MBT – Practitioner Certificate Workshop

Advanced Course
MBT - Basic Model

A reminder!
Mentalizing as an Integrative framework

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

SYSTEMIC: 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

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

SOCIAL ECOLOGICAL: The value of understanding the impact of context upon mental states; deprivation, hunger, fear, etc...
Mentalizing: A new word for an ancient concept

Implicitly and explicitly interpreting the actions of oneself and other as meaningful on the basis of intentional mental states

(e.g., desires, needs, feelings, beliefs, & reasons)
Multiple dimensions of mentalizing in psychodynamic psychotherapy

- Differentiating **self and other** in psychotherapy
  - Adopting the perspective of the other to the self
  - Reducing the impact of the other on the self

- Moving from **implicit - automatic** mentalization to **explicit – controlled** mentalization
  - Challenging automatic assumptions

- Elaborating internal representations of mental states of self and others - **external and internal** mentalizing
  - Challenging superficial judgements based on ‘appearances’

- Connect feelings with thoughts (**affect and cognition**)
  - Overcoming splitting of affect and cognition (the feeling of feelings)
Treatment vectors in re-establishing mentaliz in borderline personality disorder

Implicit-Automatic  | Impression-driven  | Explicit-Controlled

Mental interior focused  | Appearance

Mental exterior focused

Cognitive agent:attitude propositions  | Certainty of emotion

Affective self:affect state propositions

Imitative frontoparietal mirror neurone system  | Emotional contagion

Belief-desire MPFC/ACC inhibitory system
## Contrary Moves

<table>
<thead>
<tr>
<th>Patient/Therapist</th>
<th>Therapist/Patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowing</td>
<td>Unknowing</td>
</tr>
<tr>
<td>Self-reflection</td>
<td>Other reflection</td>
</tr>
<tr>
<td>Implicit/Assumption</td>
<td>Explicit/Delineate</td>
</tr>
<tr>
<td>Emotional distance</td>
<td>Emotional closeness</td>
</tr>
<tr>
<td>Cognitive</td>
<td>Affective</td>
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</tbody>
</table>

- Prefrontal capacities
- Changing switchpoint threshold
- Point 1a
- Point 1
- Posterior cortex and subcortical capacities
The Development of Affect Regulation

- Closeness of the infant to another human being who via contingent marked mirroring actions facilitates the emergence of a symbolic representational system of affective states and assists in developing affect regulation (and selective attention) ➔ secure attachment

- For normal development the child needs to experience a mind that has his mind in mind
  - Able to reflect on his intentions accurately
  - Does not overwhelm him
  - Not accessible to neglected children
Attachment Disorganisation in Maltreatment

Adverse Emotional Experience (maltreatment)

The ‘hyperactivation’ of the attachment system
The hyperactivation of attachment in BPD

- We assume that the attachment system in BPD is “hypersensitive” (triggered too readily)

- Indications of attachment hyperactivity in core symptoms of BPD
  - Frantic efforts to avoid abandonment
  - Pattern of unstable and intense interpersonal relationships
  - Rapidly escalating tempo moving from acquaintance to great intimacy
Attachment Disorganisation in Psychiatric interaction

Emotionally Challenging Experience in Relation to the Mental Health Worker

The psychiatric ‘hyperactivation’ of the attachment system
Inhibition of social understanding associated with maltreatment can lead to exposure to further abuse.

- Exposure to maltreatment
- Intensification of attachment
- Inhibition of mentalisation

**DISTRESS/FEAR**

Inaccurate judgements of facial affects,
Delayed theory-of-mind understanding
Failure to understand the situational determinants of emotions
Schematic Model of BPD

Constitutional factors

Trauma/Stress

Hyper-activation of the attachment system

BPD symptom

Vulnerability risk factors

Formation risk factors

Activating (provoking) risk factors

Inhibition of interface of mood, (long term) memory and cognition

Inhibition of judgements of social trustworthiness, negative affect and mentalising

Poor affect regulation

Early attachment environment

Inhibition of interface of mood, (long term) memory and cognition

Inhibition of judgements of social trustworthiness, negative affect and mentalising
The Modes of Psychic Reality That Antedate Mentalisation and Characterize Suicide/Self-harm

Psychic equivalence:

- Mind-world isomorphism; mental reality = outer reality; internal has power of external
- Experience of mind can be terrifying (flashbacks)
- Intolerance of alternative perspectives ("I know what the solution is and no one can tell me otherwise ")
- Self-related negative cognitions are TOO REAL! (feeling of badness felt with unbearable intensity)
The Modes of Psychic Reality That Antedate Mentalisation and Characterize Suicide/Self-harm

**Pretend mode:**

- Ideas form no bridge between inner and outer reality; mental world decoupled from external reality.
- Linked with emptiness, meaninglessness and dissociation in the wake of trauma.
- Lack of reality of internal experience permits self-mutilation and states of mind where continued existence of mind no longer contingent on continued existence of the physical self.
- In therapy endless inconsequential talk of thoughts and feelings.
  - The constitutional self is absent → feelings do not accompany thoughts.
The Modes of Psychic Reality That Antedate Mentalisation and Characterize Suicide/Self-harm

**Teleological stance:**

- Expectations concerning the agency of the other are present but these are formulated in terms restricted to the physical world.
- A focus on understanding actions in terms of their physical as opposed to mental outcomes.
- Patients cannot accept anything other than a modification in the realm of the physical as a true index of the intentions of the other.
- Only action that has physical impact is felt to be able to alter mental state in both self and other.
  - Physical acts (self-harm)
  - Demand for acts of demonstration (of affection) by others.
<table>
<thead>
<tr>
<th>What is it?</th>
<th>Psychic Equivalence</th>
<th>Pretend Mode</th>
<th>Teleological</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exaggeration of internal world. Any negative feeling about self is true, no other perspective possible. Inner experience takes over, overwhelming, terrifying. Feelings too real. Eg I feel bad, I am bad.</td>
<td>Mental states discussed but don’t feel real. Mental state dissociated from affect. Inner experience and outer world detached, a sense of emptiness and meaninglessness.</td>
<td>Mental states judged on outcomes in physical world. Forcing something to happen in external world is only avenue to alter a mental state. Exaggeration of external world.</td>
</tr>
</tbody>
</table>

| Common therapist responses | Puzzled, confused, angry, judgmental of client’s experience, (Oh, good god, get a grip!). Overwhelmed, anxious, wanting to try to convince client it’s really not that bad, tempted to talk client out of their experience, add other (less limiting) perspectives. | Bored, disengaged, no affect. Something felt to be missing, not “moved” by the client. Limited subjective response. | Therapist will feel tempted to DO something; extend the session, loan them money, give them a hug, etc. Anxiety and pressure to act. Eg “have you got children? If you don’t, you won’t be able to understand”. (Therapist will want to answer) |
| What to do? | Accept their experience, seek to understand it fully. Be CURIOUS! What happened before you felt this? E.g. Rewind. What effect does it have on you? Reach out emotionally, “I’m so sorry, that sounds really difficult”. Responses more contingent. Take a detour if necessary. | Probe...explore, examine from perspective of wanting to understand it. Determine its level of intractability. Introduce an element of surprise, paradox. Full challenge, Stop it (stop & stand). | Acknowledge what they need you to be, do, and the importance and meaning of it to them WITHOUT doing it. Validate emotional import and meaning with sincerity, while refraining. |
| What not to do? | Don’t tackle it head on and try to change client’s point of view/feeling. Don’t address content. | Don’t allow it to go on and on. Don’t believe that something useful is happening while in this mode. | Don’t do the something demanded. Unless discussed with team. Don’t believe that the demand being satisfied will result in |
Supervision Format

- Supervision of an individual in a group with group as audience
- Supervision of an individual with group as participants
- Supervision of an individual with group as supervisors
- Supervision of an individual with group as reflective process
Psychoeducation for new clinicians

1. Collaborative process
2. Formulation of patient problems early in treatment and a focus in each session
   - Trajectory of treatment and in sessions
3. Identification of non-mentalizing process
4. General Stance
   a) Interventions consistent with the patient’s mentalizing capacity
   b) Focus on maintaining clinician mentalizing
   c) Open-minded clinician
   d) Alert to breaks in mentalizing
   e) Monitoring of the state of affective arousal
Psychoeducation for new clinicians

- 5. Not-Knowing stance of curiosity
- 6. Identification of mentalizing poles
- 7. Trajectory of sessions: interventions structured from empathic validation to exploration, clarification, and challenge through affect identification and affect focus to mentalizing the relationship itself
- 8. Focus on contingency and marking of interventions
- 9. Explicit identification of clinician feelings related to the patient’s mental processing
Supervisory Attitude

- Knowing ‘v’ Not-knowing supervisor
- Psychoeducation ‘v’ stimulating mentalizing
- Personal ‘v’ Impersonal
  - Identify non-mentalizing in clinician and areas of sensitivity to patient
  - Work on counter-relationship
Supervision structure

- Presentation of problem
- Problem defined – what do you need help with?
- Group discuss the problem from their perspective
- Presenter remains silent and listens
- Presenter response from reflection
- Final formulation between participants
Supervision of Teams

- Aims
  - Team morale
  - United Mind
- Chair Person
- Identification of problems with literature
- Case material
- Mentalizing the problem
- Role plays
- START
- (?Intervision with parallel process and problems interfering with treatment)
Therapist Stance

- **Not-Knowing**
  - Neither therapist nor patient experiences interactions other than impressionistically
  - Identify difference – ‘I can see how you get to that but when I think about it it occurs to me that he may have been pre-occupied with something rather than ignoring you’.
  - Acceptance of different perspectives
  - Active questioning
  - Eschew your need to understand – do not feel under obligation to understand the non-understandable.

- **Monitor you own mistakes**
  - Model honesty and courage via acknowledgement of your own mistakes
    - Current
    - Future
  - Suggest that mistakes offer opportunities to re-visit to learn more about contexts, experiences, and feelings
Essential to the Stance

- Keep it current – what the patient feels right now
- Start by empathising – finding a way of stating that you genuinely understand distress
- Explore in the relational realm not just the intra-psychic
- Lower arousal by bringing it to the person of the therapist
  - What have I done?
- Stick to mentalizing aim in somewhat dogged manner
- Quickly step back if patient seems to lose control
The Mentalizing Stance

Inquisitive: Tentative, curious, Measured enthusiasm for mental states

Holding the Balance Narrative flow Vs. Interventionist

Terminating Inaccurate or non-mentalizing interactions

Reinforcing Positive mentalizing
Basic Mentalizing
Interventions: Spectrum

- Supportive & empathic
- Clarification, Challenge, & Exploration
- Mentalising the relationship
- Non-mentalising interpretations – to use with care
Interventions: Spectrum

- Supportive/empathic
- Clarification, elaboration, challenge
- Affect Focus and Basic mentalizing
- Mentalizing the Relationship
Components of mentalizing the relationship

- Validation of experience
- Exploration in the current relationship
- Accepting and exploring enactment (therapist contribution, therapist’s own distortions)
- Collaboration in arriving at an understanding
- Present an alternative perspective
- Monitor the patient’s reaction
- Explore the patient’s reaction to the new understanding
Interventions: Mentalizing the Relationship

- **Dangers of using the relationship**
  - Avoid interpreting experience as repetition of the past or as a displacement. This simply makes the borderline patient feel that whatever is happening in therapy is unreal.
  - Thrown into a pretend mode
  - Elaborates a fantasy of understanding with therapist
  - Little experiential contact with reality
  - No generalization
Components of mentalizing feelings in the clinician

- Monitor states of confusion and puzzlement
- Share the experience of not-knowing
- Eschew therapeutic omnipotence
- Attribute negative feelings to the therapy and current situation rather than the patient or therapist (initially)
- Aim at achieving an understanding of the source of negativity or excessive concern etc.
Feelings in the clinician and self-disclosure

- Mind states of therapist in relation to mind states of patient
  - Marked
  - Part of therapy
  - Openness
  - Neutrality about origins
  - Available for exploration
Components of mentalizing the counter-relationship

- Anticipation of response/reaction of patient
- Mark your statement
- Do not attribute what you experience to the patient
- Keep in mind your aim
  - Re-instate your own mentalizing
  - Identify important emotional interaction that affects therapy relationship
  - Emphasise that minds influence minds
Hierarchy of Intervention

- Regulation of arousal
- Identification of non-mentalizing mode
- Empathic validation
- Intervention aiming to restore mentalizing
Principles for Clinician: summary

**DO:**
- Match interventions to mentalizing capacity
- Regain your own mentalizing before trying to rekindle patients – ‘put on your own oxygen mask before helping the person beside you’.
- Re-wind to point of mentalizing when non-mentalizing starts
- Start at empathic position – stand alongside and observe the patient perspective

**DO NOT**
- Ask patient to do ‘other’ mentalizing when not able to mentalize ‘self’
- Take over patient’s mentalizing
- Argue with psychic equivalence
- Miss pretend mode
- Place responsibility straight back to patient - in session emotional dysregulation results from your error
Any Questions?
Some of the Mentalizing Mafia

- **UCL/AFC/Tavistock**
  - Prof George Gergely
  - Dr Pasco Fearon
  - Professor Mary Target
  - Prof Anthony Bateman
  - Dr Liz Allison
  - Professor Alessandra Lemma
  - Professor Eia Asen
  - Dr Trudie Rossouw

- **University of Leuven & UCL/AFC**
  - Dr Patrick Luyten
  - Dr Dickon Bevington
Some more mafiosi (The USA branch)

- Menninger Clinic/Baylor Medical College
  - Dr Jon Allen
  - Dr Lane Strathearn
  - Dr Brooks King-Casas
  - Dr Read Montague
  - Dr Carla Sharp
  - Dr Efrain Bleiberg
  - Professor Flynn O’Malley
  - Dr Elisabeth Newlin

- Yale Child Study Centre
  - Prof Linda Mayes
  - Professor Nancy Suchman
And European recruits to the ‘Family’

- Dawn Bales
- Dr Mirjam Kalland
- Professor Finn Skårderud
- Professor Sigmund Karterud

- Cindy Decoste
- Catherine Freeman
- Ulla Kahn
- Morten Kjolbe
- Benedicte Lowyck
- Tobi Nolte
- Marjukka Pajulo
- Svenja Taubner
- Bart Vandeneede
- Annelies Verheught-Pleiter
- Rudi Vermote
- Joleien Zevalkink
- Bjorn Philips
- Dr Peter Fuggle

And Rose Palmer for help with the preparation of this presentation.
Clear evidence of having little to declare.

JUST RELEASED!

NEW! IMPROVED!

Longer than all previous versions!

Washes brains whiter!

HANDBOOK OF Mentalizing in Mental Health Practice

EDITED BY
Anthony W. Bateman, M.A., F.R.C.Psych.
Peter Fonagy, Ph.D., F.B.A.

2012
American Psychiatric Publishing, Inc
The biopsychosocial model of BPD
John Oldham’s Theoretical Sequential Model of Borderline Personality Disorder Pathogenesis

Disordered Attachment in BPD
Articles Published on Mentalizing Since 1994
R/P 20% vs. BPD Prevalence

![Graph showing the relationship between the ratio of average income of richest 20% to poorest 20% (R/P) and the prevalence of BPD (BPD Prevalence). The graph includes a linear trend line and data points. The R-squared value is 0.78, F = 10.66, p < 0.05.](image-url)
The progress of biological explanations of psychopathology

Three major human instincts have been the focus of explanations of development and its distortion in psychological disorder

- 1. The psychosexual instinct – Freud and classical psychoanalysis
- 2. The instinct for attachment – Bowlby, Ainsworth and early infant researchers
- 3. The instinct for communication – Gergely, Tronic and modern infant research
Clear evidence of mentalizing?

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HANDBOOK OF
Mentalizing
in Mental Health Practice

Anthony W. Bateman, M.A., F.R.C.Psych.
Peter Fonagy, Ph.D., F.B.A.
From 12 months babies deliberately engage and redirect attention of caregiver (pointing and vocalizing)

- **Joint** ("triadic") **attention** provides a platform by which two or more people coordinate and **communicate** their intentions, desires, emotions, beliefs, and/or **knowledge** about a third entity (e.g. an object or a common goal) (Tomasello et al., 2005).

- By 2.5 years children implement complex **social tactics** – teasing, lying, saving face (Reddy, 2008: *How infants know minds*)
False belief task: unexpected transfer

(Wimmer & Perner, 1983)

Maxi puts his book in the cupboard. Then he leaves to play in the garden. After that, Mum comes to tidy up the room. Mum takes the book out of the cupboard, and puts it in the bookshelf. Then she leaves to do some work in the kitchen.

Now, Maxi returns looking for his book. Where will he look first for his book?

Test question
Effect of Age in 178 separate studies

Very robust developmental trends most manipulations ineffective

Meta-analysis of False Belief Studies (Wellman et al., 2009)
The embodied mind and research on the human infant

- Massive denial of infant mentation outside of psychoanalysis until about 75 years ago
  - Half a century ago infants were commonly subjected to surgery without anesthetic (curare was used to stop squirming inconvenient for the surgeon) ➔ Can infants have minds when they are not yet able to speak?

- Astounding discoveries concerning early social awareness in infants
  - Mentalization is embodied before it is cognitive
  - Freud may have been correct about the mental life being somatically grounded (the body is at the root of meaning.)
Sensitivity to others’ state of mind

A. Agent appears
   Ball stays
   a. P+A+ (True belief)

B. Agent present
   Belief formation
   Ball leaves
   b. P-A- (True belief)

C. Agent absent
   Reality change
   Ball stays
   c. P+ (False belief)

D. Agent returns
   Ball leaves
   d. P+A- (False belief)

False belief for baby
True belief for Smurf

True belief for baby
False belief for Smurf

Á M Kovács et al. Science 2011;330:1830-1834
Belief Computation in Infants

Familiarization
The two key conditions in Smurf Study: Infant of 7 months considers what agent (Smurf) believes about the status of ball

Principle of Fairness

- According to the Principle of Fairness, agents should deal fairly with others
  - distribution of resources
  - compensation for work
- Sloane, Baillargeon, and Premack (2010)
  - 9 months olds
  - Animate or inanimate giraffes
  - Reasonable expectation applies only to animate objects

(e.g., Boyd & Richardson, 2003; Fehr et al., 2008; Haidt & Joseph, 2007; Jackendoff, 2009; Olson & Spelke, 2008; Premack, 2007; Sigmund et al., 2002)
Animate giraffes condition
Test trials

I have toys

Yay! Yay!

Equally-distributed Event

Unequally-distributed Event
Inanimate giraffes condition:

Same giraffes – no movement
Results—9 mnths olds: looking time

<table>
<thead>
<tr>
<th>Condition</th>
<th>Mean Looking Time (sec)</th>
</tr>
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<tbody>
<tr>
<td>Animate Giraffes</td>
<td></td>
</tr>
<tr>
<td>Unequally distributed toys</td>
<td>24</td>
</tr>
<tr>
<td>Equally distributed toys</td>
<td>14</td>
</tr>
<tr>
<td>Inanimate Giraffes</td>
<td></td>
</tr>
<tr>
<td>Unequally distributed toys</td>
<td>16</td>
</tr>
<tr>
<td>Equally distributed toys</td>
<td>15</td>
</tr>
</tbody>
</table>

* Significant difference
Appreciation of pretend actions from 15 months (Onishi, Baillargeon & Leslie, 2008)
Look longer when pretended to pour into red but pretends to drink out of blue cup.
Evidence from Renée Baillargeon that before age 1.5 years infants have appreciation of

- Principle of Reciprocity
  - reciprocate others’ positive acts
  - retaliate against others’ negative acts

- Principle of Fairness
  - be fair when distributing resources to others
  - be fair when compensating others’ efforts

- Principle of Ingroup Loyalty
The infantile origins of psychopathology

- Infants have genetically inbuilt ‘healthy’ social expectations
- Social experience to be developmentally ‘good enough’ has to comply with these expectations
  - Fit in with biologically prepared mechanisms which evolved to transmit human culture
  - Be consistent with neural development (i.e. capacity to integrate new information)
  - Violations of expectations toxic because not only they ‘teach’ inappropriate content but undermine mechanisms for the social acquisition of knowledge and the emergence of an agentive sense of self
Online usage of theory of mind continues to develop in late adolescence (Dumontheil, Apperly & Blakemore 2009)

- Five age groups:
  - Child I (7.3–9.7 years)
  - Child II (9.8–11.4)
  - Adolescent I (11.5–13.9)
  - Adolescent II (14.0–17.7)
  - Adults (19.1–27.5)

- Instructed to move objects by a ‘director’ who could see some but not all of the objects.
  - Had to use the director’s perspective ➔ only move objects that the director could see
  - In a control condition, participants were asked to ignore objects in slots with a grey background (ones obscure to director)
Online usage of theory of mind continues to develop in late adolescence (Dumontheil, Apperly & Blakemore 2009)
Online usage of theory of mind continues to develop in late adolescence (Dumontheil, Apperly & Blakemore 2009)
The role of contingent caregiver responding in the development of cognitions
Natural Pedagogy theory
(Csibra & Gergely, 2006; 2009, in press)

- A human-specific, cue-driven social cognitive adaptation of mutual design dedicated to ensure efficient **transfer of** relevant **cultural knowledge**
- Humans are predisposed to ‘**teach**’ and ‘**learn**’ new and relevant cultural information from each other
- Human **communication** is specifically adapted to allow the transmission of
  - a) cognitively **opaque** cultural knowledge
  - b) kind-**generalizable** generic knowledge
  - c) **shared** cultural knowledge
The Pedagogical Stance is triggered by Ostensive-Communicative cues

- Examples of **ostensive communication cues**
  - eye-contact
  - turn-taking **contingent reactivity**
  - special **tone** (motherese)

- Ostensive cues function:
  - to signal that the other has a **Communicative Intention** addressed to the infant/child
  - to **Manifest New and Relevant** information about a referent
Experimental illustration of ostensive cues
Gergely, Egyed et al. (in press)

Subjects: 4 groups of 18-month-olds
Stimuli: Two unfamiliar objects
1: Baseline – control group
No object-directed attitude demonstration

Simple Object Request by Experimenter A

Subjects: n= 20 Age: 18-month-olds
Ostensive Communicative Demonstration
Requester: OTHER person (Condition 1)
Learning from Attitude Expressions

18-month-olds
Ostensive Expression - Generalization
Non-Ostensive (Non-Communicative) Demonstration
Requester: OTHER person (Condition 2)
Learning from Attitude Expressions

18-month-olds
Ostensive Expression - Generalization

Non-Ostensive Expression - No Generalization

Percent Giving Positive Object

71

40
Condition 4: Non-Ostensive (Non-Communicative) Demonstration Requester: SAME person
Learning from Attitude Expressions

18-month-olds
Ostensive Expression - Generalization

Non-Ostensive Expression - No Generalization

Non-Ostensive Expression - Person-Specific Attribution

Egyed et al., in prep.
Epistemic trust and secure attachment

- **Secure attachment** is isomorphic with inducing in the infant/child a sense of **epistemic trust** that the information relayed by the teacher may be trusted (i.e. learnt from)

- Evidence
  - Cognitive **advantage** of secure attachment
  - **Contingent** responsiveness to the infant’s own (at first, automatic) expressive displays in secure attachment
  - During “**mirroring” interactions**, the other will “mark” her referential emotion displays in a ‘manifestative’ manner to instruct the infant
How Attachment Links to Affect Regulation

Down Regulation of Emotions

BONDING

EPISTEMIC TRUST

The forming of an attachment bond
How does MBT and other therapies with BPD work?
Implications: The nature of psychotherapy

- Mentalizing may be key to psychotherapy not because we need to learn about our minds to learn about those of others

- **Mentalizing is** a generic way of establishing epistemic trust
  - Our subjectivity being understood is necessary **key to open up** wish to learn about world including social world
  - Experience of **feeling thought** about makes us feel safe enough to think about social world

- Pernicious aspect of **trauma** is the **destruction of trust in social knowledge** of all kinds
Epistemic hypervigilance and the nature of BPD

- Social adversity (most deeply trauma) 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 on the basis of their own experience or communication from attachment figures or others
- Personality disorder is not disorder of personality (except by old definition of being enduring) but inaccessibility to cultural communication from
  - Partner
  - Therapist
  - Teacher

Epistemic Mistrust
Implications: The nature of psychopathology

- Epistemic mistrust which can follow real or imagined experience of maltreatment 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 a relationship
  - 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
3 Therapeutic Learning Systems

- All address epistemic mistrust of patients with BPD

- **Learning System I: Specific to Modality of Therapy**
  - Communication of *therapeutic model based content*
    - E.g. dynamic formulation of transference, DBT skills such as DEAR MAN
  - Serves as ‘ostensive cue’ increasing the patient’s epistemic trust

- **Learning System II: Mentalizing as a common factor**
  - Therapeutic setting serves to *increase* patient’s mentalizing

- **Learning System III: Social learning in the context of epistemic trust**
Learning system I

- Communication of **therapeutic model based content**
- **All** evidence based **models** present models of
  - mind, disorder and change
  - are **accurate, helpful** to patients and
  - increase capacity for **understanding**
- e.g. TFP dynamic formulation of **internal conflicts**
- e.g. DBT **skills** such as DEAR MAN
- e.g. CAT formulations of interpersonal relationships
Being balanced about model specificity

- The importance of System I should neither be minimized nor overemphasized
  - Therapies without a coherent body of knowledge based on systematically established principles are observed to fail
  - Evidence on non-specific factors in therapy and patients’ reports on what they experienced as effective warn against exaggerating the importance of Learning System
  - The sheer variety of modality specific knowledge argues against its importance
BUT there are probably 1,246 models of psychotherapy...

- a model of mind,
- a model of interaction,
- a model of underlying dysfunction,
- a model of therapeutic goals
Learning System I: Transmission of wisdom
Learning System I: Transmission of wisdom

Strengthen skillful responses
Learning System I: Transmission of wisdom

Restructure your Cognitions
Learning System I: Transmission of wisdom

Correct dysfunctional interpersonal interactions
Learning System I: Transmission of wisdom

Engage in limited reparenting
Learning System I: Transmission of wisdom

Integrate polarized representation of self and others
Learning System I: Transmission of wisdom
What is function of model specific knowledge?

- Model specific interventions help
  - They relate to the patient’s specific needs
    - E.g. lack of knowledge about the self
    - E.g. lack of practical self management skills
    - Therefore they can serves as an ostensive cue and increase epistemic trust

- Learning channel gradually opens, patients can benefit increasingly from their social experience (including experience with therapist)
Role of mentalizing in Learning System II

To get over epistemic hypervigilance (‘not true’, ‘not relevant to me’) need System II

- **Mentalizing** interventions demand **collaboration** (working together)
  - Seeing from **other’s perspective**
  - Treating the **other as a person**
  - **Recognizing** them as an **agent**
  - Assum ing they **have things to teach you** – since mental states are opaque
  - Responding **contingently** to a patient
Learning System II: The general increase in Epistemic Trust

- Therapy is not just about the what but the **how** of learning:
  - Opening the person’s mind via establishing *epistemic trust* (collaboration) so he/she can once again trust the social world by changing expectations
  - It is **not just what is taught** in therapy that teaches, but the evolutionary *capacity for learning from social situation* is rekindled
  - Therapy interventions are effective because they open the person to *social learning experience* which feeds back in a virtuous cycle
Learning System II: Ending Epistemic Isolation

- **Learning System II**: Learning about sources of knowledge ➔ by providing a clear social illustration of trust we undo epistemic isolation

  - By using **ostensive cues** and establishing a sense that we are concerned to see the **world from the patient’s standpoint** we model a situation of interpersonal epistemic trust

- **Improved understanding** of social situation ➔ leads to better understanding of the **important others** ➔ more trusting (less paranoid) interpersonal **relationships** ➔ it opens up the potential to feel sensitively responded to in virtuous cycle
Learning System III: Beyond therapy

- Enhanced mentalizing achieves improved social relationships
- Improved epistemic trust/abandonment of rigidity enables learning from experience
- But change is probably due to how a person uses their social environment, not to what happens in therapy
- Benefit remains contingent on what is accessible to patients in their particular social world
- We predict that psychotherapy is more likely to succeed if the individual’s social environment at the time of treatment is by and large benign
Summary of the Model

- The **specific frame of the therapy** around which mentalizing occurs
  - the model of **mind**,
  - the model of **interaction**,  
  - the model of **underlying dysfunction**, 
  - the model of **therapeutic goals**

- The enhancing of mentalizing is **also** a common factor that achieves **improved social relationships through increased epistemic trust**

- Improved sense of epistemic trust enables **learning from experience** ➔ change due to what happens beyond beyond therapy

- The **enhancing of epistemic trust** may be achieved by **treatment** but also a **consequence of improved social relationships** and consequent on the social world.
Implications: The nature of psychotherapy

- Epistemic **mistrust follows maltreatment** or abuse and therapists ignores this knowledge at their peril
- **Therapy** is not just **about** the what but the **how of learning**
  - **Opening the person’s mind** via establishing contingencies so (s)he once again can trust the social world by changing expectations
  - **Not what is taught** in therapy that teaches but evolutionary capacity for learning from other is rekindled
- **Three systems of change**
  - **System 1:** The teaching and learning of content
  - **System 2:** The re-emergence of robust mentalizing
  - **System 3:** The re-emergence of social learning
The two-dimensional space defined by attachment anxiety and avoidance, showing Bartholomew’s 4 categories:

- **High avoidance**
  - ve view of other

- **Low avoidance**
  +ve view of other

- **Low anxiety**
  +ve view of self

- **High anxiety**
  -ve view of self

- **Secure**
- **Preoccupied**
- **Fearful avoidant**
- **Dismissing avoidant**
Attachment class and borderline features: Preoccupied vs. Dismissing

Preoccupied attachment predicts increased sexual risk taking and aggressive behaviors over the course of adolescence, as well as steeper rates of growth in these behaviors.

Given that these behaviors reflect impulsivity, deficits in self-regulation (core features of BPD), preoccupied attachment may be related to the development of BPD.

Observed in several other studies.

Self-Reported Attachment Styles, and Borderline Personality Disorder

Choi-Kain et al., *J Nerv Ment Dis* 2009;197: 816–821
Self-Reported Attachment Styles, and Borderline Personality Disorder

Choi-Kain et al., *J Nerv Ment Dis* 2009;197: 816–821
Adult attachment, personality traits, and borderline personality disorder features in young adults
Scott, Levy, & Pincus
*Journal of Personality Disorders*, 23(3), 258–280, 2009

- Trait impulsivity and negative affect fully account for the relationship between attachment anxiety and BPD symptoms in young adults.
- Impulsivity and negative affect may lead to BPD when they occur in the context of high levels of attachment anxiety.

1,401 participants all 18+ years
Attachment Disorganisation in Disrupted Early Relationships

The ‘hyperactivation’ of the attachment system
Early attachment experiences are robust predictors of later BPD pathology.
We “know” that bad things happen early in the lives of these patients?

- **Retrospective** studies link harsh treatment early in life with later BPD.
  
  

- Largely confirmed by **prospective** studies
  
  
  
BPD IN ABUSED AND NEGLECTED CHILDREN FOLLOWED UP INTO ADULTHOOD

BPD symptoms are more common in abused and neglected children followed up into adulthood.

Early maternal separation and trajectory of borderline personality disorder symptoms

Negative temperament acts as a partial mediator between early separations and later symptoms

Crawford et al. 2009
Dev. & Psychopath., 21, 1013-1030
BPD and Minnesota longitudinal study (Carlson, Egeland, & Sroufe, 2009)

- Correlated extensive assessments from infancy onward with borderline personality disorder symptom at age 28
- Early predictors borderline personality symptoms:
  - attachment disorganization .20*
    - o (12-18 months),
  - maltreatment .20**
    - o (12-18 months),
  - maternal hostility and boundary dissolution .42***
    - o (42 months),
  - family disruption related to father presence .21**
    - o (12-64 months),
  - family life stress .29***
    - o (3-42 months).
BPD and Minnesota longitudinal study (Carlson, Egeland, & Sroufe, 2009)

- Early adolescent predictors (12 years)
  - **attentional** disturbance,
  - **emotional** instability,
  - **behavioral** instability, and
  - **relational** disturbance.

- Disturbances in self-representation in early adolescence mediates the link between attachment disorganization and personality disorder.
Mediating Role of Self-Representation (Carlson et al., 2009)

Carlson et al. (2009): “representations and related mentalizing processes are viewed as the carriers of experience that link early attachment to later psychopathology” (p. 1328).
Shared neural circuits for mentalizing about the self and others (Lombardo et al., 2009; J. Cog. Neurosc.)
The Cassel Step Down Treatment Study: Prevalence of BPD (Chiesa & Fonagy, in prep)

The interaction of independently recorded trauma and AAI reflective function ratings predicting BPD diagnosis

OR (interaction) = 0.52, CI(0.35, 0.77), Wald $\chi^2=10.96$, p<0.001
Parents with BPD and transgenerational effects
Children of mothers with BPD show deficits of emotion regulation, distorted self-other representations and later problems in psychosocial functioning.

- Patients with BPD have troubled patterns of affective communication and relatedness in their moment-to-moment interactions with significant others.
  - Disrupted affective communication and fearful and disoriented response in strange situation assessment with their infants (Hobson et al., Br J Psychiat 2009; 195: 325-330)
  - High prevalence of disorganized attachment in infants (Hobson et al., Dev & Psychopath, 2005; 64:572-585)

- Spans the developmental spectrum
  - Adolescents’ self-perception, ability to make close friends, feel socially accepted, not to be fearfully attached all predicted by maternal BPD symptoms (Herr et al., J Pers Disord, 22,: 452-465)
  - Association still strongly present even when controlling for depression
Story stem completions of children of BPD mothers

Wilks’ approximate $F(5, 53) = 3.76, p < 0.01$, $\eta^2 = 0.26$, observed power = 0.91.

Girl age five, whose mother has borderline personality disorder (BPD):

- An examiner begins a story about a birthday party using family dolls, a table, and a cake, then asks the girl: “Show me and tell me what happens now.” The girl tells how the family open presents and eat cake. She then adds: And then Mom takes off her clothes and gets drunk.
Adolescent girl age 15, and her mother who has BPD:

- **Adolescent**: Now you're acting even younger. You're giggly and weird.
- **Mother**: Oh well, that's just because I'm being rebellious at the moment. I want to try to have fun.
- **Adolescent**: I'm the teenager that's supposed to do that.
- **Mother**: It has been so long since I've had fun and done the things that I want to do. Yeah, I miss being a teenager. It'd be nice if we could have that little bit of experience together and have fun.
Genetic moderation of early experience
Hostile autonomy is more common in insecure adolescents with the short allele of the 5-HTTLPR gene while agreeable autonomy is more common in secure adolescents with short allele

Adolescents who had the short allele but were securely attached displayed more agreeable autonomy in interactions with their parents, whereas those who were insecurely attached displayed more hostile autonomy.

The genetic predisposition for adolescents to react impulsively when their autonomy is threatened is moderated by concurrent attachment security, thus being expressed as socially appropriate assertiveness.

Unresolved attachment more common in adults with the short allele of the \(5-HTTLPR\) gene

Casper et al. (2009). *Developmental Psychology* (2009), 45, 64–76
Unresolved loss and trauma scores are elevated for those homozygous for short allele who display lower levels of methylation for that gene.

Diathesis-stress theories of BPD etiology

- Theories suggesting an interaction between a child’s genetic vulnerability and adverse experiences in the family environment
Diathesis-stress theories of BPD etiology

- Need to directly evaluate the diathesis-stress model by testing for interaction between inherited risk and harsh childhood treatment.

- **Prospective longitudinal design** with three things measured
  - familial liability
  - harsh treatment during childhood
  - early-emerging symptoms of borderline personality soon thereafter.
A Test of Diathesis-Stress Theories of the Etiology of Borderline Personality Disorder in a Birth Cohort of 12 Year Old Children

- **Objective.** To test if children with a positive family history of psychiatric disorder were more vulnerable to developing borderline personality symptoms following exposure to physical maltreatment and maternal negative expressed emotion.

- **Design.** Prospective longitudinal cohort study of a nationally representative birth cohort in Great Britain.

- **Participants.** 1,116 families with twins were followed from birth to age 12 years (retention 96%).

- **Main Outcome Measure.** Dimensional borderline personality symptoms and dichotomous extreme borderline group membership (dimensional symptoms ≥95th percentile).

Belsky, Caspi, Arseneault, Bleidorn, Fonagy, Goodman, Houts, and Moffitt (submitted)
Antecedents and co-morbidities of BPD related characteristics in 12 year old children

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

<table>
<thead>
<tr>
<th>Child Characteristics 5 Years</th>
<th>Correlations (Pearson’s r) Between Child Characteristics and Borderline Personality Related Characteristics:</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive Functioning (5 yrs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IQ</td>
<td>-0.11***</td>
<td>(-0.16, -0.06)</td>
</tr>
<tr>
<td>Executive Function</td>
<td>-0.06*</td>
<td>(-1.11, -1.0)</td>
</tr>
<tr>
<td>Theory of Mind</td>
<td>-0.11***</td>
<td>(-0.16, -0.07)</td>
</tr>
<tr>
<td>Behavioral and Affective Probs (5 yrs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interviewer Rating of Temperament</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of Control</td>
<td>0.10***</td>
<td>(0.04, 0.15)</td>
</tr>
<tr>
<td>Approach</td>
<td>0.01</td>
<td>(-0.04, 0.06)</td>
</tr>
<tr>
<td>Inhibition</td>
<td>0.01</td>
<td>(-0.07, 0.04)</td>
</tr>
<tr>
<td>Mother &amp; Teacher Rating of Impulsivity, Behavioral &amp; Emotional Problems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impulsivity (Mother Rating)</td>
<td>0.34***</td>
<td>(0.29, 0.38)</td>
</tr>
<tr>
<td>(Teacher Rating)</td>
<td>0.22***</td>
<td>(0.16, 0.28)</td>
</tr>
<tr>
<td>Externalizing Problems (Mother Rating)</td>
<td>0.44***</td>
<td>(0.38, 0.49)</td>
</tr>
<tr>
<td>(Teacher Rating)</td>
<td>0.24***</td>
<td>(0.17, 0.30)</td>
</tr>
<tr>
<td>Internalizing Problems (Mother Rating)</td>
<td>0.29***</td>
<td>(0.24, 0.34)</td>
</tr>
<tr>
<td>(Teacher Rating)</td>
<td>0.01</td>
<td>(-0.04, 0.06)</td>
</tr>
<tr>
<td>Co-Occurring Psychiatric Problems at Age 12 Years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduct Disorder</td>
<td>0.22***</td>
<td>(0.17, 0.27)</td>
</tr>
<tr>
<td>Depression</td>
<td>0.27***</td>
<td>(0.21, 0.32)</td>
</tr>
<tr>
<td>Anxiety</td>
<td>0.10**</td>
<td>(0.04, 0.15)</td>
</tr>
<tr>
<td>Psychotic Symptoms</td>
<td>0.16***</td>
<td>(0.11, 0.22)</td>
</tr>
</tbody>
</table>

Characteristics of Children in the Extreme Borderline Group and Comparison Children:

- Means and 95% Confidence Intervals (a)

- Extreme Borderline Group (N=122)
- Comparison Group (N=2,019)
Interaction between family history of psychiatric illness and history of maltreatment on BPD symptoms

### Analysis of Extreme Borderline Group Membership

<table>
<thead>
<tr>
<th>Extreme Borderline Group</th>
<th>Comparison Children</th>
<th>RR</th>
</tr>
</thead>
<tbody>
<tr>
<td>++</td>
<td>20</td>
<td>28</td>
</tr>
<tr>
<td>+-</td>
<td>48</td>
<td>562</td>
</tr>
<tr>
<td>-+</td>
<td>3</td>
<td>42</td>
</tr>
<tr>
<td>--</td>
<td>44</td>
<td>1,372</td>
</tr>
</tbody>
</table>

Departure from Additivity = 9.73  95% CI (1.90 , 15.73)
Interaction between family history of mental illness and maternal negativity

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

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficient (p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal Negative Expressed Emotion</td>
<td>Family History</td>
</tr>
<tr>
<td>Test of Diathesis-Stress Interaction, Between Families</td>
<td></td>
</tr>
<tr>
<td>I.</td>
<td>2.05 (0.000)</td>
</tr>
<tr>
<td>II.</td>
<td>1.71 (0.000)</td>
</tr>
<tr>
<td>Test of Diathesis-Stress Interaction, Within Families</td>
<td></td>
</tr>
<tr>
<td>III.</td>
<td>1.45 (0.000)</td>
</tr>
<tr>
<td>IV.</td>
<td>1.18 (0.000)</td>
</tr>
</tbody>
</table>

II. Between Families Interaction Beta=0.92 p<0.001
IV. Within Families Interaction Beta=0.92 p<0.001
A possible position

- **Constitutional** factors (e.g., anxious or aggressive temperament) and **environmental** factors (e.g., risk, trauma, and parenting) both have a role in causation
  - but also exert influence in relation to each other
    - Genes mark vulnerability
    - Environment triggers genetic propensities.

- Constitutional disadvantage is likely to mean greater sensitivity to negative environmental perturbations but also increase likelihood of benefiting from positive ones
  - Negative events ➔ overwhelm individual’s capacity to assimilate and accommodate to environment.
  - Positive events ➔ strengthen individual and make for greater resilience

- Individual with a **low constitutional load** may be resilient to perturbations and less likely to develop BPD under same degree of stress but may also be less likely to benefit from therapy if disorder has emerged.
Some possible attachment related components of the BPD phenomenological phenotype

Affect Regulation

Attention Control

Mentalization

Disorganization of the Self

BPD
Oxytocin and borderline personality disorder
Oxytocin dysfunction in BPD

- Administration of OXT does **not** lead to improvement in mentalization in
  - Preoccupied attached individuals
  - Patients with depression and BPD

- Fundamental dysfunction in OXT system as a result of attachment disruptions

- Dysfunction in oxytocin activity may impair the ability of people with BPD to evaluate others’ state of mind from social cues.

- Oxytocin reduces stress induced increases in cortisol ➔ Reduction of interpersonal sensitivity when stressed (Simeon, Bartz, Ketay et al, 2009)
Systems that modulate responses to acute and chronic stressful and noxious stimuli that induce physical or emotional pain

![Diagram showing Interpersonal/Affiliation Systems]

**Brain Circuitry**
- Cortical
  - Orbitofrontal/Cingulate
  - Cortex Processing
- Limbic
  - Amygdala/Insula
  - Responsiveness

**Neuromodulators (Neuropeptides)**
- Opioids
- Oxytocin
- Vasopressin
- Neuropeptide Y
- Neurokinin 1
Integrative model of the interactions of oxytocin, social approach behavior and social stress (Heinrichs, von Dawans & Domes, 2009)
Response to partner’s hypothetical cooperation in Assurances Game

Group x Oxytocin: F(1, 23)=4.82, p < .05
(Bartz et al, in prep – cited in Stanley & Siever, 2010)
Effects of oxytocin on recollections of maternal care (Bartz et al., 2010)

Oxytocin causes only less anxiously attached individuals to remember their mother as being closer to a more caring mother; anxiously attached individuals remembered their mother as less caring.
Oxytocin response to an experimental psychosocial challenge in adults exposed to traumatic experiences in childhood/adolescence (Pierrehumbert, Torrisi et al 2010)

- 80 subjects – 26 women who had experienced childhood sexual abuse, 25 male & female survivors of cancer in childhood or adolescence and 29 controls
- Examined OT responses to an experimental stress challenge (Trier social stress test)
- 3 blood samples for OT essays were collected at 1 minute before the TSST, 1 minute after and 20 minutes after
- Perceived stress of the situation and salivary cortisol were also assessed
Oxytocin response to an experimental psychosocial challenge in adults exposed to traumatic experiences in childhood/adolescence (Pierrehumbert, Torrisi et al 2010)

OT indexes (expressed as Z-scores) by groups, with standard error bars
Lower CSF oxytocin concentrations in women with a history of childhood abuse (Heim, Young, Newport et al 2009)

- Measured OT concentrations in cerebrospinal fluid collected from 22 medically healthy women categorised into those with none-mild vs those with moderate-severe exposure to various forms of childhood abuse or neglect
- Exposure to maltreatment was associated with decreased CSF OT concentrations
- A particularly strong effect was identified for emotional abuse
Lower CSF oxytocin concentrations in women with a history of childhood abuse (Heim, Young, Newport et al., 2009)

* p < 0.05
Lower CSF oxytocin concentrations in women with a history of childhood abuse (Heim, Young, Newport et al 2009)

* p <0.05
CSF oxytocin levels are inversely correlated with life history of aggression (Lee, Ferris et al 2009)

- Lumbar CSF for morning basal levels of oxytocin was obtained from 58 consenting subjects with and without DSM-IV personality disorders
- Aggression was assessed dimensionally using an interview instrument (Life History of Aggression (LHA))
- CSF oxytocin levels were inversely correlated with life history of aggression
CSF oxytocin levels are inversely correlated with life history of aggression (Lee, Ferris et al 2009)
CSF oxytocin levels are inversely correlated with history of suicidal behavior (Lee, Ferris et al. 2009)

**Figure 1.** Endorphinic neurons from the nucleus arcuatus project to the ventral tegmental area (VTA), nucleus accumbens, amygdala, prefrontal cortex, and other regions of the limbic system. Dopaminergic neurons from the VTA project to the nucleus accumbens (reward system).

- **Theory:** Neurobiological changes in BPD are based on a dysregulation of the EOS.
- **Most of the mysterious and alarming symptoms of BPD seem to have a common denominator:** They can be interpreted as a desperate, albeit mostly unconscious, effort to achieve higher opioid receptor occupancy or normal levels of endorphins in the shortest possible time.
Oxytocin dysfunction in BPD

- Dysfunction in oxytocin activity may impair the ability of people with BPD to evaluate others’ state of mind from social cues.

- Oxytocin reduces stress induced increases in cortisol ➔ Reduction of interpersonal sensitivity when stressed (Simeon, Bartz, Ketay et al, 2009)

- King-Casas et al (2008) BPD experienced difficulty maintaining cooperation and repairing relationships after cooperation was broken
  ➔ Activity in the anterior insula of individuals with BPD was related only to the magnitude of payment and not offers of payment.
Evidence for mentalization problems in BDP
Conflicting findings on direct measurement of mentalizing in BPD

- Studies indicate an **inferior mentalization ability** in BPD
  
  ➢ Subtle impairments in basic **emotion recognition** (Levine et al., 1997; Bland et al., 2004)
  
  ➢ **Negativity bias** (Wagner and Linehan, 1999; Donegan et al., 2003; Dyck et al., 2009; Guitart-Masip et al., 2009)
  
  ➢ **Heightened sensitivity** for the detection of negative emotions (Lynch et al., 2006), with bias towards perception of anger (Domes et al. 2008)
  
  ➢ Only apparent when facial emotion recognition tasks imitate more **complex situations** and integration of information is required
Conflicting findings on direct measurement of mentalizing in BPD

- Studies indicate an equal mentalization ability in BPD
  - BPD patients comparable to controls in emotional theory of mind (Harari et al., 2010).
  - BPD patients equal performance on the MSAT, a test of cognitive-mentalizing skills (Ghiassi et al., in press)
Conflicting findings on direct measurement of mentalizing in BPD

Studies indicate **superior mentalization ability** in BPD

- ‘Reading the mind in the eyes test’: an **enhanced sensitivity** in BPD when attributing a mental state based on information derived from pictures portraying the eye region of the face (Fertuck et al., 2009).
- BPD patients performed superior to nonpatients on the **Happe Test** (infering other subjects' thoughts, feelings, and intentions in complex social situations that involve double bluff, mistakes, persuasion, and white lies - Arntz, et al., 2009).
- Patients **noticed the unfair behavior of the partner** with lower repayment ratio in spite of emotional cues and adjusted their behavior accordingly (Franzen et al., 2011).
Conflicting findings on direct measurement of mentalizing in BPD

- The capacity to *recognize mental states of social interaction partners co-occurs with deficits in interpersonal relationships* (Krohn’s paradox of borderline “empathy”)

- Mentalization based on internal (mental interiors, putative feelings and thoughts) versus external (face, behavior) features of self and others (Satpute & Lieberman, 2006)
Picture 1: Cliff is the first to arrive at Sandra’s house for the dinner party. He and Sandra seem to enjoy themselves when Cliff is telling about his vacation in Sweden.
Movie for the Assessment of Social Cognition (MASC) (Dziobek et al 2006)

Picture 2: When Michael arrives, he dominates the conversation, directing his speech to Sandra alone.
Movie for the Assessment of Social Cognition (MASC) (Dziobek et al 2006)

Picture 3: Slightly annoyed by Michael’s bragging story, Sandra shortly looks in Cliff’s direction and then asks Michael: ‘‘Tell me, have you ever been to Sweden?’’

Question: Why is Sandra asking this?
Movie for the Assessment of Social Cognition (MASC) (Dziobek et al 2006)

- **Example correct answers:**
  - To change to the topic that Cliff talked about before so that he gets involved again
  - To redirect the conversation to Cliff
  - To integrate Cliff

- **Example incorrect answers:**
  - To hear if Michael also has something interesting to say about Sweden
  - To see which of the two guys has a cooler story to tell
  - She is very suspicious of Michael and thinks he is making it up because he is the kind of person who tries to deal with his inadequacy by making up
Impaired abilities in social cognition compared to healthy controls in their recognition of emotions, thoughts, and intentions on the MASC.

PTSD associated with loss of mentalizing

Dysfunctions in understanding other minds in BPD: A study using cartoon picture stories

Patients with BPD who also had separation under 7 were most likely to show mentalization deficit

Patients with BPD have difficulties with cognitive empathy because they apply self:affect state propositions to cognitive mentalizing which demand the logic of agent:attitude propositions.
Patients with BPD make more mentalizing errors on COGNITIVE mentalizing task than EMOTIONAL task (Harari et al., 2010)
Correlation Between Movie for the Assessment of Social Cognition (MASC) and Borderline Personality Features Scale for Children (Sharp et al., in press)

Journal of the American Academy of Child and Adolescent Psychiatry
Correlations between mentalizing and emotion regulation and borderline features (Sharp et al., 2011)

Hypermentalizing leads to emotion disregulation which leads to borderline personality features (Sharp et al., 2011, J.Am. Acad. Child. Adol. Psychiat., 60, 563-573.)

Hypermentalizing (MASC) → 0.27* → Emotion Regulation (DERS) → 0.75** (0.69**) → BPD (BPFSC) 0.42*** (0.19*)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>R²</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypermentalizing</td>
<td>1.56</td>
<td>.370</td>
<td>.383**</td>
<td>.15</td>
<td>.0001</td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypermentalizing</td>
<td>.793</td>
<td>.270</td>
<td>.194*</td>
<td>.58</td>
<td>&lt; .0001</td>
</tr>
<tr>
<td>DERS</td>
<td>.375</td>
<td>.036</td>
<td>.686**</td>
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Hypermentalizing leads to emotion disregulation which leads to borderline personality features

Hypermentalizing leads to emotion disregulation which leads to borderline personality features

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<td>.686**</td>
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</tr>
</tbody>
</table>
Is there a human language which does not recognize love to be blind?

Common regions of deactivation with maternal and romantic love (Bartels & Zeki, 2008)
The hyper-reactivity of the attachment system in BPD

- We assume that the attachment system in BPD is “hypersensitive” (triggered too readily)

- Indications of attachment hyperactivity in core symptoms of BPD
  - Frantic efforts to avoid abandonment
  - Pattern of unstable and intense interpersonal relationships
  - Rapidly escalating tempo moving from acquaintance to great intimacy
Inhibition of social understanding associated with maltreatment can lead to exposure to further abuse.
Implicit-Automatic-Non-conscious-Immediate.

Mental interior cue focused

Cognitive agent:attitude propositions

Imitative frontoparietal mirror neurone system

BPD

Explicit-Controlled-Conscious-Reflective

External visible cues focused

Affective self:affect state propositions

Belief-desire MPFC/ACC inhibitory system

Mentalizing Profile of Prototypical BPD patient

Implicit-Automatic-Non-conscious-Impressionistic

Mental interior cue focused

Cognitive agent: attitude propositions

Imitative frontoparietal mirror neurone system

Explicit-Controlled Conscious Reflective

Mental external cue focused

Affective self:affect state propositions

Belief-desire MPFC/ACC inhibitory system

**BPD**

- amygdala, basal ganglia, ventromedial prefrontal cortex (VMPFC), lateral temporal cortex (LTC) and the dorsal anterior cingulate cortex (dACC)
- associated with several areas of prefrontal cortex
- frontoparietal mirror-neuron system
- the medial prefrontal cortex, ACC, and the precuneus

**BPD**

- lateral and medial prefrontal cortex (LPFC & MPFC), lateral and medial parietal cortex (LPAC & MPAC), medial temporal lobe (MTL), rostral anterior cingulate cortex (rACC)
- associated with inferior prefrontal gyrus
- recruits lateral fronto-temporal network

**BPD**

- medial frontoparietal network activated
- associated with several areas of prefrontal cortex

**BPD**

- the medial prefrontal cortex, ACC, and the precuneus
- associated with inferior prefrontal gyrus

amygdala, basal ganglia, ventromedial prefrontal cortex (VMPFC), lateral temporal cortex (LTC) and the dorsal anterior cingulate cortex (dACC)

lateral and medial prefrontal cortex (LPFC & MPFC), lateral and medial parietal cortex (LPAC & MPAC), medial temporal lobe (MTL), rostral anterior cingulate cortex (rACC)

medial frontoparietal network activated

recruits lateral fronto-temporal network
Imbalance of mentalization generates problem

**Implicit-Automatic-Non-conscious-Immediate.**
- Mental interior cue focused
- Cognitive agent: attitude propositions
- Imitative frontoparietal mirror neurone system

**Explicit-Controlled-Conscious-Reflective**
- Mental exterior cue focused
- Affective self: affect state propositions
- Belief-desire MPFC/ACC inhibitory system

**BPD**
- Impulsive, quick assumptions about others thoughts and feelings not reflected on or tested, cruelty
- Lack of conviction about own ideas Seeking external reassurance Overwhelming emptiness, Seeking intense experiences
- Unnatural certainty about ideas Anything that is thought is REAL Intolerance of alternative ways of seeing things.
- Hypersensitive to others' Moods, what others say. Fears 'disappearing'
- Rigid assertion of self, controlling others' thoughts and feelings.

- Does not genuinely appreciate others' perspective. Pseudo-mentalizing, Interpersonal conflict 'cos hard to consider/reflect on impact of self on others
- Hyper-vigilant, judging by appearance. Evidence for attitudes and other internal states has to come from outside
- Overwhelmed by dysregulated emotions Not balanced by cognition come to dominate behavior. Lack of contextualizing of feelings leads to catastrophyzing
- Rigid assertion of self, controlling others' thoughts and feelings.
Treatment vectors in re-establishing mentalizing in borderline personality disorder

Implicit-Automatic  |  Implicit-Automatic
---|---
Explicit-Controlled | Explicit-Controlled

Mental interior focused  |  Mental exterior focused

Cognitive agent: attitude propositions

Emotional sensitivity

Imitative frontoparietal mirror neurone system

Belief-desire MPFC/ACC inhibitory system

Certainty of emotion

Appearance
Identity diffusion: The functional overlap hypothesis
Mentalizing as a multidimensional neuroscience construct

- Two distinct neural networks are shared by self-knowing and knowing others (Lieberman, 2007; Uddin et al., 2007)
  - frontoparietal mirror-neuron system (Keysers & Gazzola, 2006; Rizzolatti, Ferrari, Rozzi, & Fogassi, 2006).
  - the medial prefrontal cortex, ACC, and the precuneus (Frith, 2007; Frith & Frith, 2006; Uddin et al., 2007)
- The inhibition of imitative behavior involves cortical areas that are also related to mentalizing, self-referential processing and determining self agency
- Failure of medial prefrontal and temporo-parietal mentalizing function in BPD → difficulties in decoupling their representations of another person’s experience from their self-representations.
Evidence for shared representations

Cognitive psychology

- observation has a strong influence on movement execution (e.g. Brass et al., 2000, 2001, Kilner et al., 2003, Stuermer et al., 2000)

Social psychology

- chameleon effect (Chartrand & Bargh, 1999)

Cognitive neuroscience


Neurophysiology

- mirror neurons (e.g. Rizzolatti & Craighero, 2004)
The origins of shared representations
The origins of shared representations

Frontoparietal mirror neurone ‘imitative’ system

From Brass, Bekkering, Wohlschläger & Prinz, 2006
The imitation-inhibition task

congruent

baseline

incongruent
The imitation-inhibition task

Lift the *index finger* when a `1` appears and the *middle finger* when a `2` appears.
Results

Brass, Bekkering, Wohlschläger & Prinz, 2000
The neural signature of imitation-inhibition

incongruent vs. congruent

- anterior fronto-median cortex (aFMC)
- temporo-parietal junction area (TPJ)

Brass, Derrfuss & von Cramon, 2005
The neural signature of imitation-inhibition

incongruent vs. congruent

anterior fronto-median cortex (aFMC)

tempo-parietal junction area (TPJ)

Brass, Derrfuss & von Cramon, 2005
Functional role of aFMC and TPJ

Gilbert et al. (2006)  
Decety & Grezes (2006)

imitation-inhibition (Brass et al., 2009)

red= mentalizing (only BA 10)  
red=mentalizing  yellow=agency
Identity diffusion: The functional-overlap hypothesis

- We assume that this overlap reflects common underlying processes such as self/other distinction and decoupling of self and other.

- Capacity to inhibit imitative behavior may be key to enabling us to generate a sense of ‘me-ness’ through achieving a ‘not-other’-ness
Implication for the phenomenology of borderline personality disorder

- Patients with BPD feel vulnerable to losing a sense of self in interpersonal interchange because they cannot adequately inhibit the alternative state of mind which is imposed on them through social contagion.

- Perhaps the apparent determination to ‘manipulate and control’ the mind of others characteristic of BPD patients should be best seen as a defensive reaction, defending the integrity of the self within attachment contexts.
  
  - without such control, they might feel excessively vulnerable to losing their sense of separateness and individuality.
The hyperactivation of attachment in BPD

- We assume that the attachment system in BPD is “hypersensitive” (triggered too readily)

- Indications of attachment hyperactivity in core symptoms of BPD
  - Frantic efforts to avoid abandonment
  - Pattern of unstable and intense interpersonal relationships
  - Rapidly escalating tempo moving from acquaintance to great intimacy
The mentalizing model of BPD

Distal factors

Proximal factors

BPD: Core features

- Constitutional factors
- Early caregiving context
  - Attachment disruptions
  - Poor self-other differentiation
  - Hyper-sensitivity to mental states
  - Impairments in integration of cognition & affect
- Low threshold for attachment activation & deactivation of MZ
- Stress/arousal
  - Dysfunctional relationships
  - Affect dysregulation
  - Impulsivity
- Pre-mentalizing social cognition (PE, PRT, TEO)
  - Identity diffusion
  - Dissociation
  - Feelings of inner pain & emptiness
Mentalizing Profile of Prototypical BPD patient

Treatment vectors in re-establishing mentalizing in borderline personality disorder

- Implicit-Automatic
- Mental interior focused
- Cognitive agent: attitude propositions
- Imitative frontoparietal mirror neurone system

- Explicit-Controlled
- Mental exterior focused
- Affective self: affect state propositions
- Belief-desire MPFC/ACC inhibitory system

Impression-driven vs Appearance
- Impression-driven
- Certainty of emotion
- Emotional sensitivity
- Autonomy

Inference-driven vs Certainty of action
- Inference-driven
- Doubt of cognition
- Emotionality
- Sensitivity

Controlled vs Impression-driven
- Controlled
- Certainty of action
- Emotionality
- Sensitivity

Mental exterior focused vs Mental interior focused
- Mental exterior focused
- Certainty of action
- Emotionality
- Sensitivity

Mental interior focused vs Mental exterior focused
- Mental interior focused
- Certainty of action
- Emotionality
- Sensitivity

Cognitive agent: attitude propositions vs Affective self: affect state propositions
- Cognitive agent: attitude propositions
- Certainty of action
- Emotionality
- Sensitivity

Implicit-Automatic vs Explicit-Controlled
- Implicit-Automatic
- Certainty of action
- Emotionality
- Sensitivity

Explicit-Controlled vs Implicit-Automatic
- Explicit-Controlled
- Certainty of action
- Emotionality
- Sensitivity
Who specifically benefits from MBT-BPD?
Odds of a clinical episode in MBT by therapist

Therapist x Time interaction: n.s.
Moderating effect of Narcissistic PD

Group x Time interaction: Beta=0.20, 95%CI: 0.08 - 0.50, z=-3.43, p<0.001
3-way interaction: Beta=4.9, 95%CI: .93 - 37.2, z=1.7, p<0.07
Antisocial problems and clinical outcome

Group x Time interaction: Beta=0.16, 95%CI: 0.06 - 0.48, z=-3.31, p<0.001
3-way interaction: Beta=3.7, 95%CI: .93 - 17.59, z=1.74, p<0.07
Moderating Effects of Age on GSI

3-way interaction: \( \text{Beta} = -0.027, 95\% \text{CI} -0.05 -0.001, z=2.1, p<0.04 \)
Coefficient of difference between slopes = -0.14 (-0.21, -0.08), p < 0.000

Moderating effect of age on BDI scores

3-way interaction: Beta = -0.027, 95% CI -0.05 - -0.001, z = 2.1, p < 0.04
MBT patients who remained with clinical problems: SCL-90 subscale scores

Mean SCL-90 scores

- No clinical change (n=19)
- Significant change (n=52)
Nineteen patients were not free of self-harm, suicide or hospitalization after 18-months of MBT. Who were they?
Does Severity Moderate MBT? Indicators of Severity in IOP-Study

Severity of Axis I Disorder

Severity of BPD

Severity of Axis II Disorder

Severity of Symptomatic Distress
Predictive Recovery by Axis II Pathology

One Axis II Diagnosis

Two Axis II Diagnoses

Three Axis II Diagnoses

Four Axis II Diagnoses

Assessment Periods

Baseline 6 months 12 months 18 months

Linear Prediction of Recovery

SCM MBT

Baseline 6 months 12 months 18 months

Linear Prediction of Recovery

SCM MBT
Predicted BDI Scores by Axis II Diagnoses

One Axis II Diagnosis

Two Axis II Diagnoses

Three Axis II Diagnoses

Four Axis II Diagnoses

Assessment Periods

Baseline 6 months 12 months 18 month

Assessment Periods

Baseline 6 months 12 months 18 month

Assessment Periods

Baseline 6 months 12 months 18 month

Assessment Periods

Baseline 6 months 12 months 18 month

Linear Prediction of BDI Scores

SCM MBT

Linear Prediction of BDI Scores

SCM MBT

Linear Prediction of BDI Scores

SCM MBT

Linear Prediction of BDI Scores

SCM MBT
Predicted Interpersonal Problems by Axis II Diagnoses

One Axis II Diagnosis

Two Axis II Diagnoses

Three Axis II Diagnoses

Four Axis II Diagnoses

Assessment Period:
- Baseline
- 6 months
- 12 months
- 18 months

Linear Prediction of IIP Scores:
- SCM
- MBT

Prediction trends for interpersonal problems across different periods and numbers of Axis II diagnoses.
Predicted Self-Harm By Axis II Diagnoses

One Axis II Diagnosis

Two Axis II Diagnoses

Three Axis II Diagnoses

Four or More Axis II Diagnoses
MBT-A in the Treatment of Self Harm
Design of trial of adolescent self-harm trial (Rossouw & Fonagy, submitted)

- Referrals to community mental health centre for severe self-harm identifying all referrals including
  - Random allocation (minimization for age, gender, SES)
  - Individual (50 mins) sessions weekly and Family (1.5 hrs) monthly for 12 months
  - Assessments at admission, 6 months, 12 months, 18 months (not yet analyzed)
  - Medication followed protocol
### Sample characteristics of Self Harm And Mentalization Trial (Rossouw et al., in prep)

#### Characteristics at Baseline

<table>
<thead>
<tr>
<th>Characteristics at Baseline</th>
<th>Routine Care</th>
<th>Mentalisation Based Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female, n/N (%)</td>
<td>87.50%</td>
<td>82.5%</td>
</tr>
<tr>
<td>Age, mean (SD)</td>
<td>14.8 (1.2)</td>
<td>15.4 (1.3)</td>
</tr>
</tbody>
</table>

#### Chronicity of Self harming

- less than 3 months: 40% (Routine Care), 40% (Mentalisation Based Treatment)
- 3-5 months ago: 10% (Routine Care), 17.5% (Mentalisation Based Treatment)
- 6-11 months ago: 15% (Routine Care), 5% (Mentalisation Based Treatment)
- 1-2 years ago: 27.5% (Routine Care), 30% (Mentalisation Based Treatment)
- over 2 years ago: 7.5% (Routine Care), 7.5% (Mentalisation Based Treatment)
Sample characteristics of Self Harm And Mentalization Trial (Rossouw et al., in prep)

<table>
<thead>
<tr>
<th>Characteristics at Baseline</th>
<th>Routine Care</th>
<th>MBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Childhood Interview for DSM-IV BPD:(%)</td>
<td>70%</td>
<td>75%</td>
</tr>
<tr>
<td>Possible BPD (inc. threshold)</td>
<td>78%</td>
<td>90</td>
</tr>
<tr>
<td>Borderline personality features</td>
<td>3.3 (0.08)</td>
<td>3.2(0.08)</td>
</tr>
<tr>
<td>Percent depressed on MFQ</td>
<td>70%</td>
<td>77%</td>
</tr>
</tbody>
</table>
Consort Diagram for MBT-A RCT

120 patients screened for eligibility

40 patients excluded:
- 30 declined participation
- 5 did not meet inclusion criteria
- 5 met exclusion criteria

80 randomized

40 patients allocated to MBT-A
- 10 attended < 2 months
- 10 attended 3-6 months
- 20 completed treatment
- 40 included in analyses

40 patients allocated to TAU
- 10 attended < 2 months
- 13 attended 3-6 months
- 17 completed treatment
- 40 included in analyses

Rossouw & Fonagy (in prep.)
Overall number of appointments for self-harming adolescents in MBT vs. TAU trial

Group difference: $\beta=2.95$, 95% CI: -4.28, 10.17, $t(78)=0.81$, $p<0.419$, $d=0.18$
Self harm scores for TAU (n=40) and MBT (n=40) groups on the RSHI

![Graph showing self-harm scores over time for TAU and MBT groups.](image)

Group differential rate of change: $\beta=-0.049$, 95% CI: $-0.09$, $-0.02$, $t(159)=-2.49$, $p<0.013$, $d=0.39$
Definite diagnosis of BPD using Zanarini Adolescent Interview (cut-point at 5 criteria)

Group differential rate of change: \( \beta = -1.035, 95\% \text{ CI: } -2.71, 0.63, t(159) = -1.21, p < 0.225, d = 0.19 \)
Baseline 12 Months

Imputed Mean Scores (SE)

Borderline personality features scores for TAU (n=40) and MBT (n=40) groups

Group differential rate of change: β=-0.361, 95% CI: -0.7, -0.03, p<0.034, d=0.34
Diagnosis of ‘possible’ BPD using Zanarini Adolescent Interview (cutpoint at 4 criteria)

Group differential rate of change: $\beta=-2.472$, 95% CI: -5.09, 0.14, $t(159)=-1.85$, $p<0.064$, $d=0.29$
Depression scores for TAU (n=40) and MBT (n=40) groups on the MFQ

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

Group differential rate of change: $\beta=-0.696$, 95% CI: -1.48, 0.08, $t(159)=-1.75$, $p<0.081$, $d=0.28$
Mentalizing scores on the HIFQ for treatment groups

Group differential rate of change: $\beta=1.49$, 95% CI: 0, 2.98, $t(159)=1.99$, $p<0.049$, $d=0.32$
Mediation analysis of RF in the MBT-A Treatment of Self Harm Study (Rossouw & Fonagy, in prep)

(Mediation model: $F_{(2,56)} = 22.81$, $p < 0.001$, $R^2 = 0.43$)
Pushing mom away: Embodied cognition and avoidant attachment (Fraley & Marks, 2011)

Response times (push-pull) as a function of attachment avoidance, controlling anxiety.
Mediation analysis of RF in the MBT-A Treatment of Self Harm Study (Rossouw & Fonagy, in prep)

(Mediation model: $F_{(2,56)} = 22.81$, $p < 0.001$, $R^2 = 0.43$)
Comparison with residential treatment
The Cassel Step-down Treatment Study (Chiesa & Fonagy, in press)

- 297 patients in personality disorder services
  - (112 complete data, 31 males 81 females, 40% with some tertiary education)

- Recruited through
  - Cassel **Residential** inpatient programme (n=120)
  - Cassel **Community** stepdown/outpatient programme (n=113)
  - MAU: Devon Personality Disorder services (n=64)

- Treatment input and staff resources
  - Treatment hours **16.2-18.2** versus **3.2 hours**
  - Staff wte’s: residential **8.5** versus community **2.6**
Hospital Admission, Self-harm and Suicide Attempts in Community and Residential Samples (Chiesa et al., 2009)

**Hospital Admission**

**Self-Harm**

**Suicide attempts**

*J Psychiatr Pract, 15(1), 12-24*
Dropouts from community based and residential programs

Mantel-Cox \( p < 0.0001 \)
Days in hospital per year

- **Community program**
- **Residential program**

![Graph showing mean days in hospital for community and residential programs at intake, 12 months, and 24 months.](image-url)
GSI Score by self-harm at intake

- Community: No self-harm
- Community: Self-harm at intake
- Residential: No self-harm
- Residential: Self-harm at intake

Mean GSI Score

Intake 6 months 12 months 24 months

Intake: Community: No self-harm, Community: Self-harm at intake, Residential: No self-harm, Residential: Self-harm at intake
The Cassel Step down Treatment Study: Reflective Function Gain (Chiesa & Fonagy, in prep)

Mixed effects model: $\beta$(Residential)=$.25$, $z=2.28$, $p<0.02$, 95%CI: .035, .467
Mixed effects model: $\beta$(Community)=$.50$, $z=4.19$, $p<0.000$, 95%CI: .264, .728
Mediation analysis of RF in the Cassel Step down Treatment Study (Chiesa & Fonagy, in prep)

R²=0.17, p<.0003, Combined effect=0.12, z=2.99, p<.005
Replication
With an
Adolescent
Sample
Design of trial of adolescent self-harm trial.

- Referrals to community mental health centre identifying all referrals including

- **Random** allocation (minimization for age, gender, SES)

- Individual (50 mins) + Group (1.5 hrs) **sessions weekly** for 12 months

- **Assessments** at admission, 6 months, 12 months, 18 months

- **Medication** followed protocol
MBT vs TAU with Adolescents Who Self-harm: Self-report of self harm (Roussow et al., in prep)

**Mean MFC Scores**

**Baseline**

**3-months**

**6-months**

**9-months**

**12-months**

**Mean Log Self Harm in 3 Months**

Group x Time interaction (inc. quadratic comp for time): Beta= -0.05, p<0.005, (95%CI: =-0.9, -0.02)
Group x Time interaction (inc. quadratic comp for time): Beta= -0.05, \( p<0.005 \), (95\%CI: \(-0.9, -0.02\))
International replication
Numbers trained in MBT 2004-2010

- MBT basic (London): 200
- MBT basic (international): 183
- MBT advanced: 37
- Minding the body (MBT for ED): 47
- MBT for adolescents: 64
- MBFT: 986
Percent of who seriously self harmed: Netherlands – UK comparison
(Bales et al., in press, J Pers. Disord.)

![Bar graph showing self-harm rates at baseline, six months, twelve months, and eighteen months with p-values for comparisons.](Image)

- SCM
- MBT-UK
- MBT-NL

- Baseline: n.s.
- Six Months: p < .08
- Twelve Months: p < .05
- Eighteen Months: p < .05
Percent of sample hospitalized: Netherlands – UK comparison (Bales et al., submitted)
RCTs and other research studies
RCTs, other research studies and training
New therapies using MBT principles
MBT Derivatives

Mentalization Based Therapy for Families & Couples
Fearon, Rossouw, Williams, Bleiberg Midgley, Asen et al.

Mentalization Based Object Relations Therapy for Depression (DIT)
Lemma, Target, Luyten, Fonagy et al.

Mentalization Based Systemic Interventions (Peaceful Schools)
Twemlow, Vernberg, et al.

J. Fam. Therap, submitted

JCPP, 50, 2009, 607-16

Psychiatry, in press
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