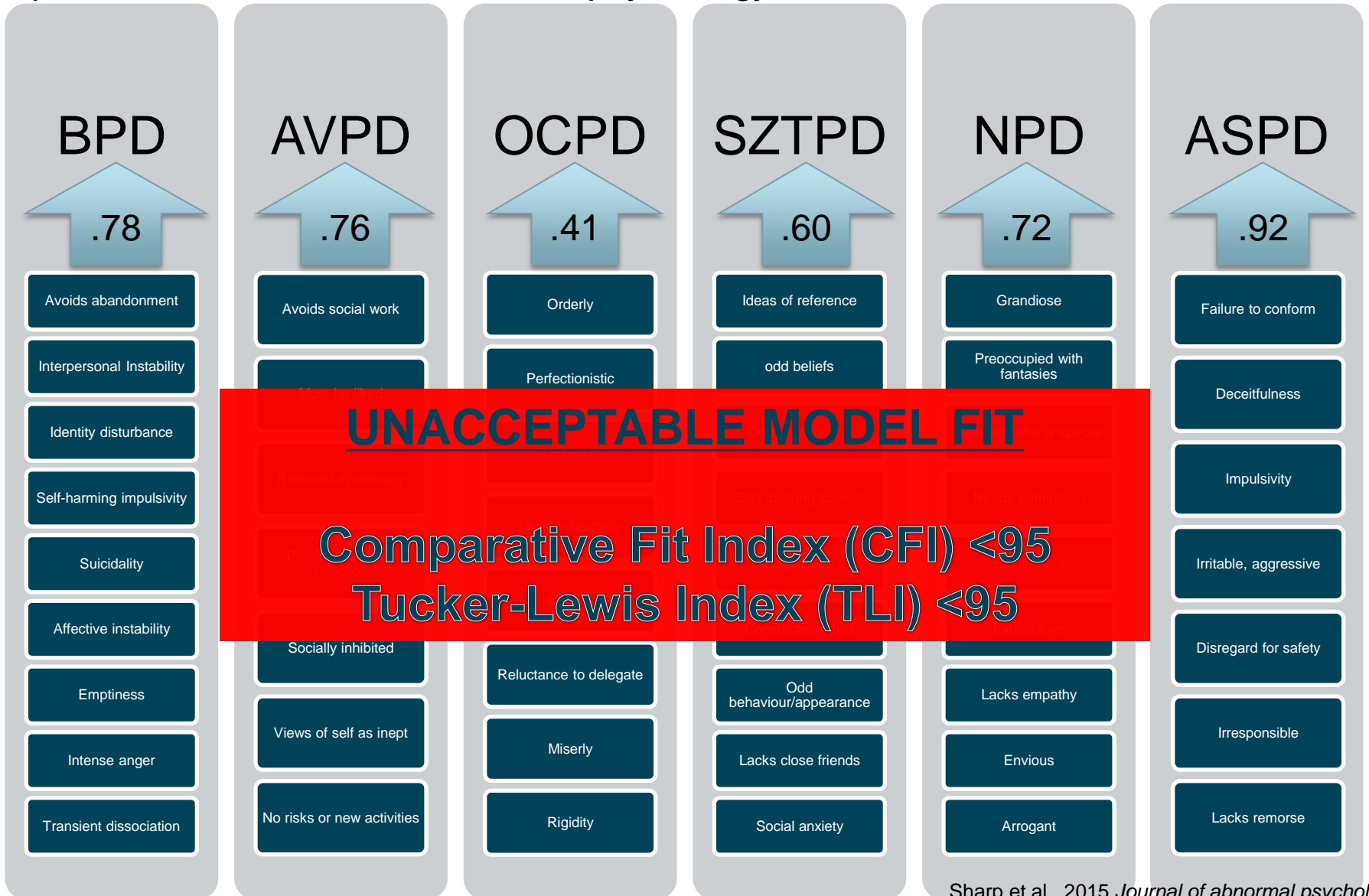
BPD as the 'g/P-factor' of personality pathology (Sharp et al 2015)

- Evaluated a **bifactor model** of PD pathology in which a **general (g) factor** and several **specific (s) factors** of personality pathology account for the covariance among PD criteria
- **966 inpatients** were interviewed for 6 DSM-IV PDs using **SCID-II**
- Confirmatory analysis **replicated DSM-IV PDs**, with high factor correlations

P factor in PDs: the DSM factor structure

Sharp et al., 2015 *Journal of abnormal psychology*

N=966 inpatients



P factor in PDs: the DSM factor structure

N=966 inpatients

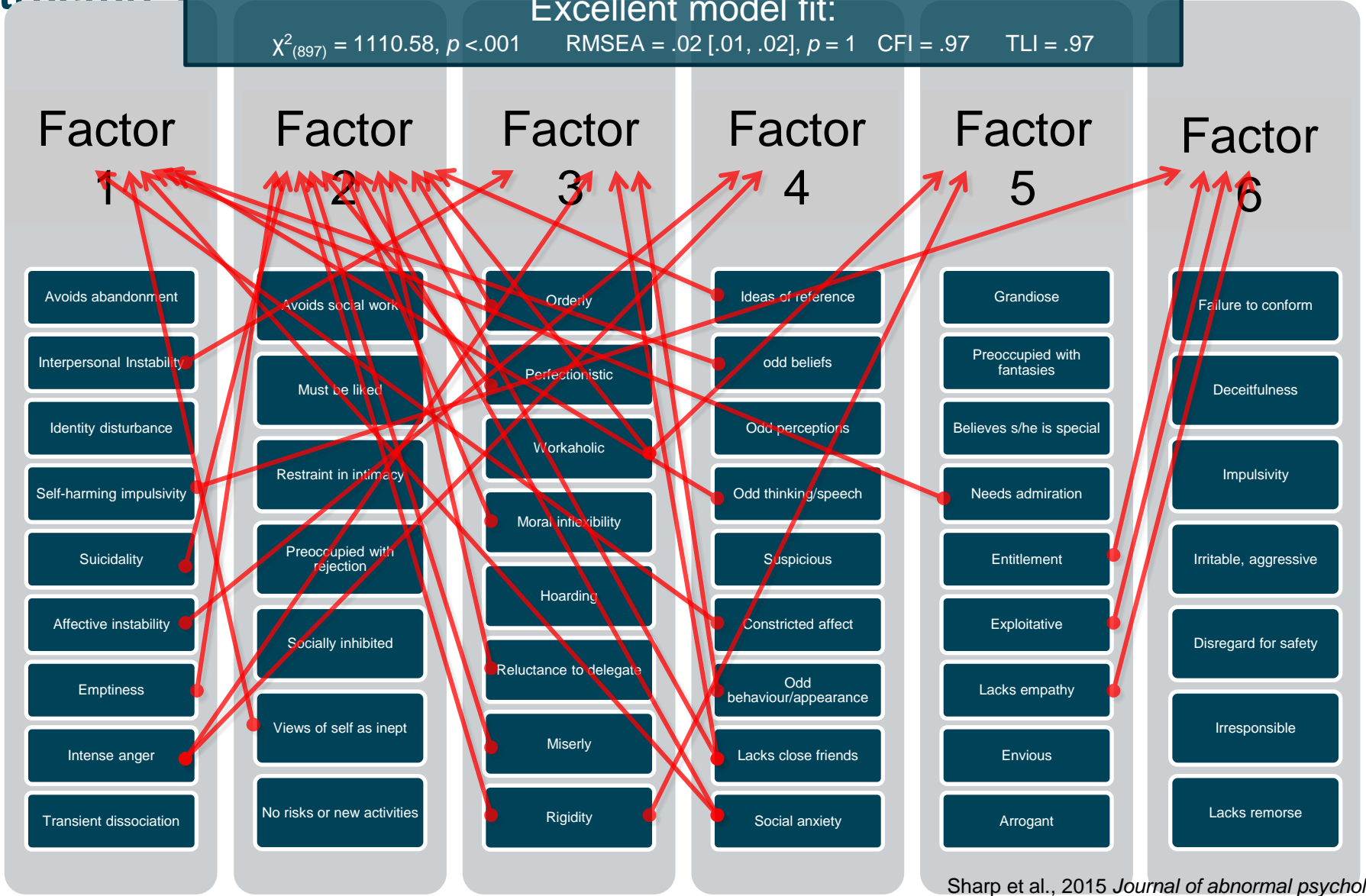
	BPD	AVPD	OCPD	SZTPD	NPD	ASPD
BPD	-					
AVPD	.60	-				
OCPD	.48	.46	-			
SZTPD	.61	.43	.22	-		
NPD	.47	.18	.55	.01	-	
ASPD	.55	.31	.04	.16	.56	-

In spite of internal coherence at a criterion level, DSM personality disorders, within individuals, are not neatly separable. **They are not discrete phenomena**

P factor in PDs: does EFA replicate the DSM factor structure?

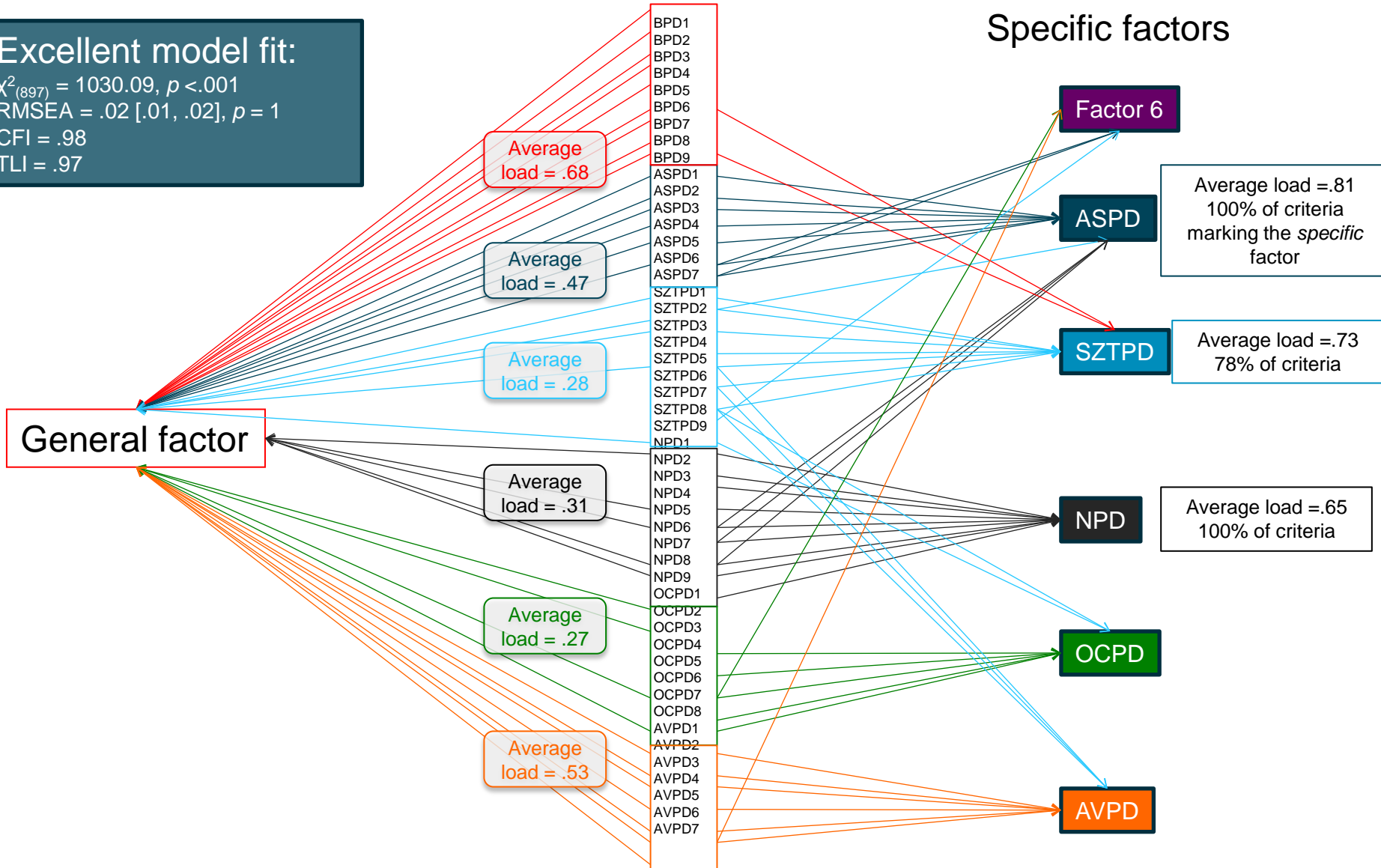
N=966 inpatients

Excellent model fit:
 $\chi^2_{(897)} = 1110.58, p < .001$ RMSEA = .02 [.01, .02], $p = 1$ CFI = .97 TLI = .97



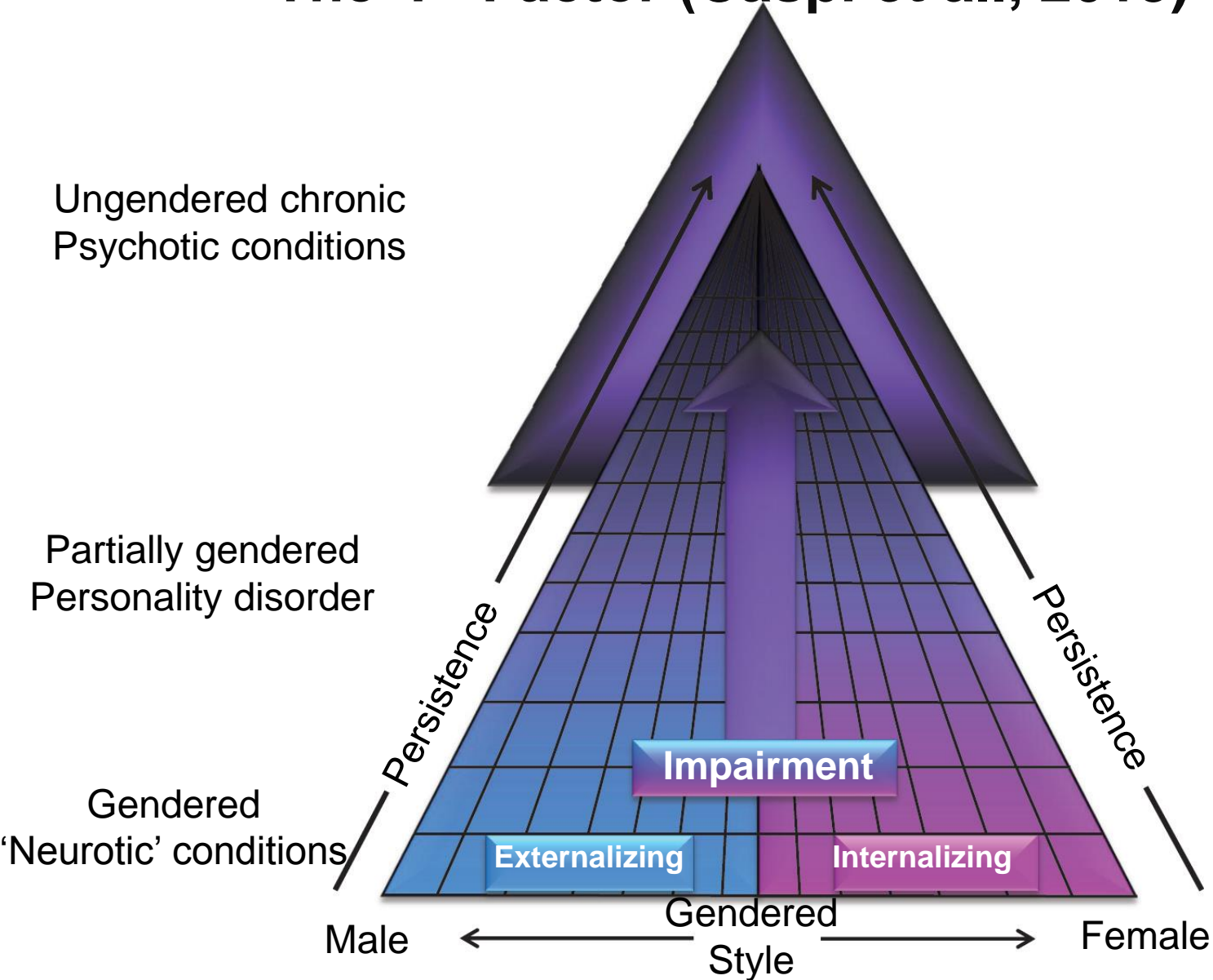
P factor in PDs: Exploratory bifactor model

Excellent model fit:
 $\chi^2_{(897)} = 1030.09, p < .001$
 RMSEA = .02 [.01, .02], $p = 1$
 CFI = .98
 TLI = .97



Only factor loadings >|.30| are shown

The 'P' Factor (Caspi et al., 2013)



Understanding the 'P' or 'g' factor as an absence of expected resilience



From disease- to health-oriented research: A paradigm shift



Formerly: Investigating the mechanisms that lead to stress-related illness

PSYCHO- PATHOLOGY



Now: Investigating the mechanisms
that protect against illness

RESILIENCE



Basic assumption of resilience research:
Resilience is not simply due to an
absence of disease processes but reflects
the work of active adaptation mechanisms
with a biological basis
(Kalisch et al)



Active refers to any resource demanding process and may apply to cognitive as well as behavioral processes

(Kalisch et al., in press)



Resilience has been conceptualised variously as a...

~~Tool~~

~~Characteristic~~

~~Potential~~

~~Attitude~~

~~Act~~

~~Asset~~

~~Value~~

~~Process~~

~~Trait~~

~~Skill~~

~~Resource~~

~~Strength~~

~~Dynamic
interaction~~

~~Protective
factor~~

~~Recovery~~

~~Knowledge~~

~~Capacity~~

~~Disposition~~

~~Response~~

~~Performance~~

~~Transactional
relationship~~

~~Positive
influence~~

~~Competency~~

~~Functioning~~

~~Ability~~

~~Tendency~~

~~Adaptation~~

*The ability of a system to **resist dynamically** a perturbation or adverse condition that challenges the **integrity of its normal operation** and to **preserve** function as a result in reference to some initial design or normative functional standards.*



Bringing order to the conceptual chaos

Factors

**Mediating
mechanisms**

Outcome

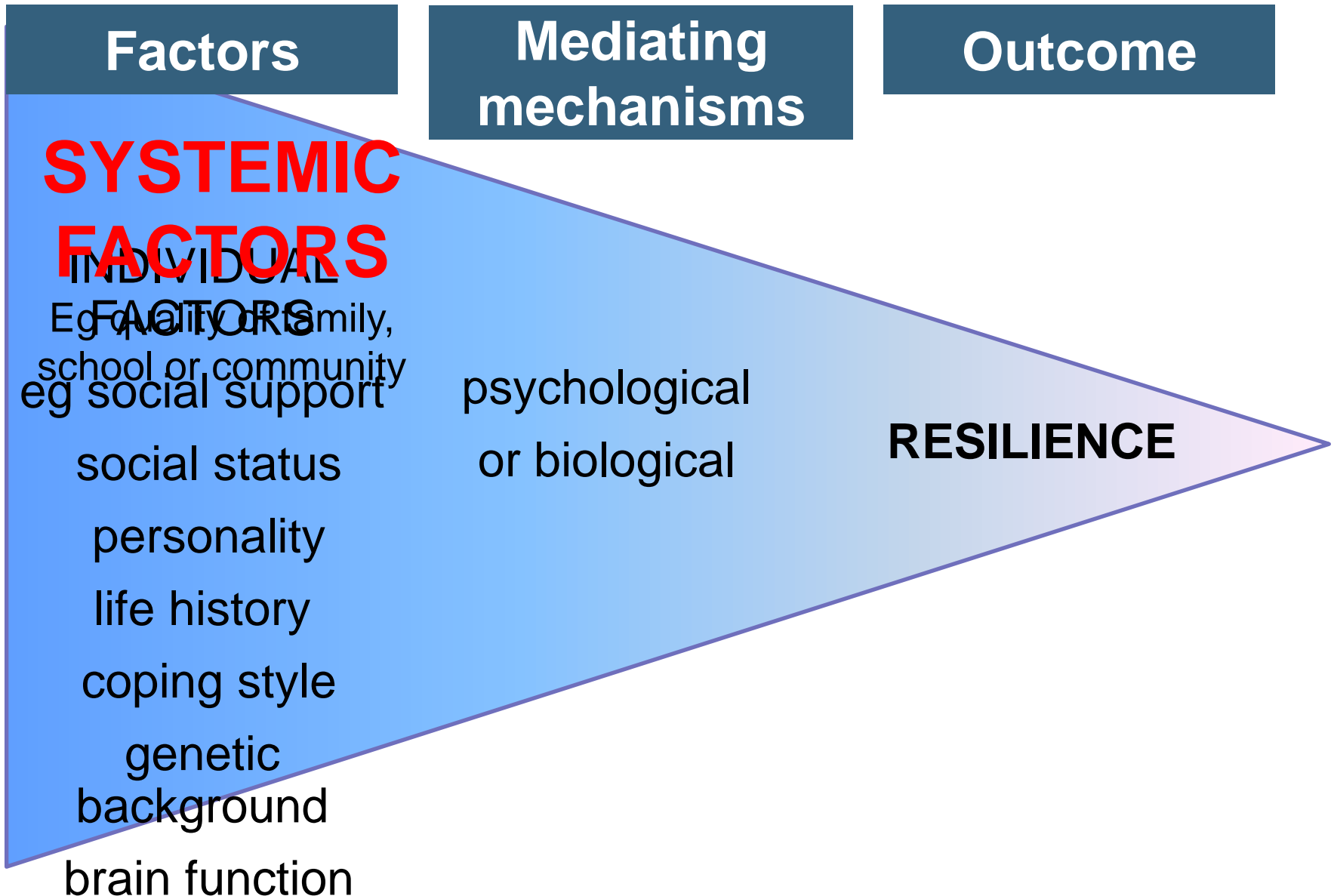
eg social support
social status
personality
life history
coping style
genetic
background
brain function

psychological
or biological

RESILIENCE

*May overlap
conceptually and/or
interact statistically*

The role of systemic factors



What is it that patients with BPD lack?

- Individuals with intense persistent distress (high 'P' scorers) are by definition **not resilient**:
- They are oversensitive to possibly difficult social interactions (they **cannot interpret the reasons for other's actions** reliably)
- **Cannot set aside** (put out of their mind) potentially upsetting memories of experiences leaving them vulnerable to emotional storms

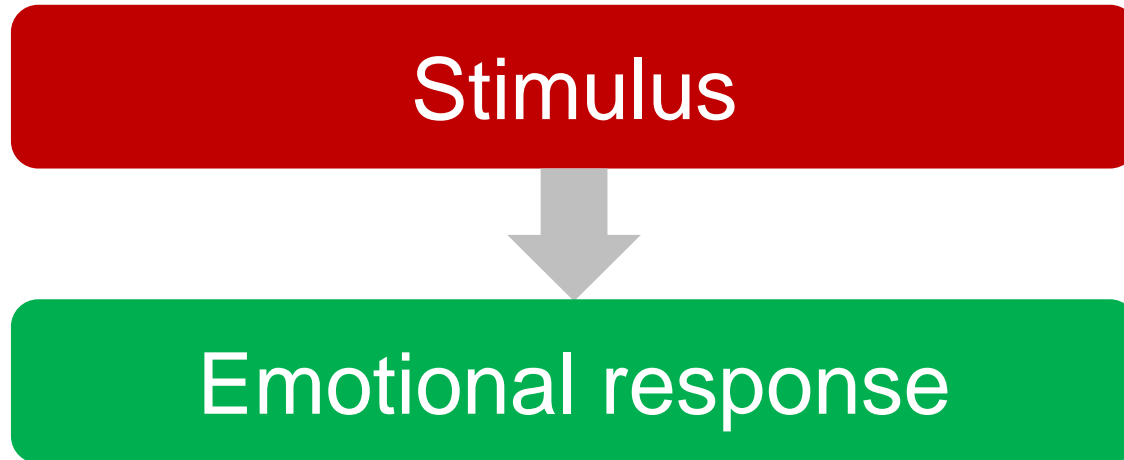
How appraisal shapes our experience

**Not
Enough**



Except our experience is social: not with physical objects but with people

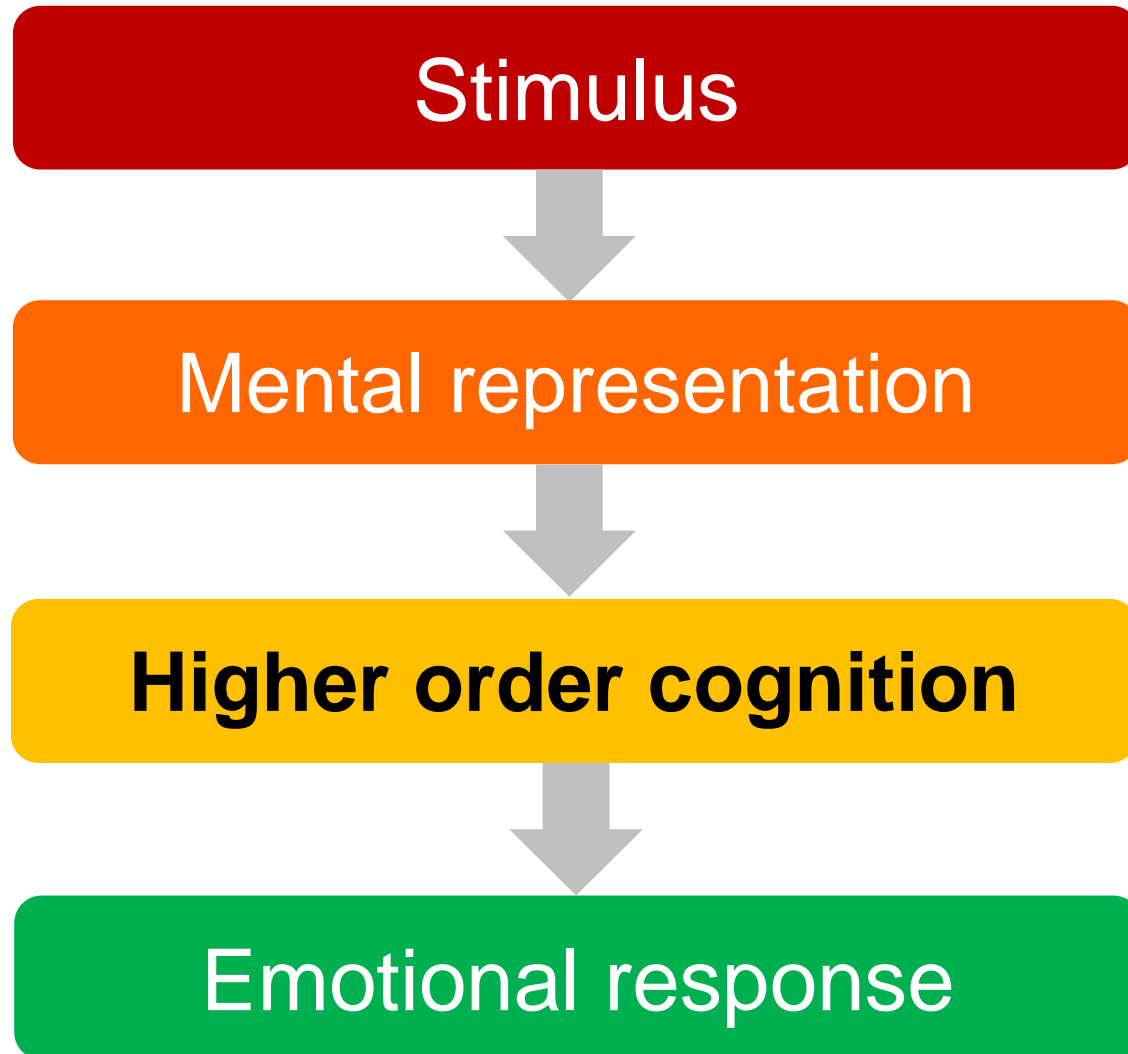
Appraisal theory



The type, quality and extent of emotional reactions (including stress reactions) are **not** determined by simple fixed stimulus-response relationships...

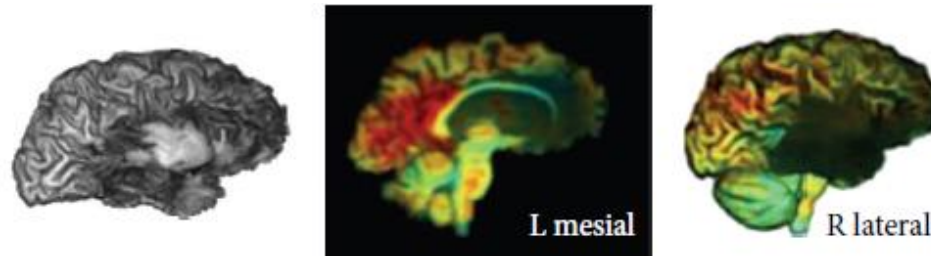
The process underlying **resilience** is driven by **top-down cognition**

Appraisal (higher order cognition) theory



...but by **context-dependent evaluation of motivational relevance**

- Brains can **preserve** core aspects of the functional architecture of **information processing** that sustains higher order cognition **in spite** of substantial **structural damage** (Rudrauf, 2014, Advances in Neuroscience)
 - Full **AD** diagnosed postmortem in **25%-67%** of elderly with **no** prior cognitive **impairment** (Dubois et al., 2012).



- “**Higher-order cognition**” unites in a functionally integrated **subjective frame**
 - **executive** functions
 - **attention,**
 - **self-awareness**

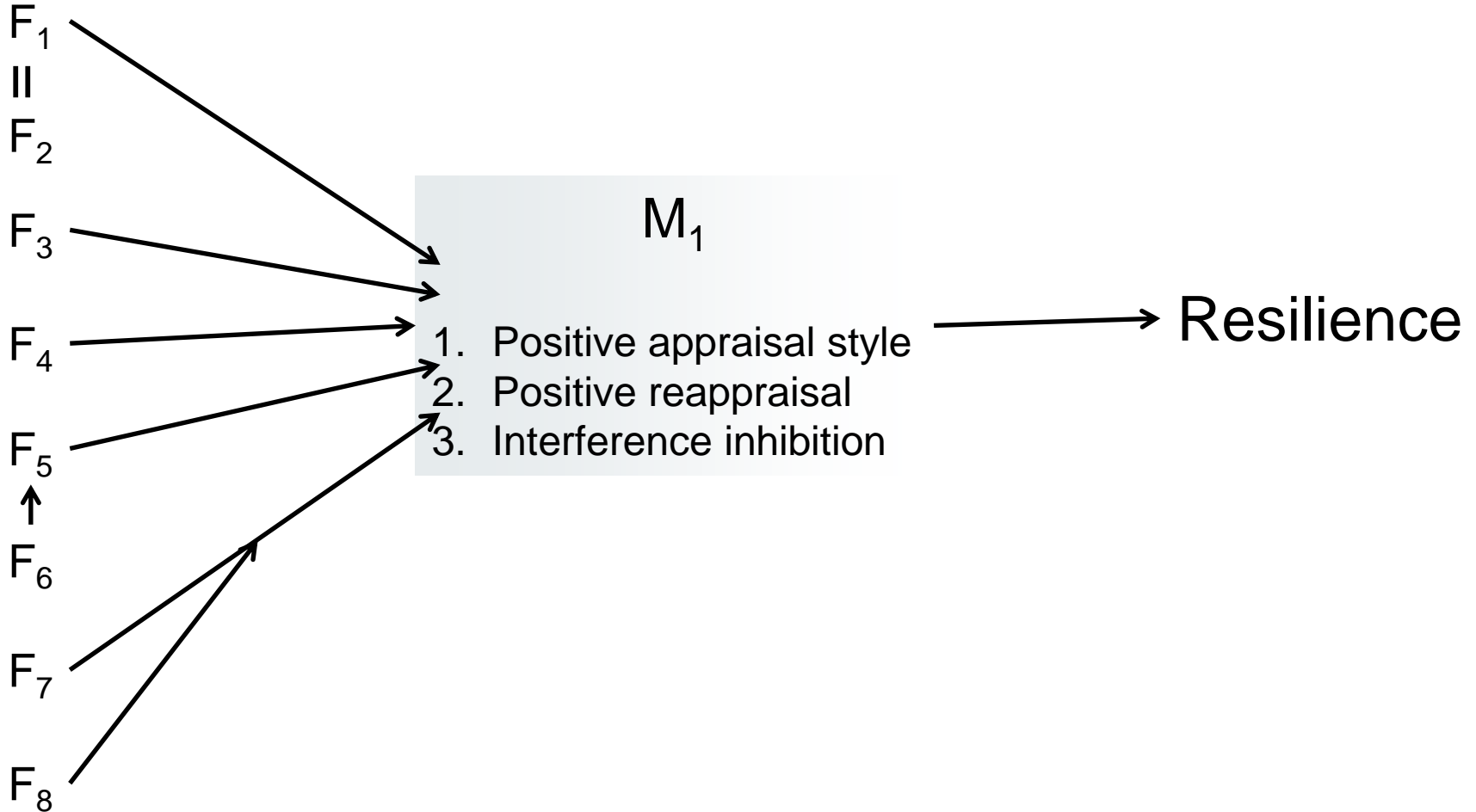
Positive appraisal style theory of resilience

(PASTOR)

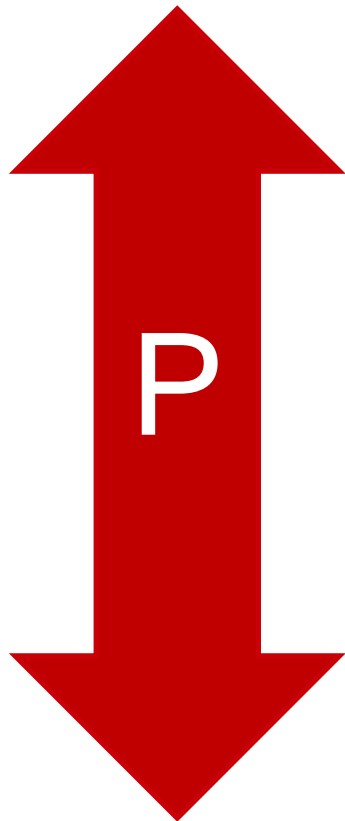
Factors

Mechanism

Outcome



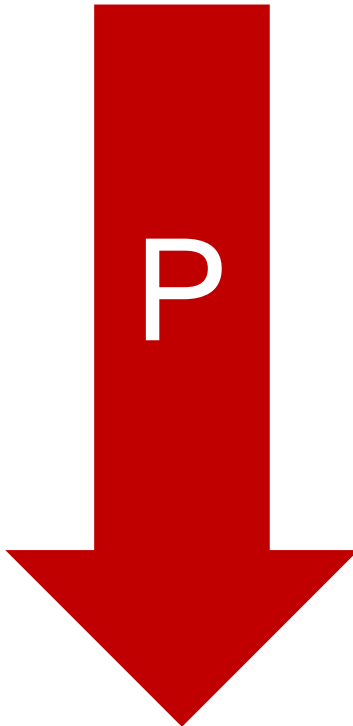
'P' Factor



Resilience



'P' Factor

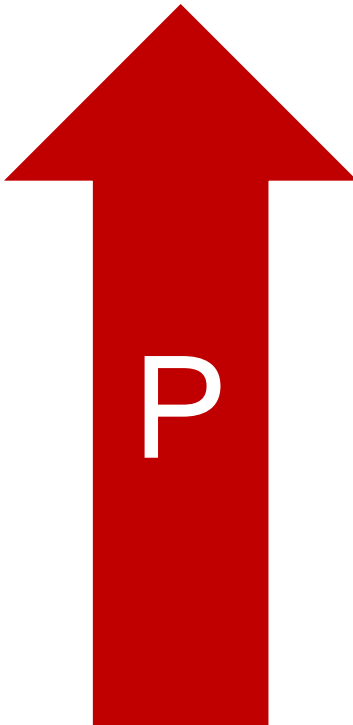


Normal/
neurotic

Resilience



'P' Factor

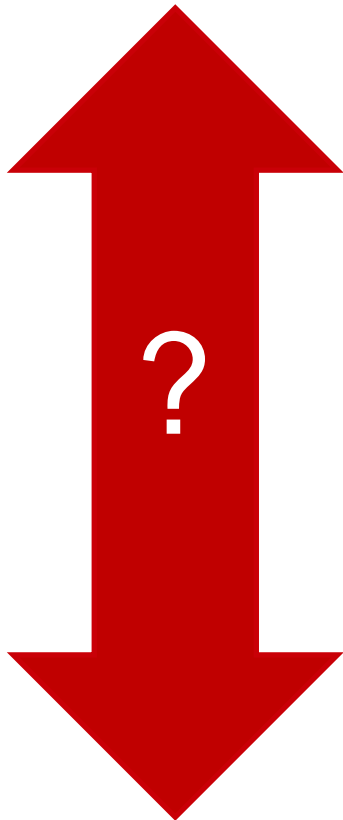


BPD

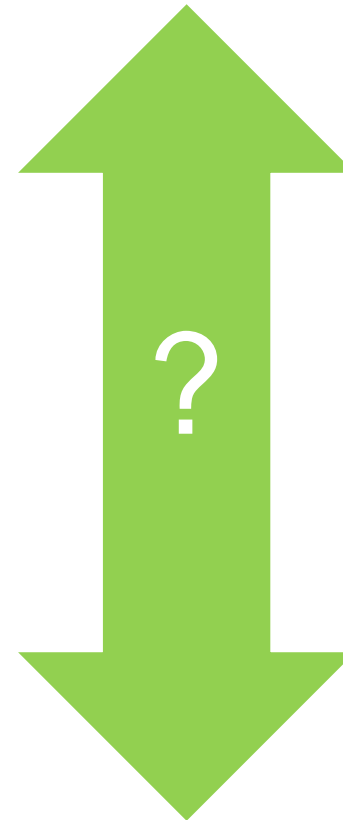
Resilience



'P' Factor

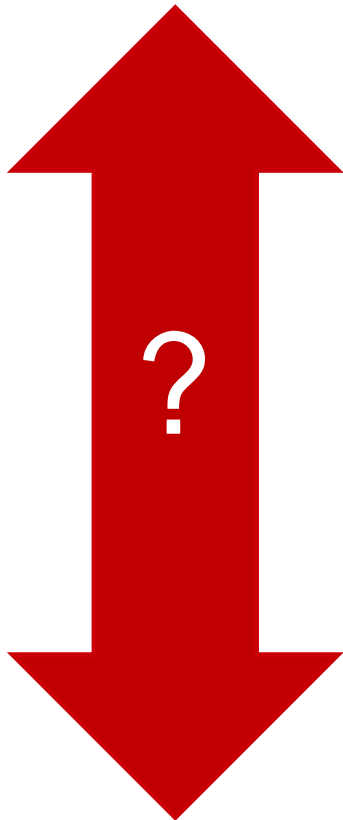


Resilience

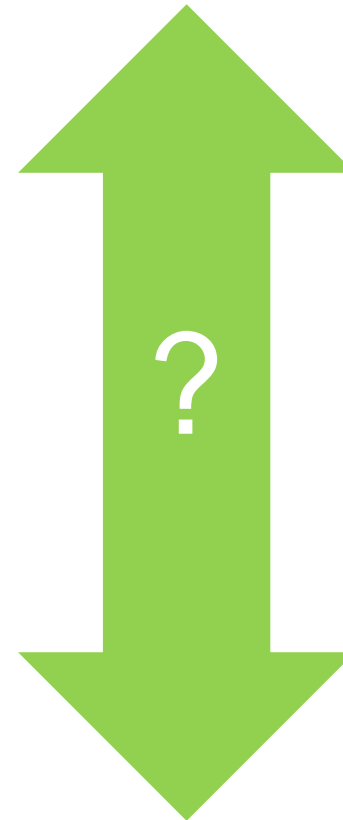


Can we draw these
constructs into a
unifying
conceptualisation?

'P' Factor



Resilience



Can we now these
cons into a
ng
conce sation?
P
R

The current bio-psycho-social MZ model of BPD as an absence of resistance to social stress

- The **‘P’ factor** of **general vulnerability** to psychopathology is actually an indication of the **absence of resilience** (**psychological** equivalent of **immune system** response, Higgitt & Fonagy, 1992)
 - The **nature of the stressor** (abuse, bullying, neglect, maltreatment or everyday social stress) is **not relevant**
 - **Most toxic** stressors **attack** the **mechanisms** of **resilience**
- While patients with ‘neurotic’ problems (regardless of severity) have high resilience (unlikely to be effected by subsequent stressors) those with **BPD** have **low resilience** and are likely to **succumb to psychosocial stress**

The current bio-psycho-social MZ model of BPD as an absence of resistance to social stress

- **‘P’ and ‘R’** are inversely related because they are **identical** at the level of **mechanisms**
 - **Low ‘R’** reflects an **adaptation** consequent on serial **communication** problems in development combined with genetic vulnerability characterized by **epistemic hypervigilance** which prevents or **undermines a reappraisal process** and results in **apparent rigidity** (imperviousness to social influence)
 - The **failure** to engage in **meaningful reappraisal** creates a general **vulnerability to psychosocial stress** (low ‘R’) which yields to the **high** prediction of future **psychopathology** from ‘P’
 - Increasing **mentalizing** increases **epistemic trust** which in turn generates **resilience through** improved capacity for **appraising** and **re-appraising** stressful **events**

**Being mentalized in the context
of an attachment relationship**



**Ability to form and
learn from social
connections**



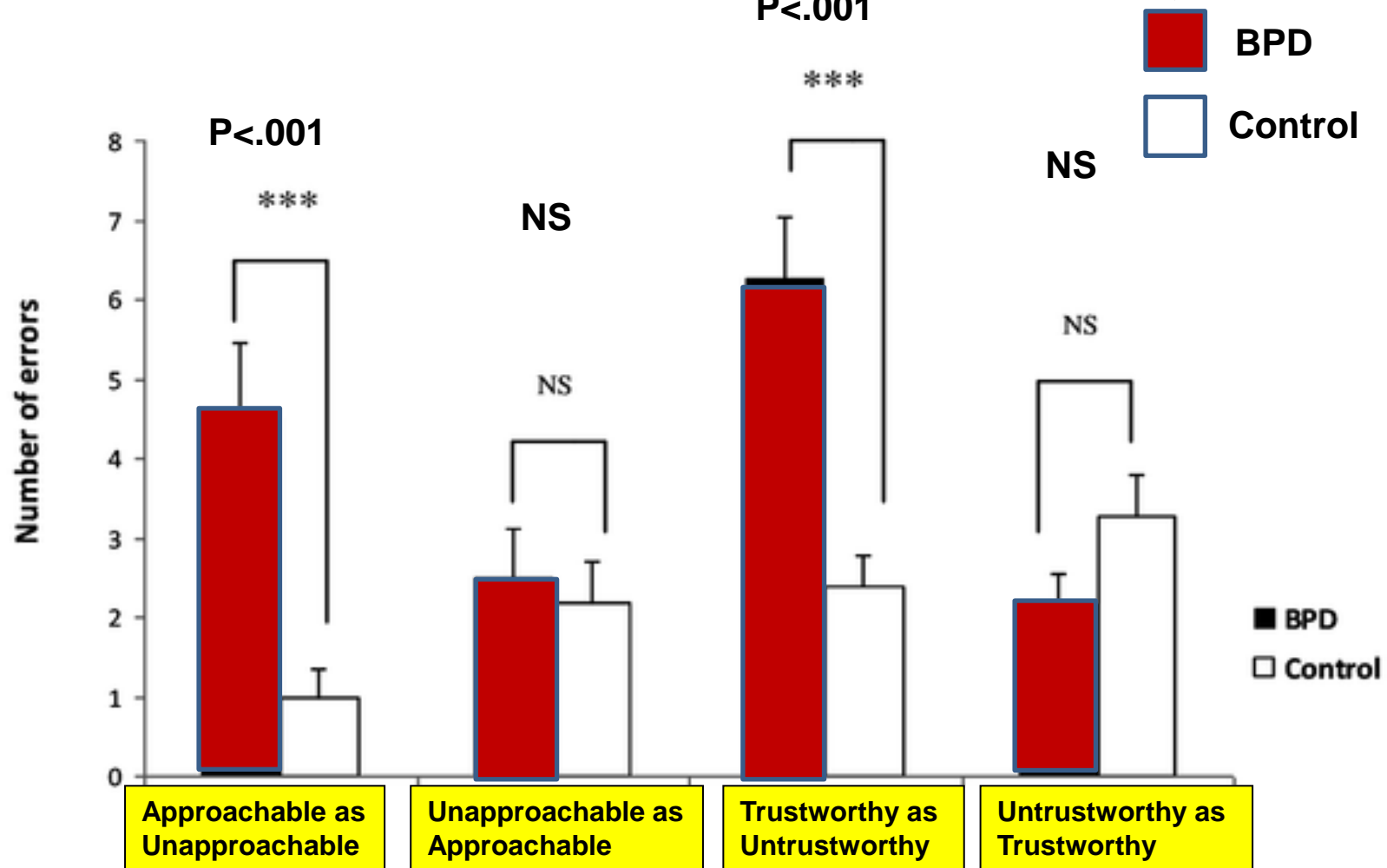
Ability to reappraise via mentalizing where necessary to repair, preserve, develop and increase these connections throughout life

The nature of psychopathology in PD

- Social adversity (most deeply **trauma following neglect**) is the **destruction of trust in social knowledge** of all kinds → **rigidity**, being **hard to reach**
 - Cannot change because **cannot accept** new information **as relevant** (to generalize) to other social contexts
 - **Personality disorder** is not disorder of personality but **inaccessibility to cultural communication** relevant to self from social context
 - Partner
 - Therapist
 - Teacher
- Epistemic Mistrust**

Judgment bias for approachability and trustworthiness of faces.

Nicol et al., 2013 Plos One



Direction of bias

Epistemic mistrust not believing what one is told

- It is the consequence of **high levels of epistemic vigilance** (the **over-interpretation** of motives and a possible consequence of **hyper-mentalization**, Sharp et al., 2011)
- The recipient of a communication assumes that the communicator's **intentions are other than those declared** and therefore not treating the communication deferentially
- Mostly it consists of **misattribution of intention** and seeing the reason's for someone's actions as malevolent and to be treated with **epistemic hyper vigilance**
- Most important consequence is that the **regular process of modifying stable beliefs** about the world (oneself in relation to others) remains closed

Implications: The nature of psychopathology

- **Epistemic mistrust which can follow perceived experiences of maltreatment or abuse leads to epistemic hunger combined with mistrust**
 - Therapists ignore this knowledge at their peril
- Personality disorder is a **failure of communication**
 - It is not a failure of the individual but a **failure of learning relationships** (patient is 'hard to reach')
 - It is associated with an **unbearable sense of isolation** in the patient generated by epistemic mistrust
 - Our inability to communicate with patient causes **frustration in us** and a tendency to **blame the victim**
 - We feel they are not listening but actually it is that they find it **hard to trust** the truth of what they hear

**Epistemic
hypervigilance**



High 'P' factor/
absence of
expected
resilience

**Epistemic
trust**

Resilience/
low 'P' factor

Building a social network in adolescence



When the capacity to form bonds of trust is shaky and tends to break down...



...we lose our safety net



Reconceptualising BPD: understanding not
in terms of disease mechanisms...



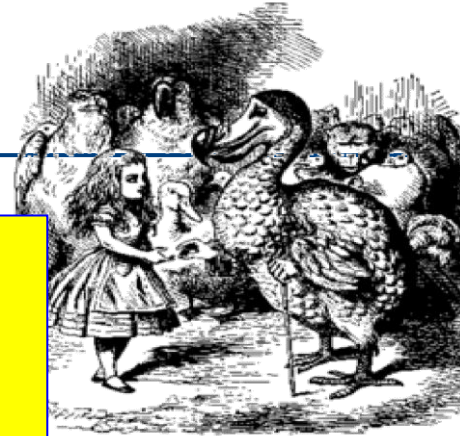
...but as an absence of expected resilience
or lack of epistemic trust...



...which was once adaptive



The DoDo Bird flying in psychotherapy



- Can't show differences too easily
- If therapies worked the way indicated some should work better than others

Can we do any better than agreeing with the Do Do Bird?



“Everybody has won, and all must have prizes.”

What happens when you ask a room of psychotherapists whose approach is the most effective?



What can be done to end this unseemly behaviour?

The DoDo bird sounds like a pigeon



If we can't do better than say everything works than my career as a treatment developer is over and I might as well turn into a DoDo bird!

Oh dear! Better come up with an answer quick!



The paradigmatic common factor is...



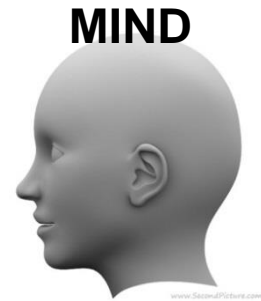
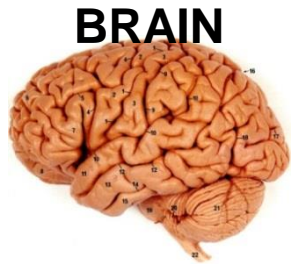
“Can we pull a rabbit out of a hat here?”



Mentalize!

Cognitive Behaviourism: The value of understanding the relationship between my thoughts and feelings and my behaviour.

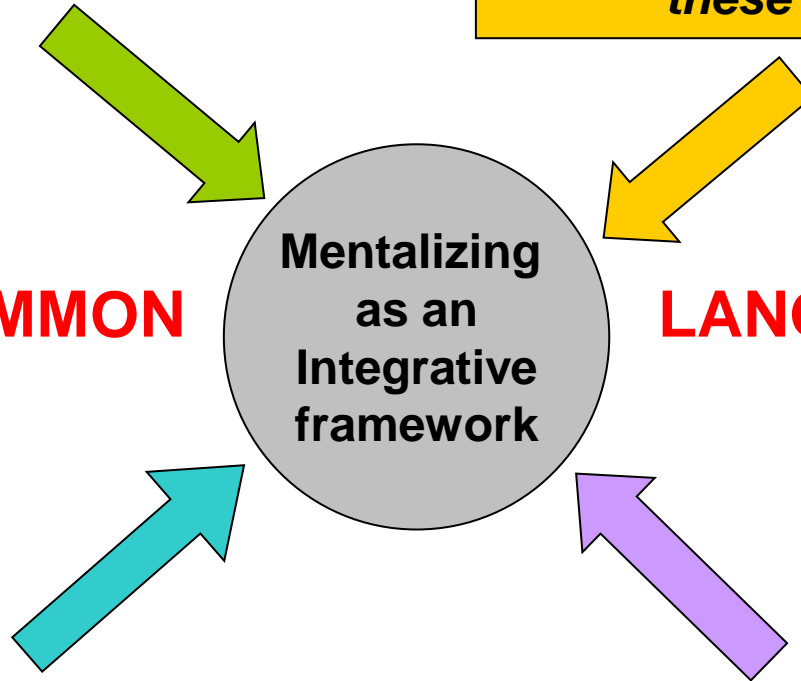
Systems Theory: The value of understanding the relationship between the thoughts and feelings of family members and their behaviours, *and the impact of these on each other.*



COMMON

LANGUAGE

Mentalizing
as an
Integrative
framework



Psychodynamic: The value of understanding the *nature of resistance to therapy*, and the *dynamics here-and-now* in the therapeutic relationship.

BIOLOGICAL, SOCIAL and ECOLOGICAL: The value of understanding *the impact of context* upon mental states: development deprivation, opportunity, hunger, fear...

How do you think your audience might be feeling right now?

Bored



Sleepy

**Is it time for
coffee yet?**

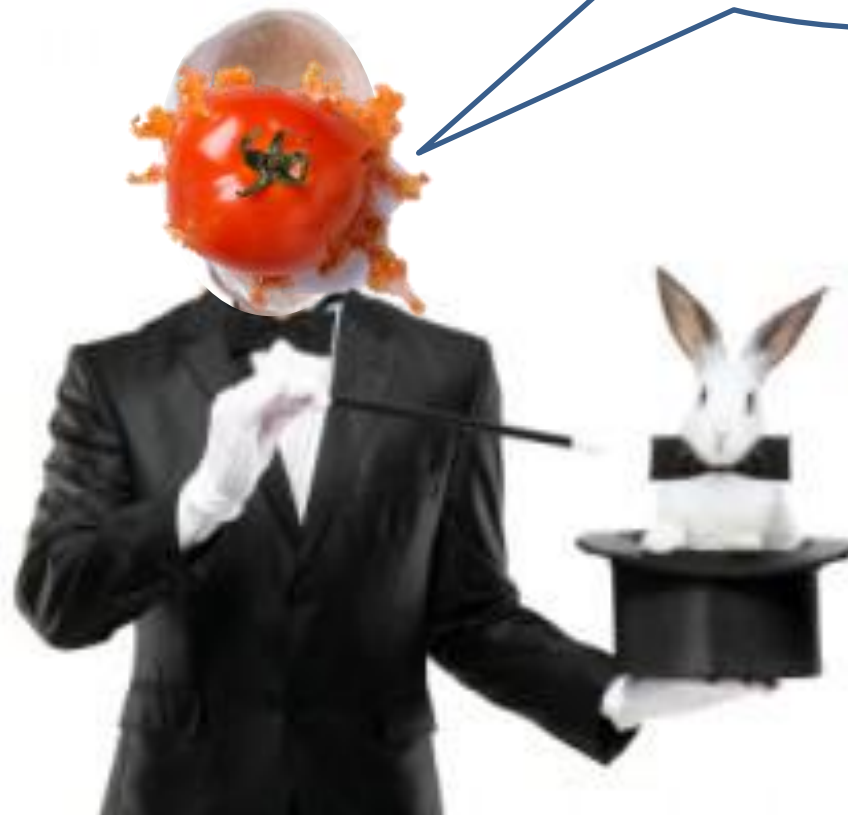
**Fonagy should
write a new talk**

Therapists listening to an account of mentalizing as the effective component of all therapies



Time for a change?

**What?? You
didn't like the
mentalizing
rabbit???**



Do EBPs outperform TAU?

Common factors in successful treatment of BPD

1. extensive effort to **maintain engagement** in treatment (**validation** in conjunction with emphasis on the need to **address behaviors** that **interfere** with therapy)
2. a **valid** (evidence-based) **model of pathology** that is explained and feels relevant to the patient
3. an **active** therapist **stance**—that is, an explicit intent to validate and demonstrate **empathy** and generate a strong **attachment relationship**
4. the **reinforcement of epistemic trust** (Sperber et al., 2010)—that is, facilitating a belief in the possibility that something can be **learned in therapy**

Do EBPs outperform TAU?

Common factors in successful treatment of BPD

5. focus on **emotion processing** and the connection between **action and feeling** (e.g., suicidal ideation is associated with abandonment feelings)
6. inquiry into patients' **mental states** (behavioral analysis, clarification, confrontation)
7. **a structure** that provides increased **activity, proactivity,** and **self-agency** (that is, the therapist avoids the expert stance and rather “**sits side by side**” with the adolescent in a partnership)
8. the structure is **manualized** and **adherence** to the manual is **monitored**

Do EBPs outperform TAU?

Common factors in successful treatment of BPD

9. method of therapy **can be taught** as part of a relatively brief training programme
10. both therapist and adolescent must **feel a commitment** to the approach
11. **supervision** is essential to identify deviation from the manualized structure and provide support for adherence

Do EBPs outperform TAU?

EFFECTIVE TREATMENTS FOR BPD ARE RICH IN THE FOUR 'C'S

- 1. Coherence:** offering a coherent (understandable) approach to illness and cure that provides the patient with hope
- 2. Consistency:** identifying a well-balanced set of interventions based on the theory of disorder & its cure
- 3. Continuity:** adherence to model throughout the treatment, without which re-establishment of epistemic trust is inconceivable
- 4. Communication:** no communication is possible without the communicator having in mind the perspective of the

Do EBPs outperform TAU?

INGREDIENTS IN COMMON

1. A **clear and credible treatment frame**: serves as an **ostensive cue** priming the patient to **pay attention**
2. Giving the patient the experience of having their mind held in mind and **being treated as an agent (being mentalized)** → **increased epistemic trust**
3. **Increased epistemic trust** → patient is resilient enough to **learn from experiences in the social environment beyond therapy**, if the environment is sufficiently benign



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