BORDERLINE PERSONALITY DISORDER: an evaluation of its connection to the brain and clinical issues

Dr Nuri Gene-Cos
PhD, MRCPsych, LMS (MD)

Traumatic Stress Service
Clinical Treatment Centre
Maudsley Hospital
Denmark Hill
London SE5 8AZ
nuri.genecos@slam.nhs.uk

Dr. Nuri Gene-Cos,
Consultant Psychiatrist
“Very often what we consider to be abnormal patterns of development are entirely understandable in terms of adaptation to adversity in early life”

DD Francis
Programme of the talk

- BPD definition and aetiology
- Evolutionary and developmental perspective
- Levels of analysis: molecular and cellular levels
- Human brain:
  - McLean brain
  - Reptilian brain
  - Limbic system
  - neocortex
  - ANS (autonomic nervous system)
  - Emotional and social brain-Amigdala
    - Orbitofrontal cortex
    - Anterior cingulate gyrus: ACC
- Neurotransmitters:
  - opioids/ serotonine/ NE/ Cortisol
- Physiological arousal model
- PTSD and bipolar disorders vs BPD
- Clinical cases
Questions for the group

1- Do you think a diagnosis of personality disorder should be used?

2- Do you believe the behaviour in BPD is determined by an illness? That it’s the patient’s fault? Or that they are just victims of society?

3- Most borderlines do not have dissociative symptoms or dissociative amnesia, and DID is extremely rare: true or false?

4- Individuals with BPD have a 250% higher risk of road rage and a significantly higher risk of driving citations: true or false?

5- BPD tends to run in families: true or false?
Introduction

- Research into personality disorders is still in its infancy. There is no one cohesive theory covering the neurobiology of personality disorders at this time.

- To have a coherent model of personality disorder would have to consider a large number of factors that underlie the dimensions of personality traits, and that interact with each other in incredibly complex ways (Depue and Lenzenweger, 2005).
Borderline PD

Described and named in 1938 by psychiatrist /psychoanalyst Adolph Stern:

Patients seemed to be on a borderline between psychosis and neurosis

Patients are diagnosed with BPD if they have:
A- at least five of the characteristics listed by the Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV).
B- the traits cause them considerable impairment and distress.

For a person to be diagnosed with any PD, the symptoms must be severe and must go on long enough to cause significant emotional distress or problems functioning in relationships or at work.

DSM-IV:
- Make frantic efforts to avoid real or imagined abandonment.
- Have a pattern of difficult relationships caused by alternating between extremes of intense admiration and hatred of others.
- Have an unstable self-image or be unsure of his or her own identity.

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Consultant Psychiatrist
Borderline PD

DSM-IV:
- impulsive self-damaging behaviour: e.g. extravagant spending, frequent and unprotected sex with many partners, substance abuse, binge eating, or reckless driving.
- recurring suicidal thoughts, make repeated suicide attempts, or cause self-injury through mutilation (e.g. cutting or burning).
- frequent emotional overreactions or intense mood swings (depressed, irritable, or anxious). Mood swings usually only last a few hours at a time, rarely, lasting a day or two.
- long-term feelings of emptiness.
- inappropriate, fierce anger or problems controlling anger. may often display temper tantrums or get into physical fights.
- episodes of feeling suspicious of others without reason (paranoia) or losing a sense of reality.

BPD: 1.4% the population (Chanen et al, 2007).
- women more often than men
- It is the most serious personality disorder
- account for 20% of psychiatric hospitalizations: due to impulsive behaviour (suicidal and self harm), often need extensive mental health services (Chanen et al, 2007)
“Repeated trauma in adult life erodes the structure of the personality already formed, but repeated trauma in childhood forms and deforms the personality” J Herman.
BPD aetiology

- Exact causes of BPD are not known.

- Working model: biologic predisposition in combination with environmental stressors.

- Strong evidence: link between distressing childhood experiences and BPD. Important to remember, that not everyone who has BPD has had these types of childhood experiences (although a large number have) and vice-versa.

- Some studies show: people with BPD have differences in brain structure and brain function. Excessive activity in parts of the brain that control the experience and expression of emotion (i.e. more activation of the limbic system, an area in the brain that controls fear, anger, and aggression; this may be related to the emotional instability symptoms of BPD).

(Zanarini & Frenkenburg, 1997)
Most experts believe that BPD develops as a result of:

- Genetic factors
  - Genes that control serotonin
- Biological factors
  - Differences in brain structure and brain function. Excessive activity in parts of the brain such as the limbic system
  - Distressing childhood experiences: physical and sexual abuse, early separation from caregivers, emotional or physical neglect, emotional abuse, parental insensitivity
- Environmental factors
“Critical to survival is the ability to identify quickly in the environment emotionally salient information, including danger and reward, and to form rapid and appropriate behavioral responses”  Darwin 1972
Evolutionary Perspective

- First described by P Mclean 30 years ago:

- A full understanding of human behavior requires an evolutionary perspective.

- Evolution typically does not discard structures, it reuses them in modified ways.

- Human behavior is not simply a product of the neocortex. Rather, human behavior results from the interactions of the neocortex with subcortical structures and older cortex.

(Taylor, 1999; Mattson, 2004)
The world's first game of soccer...
Developmental perspective

- MRI in infants: brain volume increases rapidly during first 2 years (normal adult appearance seen at 2 years); all major fibre tracts can be identified by age 3.

- Infants under 2 years show higher right than left hemispheric volumes (Matsuzawa et al, 2001). Right hemisphere is more advanced than the left from about the 25th gestational week and this advance persists until the left hemisphere shows a postnatal growth spurt starting in the 2nd year (Trevarthenm, 1996).

- Even in utero and after birth, for every moment of every day, our brain is processing non stop set of incoming signals from our senses. These raw sensory data that will result in these sensations enter the lower parts of our brain and begin a multistage process of being categorized, compared to previously stored patterns (A Schole).
**Developmental perspective**

- Brainstem completes much of its development in utero and during infancy.
- Midbrain and limbic system, mainly during the first 3 years of life.
- Frontal cortex (planning, self-control, abstract thinking), late teens and early twenties.

- Brain-muscles that develop more are the ones we exercise more; e.g. if we are constantly threatened as children we may develop our aggressive tendencies more as a survival and we will develop say the calm responses less...

- Injuries: The earlier the impact in the brain the more serious the consequences. Also certain moments of the development may be more susceptible to injury than others.
Developmental perspective

- **Fear**: our most primal emotion, it affects all parts of the nervous system in waves, through electrical and chemical connections involving norepinephrine (NE), epinephrine (EP) and cortisol; 2 main parts involved: *locus ceruleus* (main producer of NE in brain) and *amygdala*.

- In calm states: we can use our brain easily; cortical areas as well as more primitive ones.

- In alert state: we close down the more intellectual parts and work with subcortical areas that will facilitate the perception of our senses (faster and more adaptive for dealing with danger).

- Dissociative responses: most primitive, based at the brainstem. Babies are unable to fight or flee therefore dissociative responses of closing down, curling up and cutting off from surroundings when needed is relatively common. During dissociation, heart rate and blood flow decreases to reduce loss of blood if injury is present; the brain releases heroin like substances producing a sense of calm and distance from surroundings; time slows down, ...

- Chronic abuse in childhood often produces low mood, low self-esteem, and sense of self-hatred. Believing they are “bad” and deserved to be punished; this is projected into the word, becoming hypersensitive to rejection.
“The mother provides an external regulating mechanism for many of the physiological mechanisms that the infant possesses but does not regulate itself. These effects are mediated by effects of the mother on the infant’s neurobiological processes. At some point in development the infant becomes self-regulating through the development of internal regulatory mechanisms entrained to the stimuli that the mother provides” (Kraemer et al 1991)
Levels of Analysis

- Molecular
- Cellular
- Circuits
- Systems
- Behavioral
- Phenomenological
Molecular and cellular levels

- Billions of neurons, dendrites and synaptic interconnections are produced in random excess. Over the first several years and decade of life, these excess neurons are pruned and sheared away by the hundreds of millions.

- Additional neurons continue to be generated even in the adult brain, it is through dendritic attrition that specific neural networks are formed.

- The sculpting of specific neural pathways fine tunes perception, selective attention, and promotes learning, memory, and cognitive and personality development.

- An abnormal or impoverished rearing environment can decrease a thousand fold the number of synapses per axon, and retard the growth and eliminate billions if not trillions of synapses per brain 20 and result in the preservation of abnormal interconnections which are normally discarded over the course of development.

(Rhawn J, 1999)
Human brain

- Brain's developmental continues after birth.

- Early environmental influences can determine the establishment of specific neural networks, or can lead to the creation and maintenance of aberrant or random neural pathways thus interfering with the forebrain's ability to discretely, purposefully, and selectively maintain control over behaviour.

- Early social, emotional and environmental influences exert significant organizing effects not only on the brain but shape and mould all aspects of intellectual, perceptual, and social and emotional development.
In the course of evolution, the human brain has developed 3 interdependent parts:

- 1-brainstem and hypothalamus (primarily associated with regulation of internal homeostasis; e.g. regulation of hormones).
  
  At birth: brainstem more "hard wired" and initially under direct genetic and reflexive sensory control.

- 2-limbic system, maintaining the balance between internal world and external reality (oral and genital function; parental care; audio-vocal behaviour; play).

- 3-neocortex, analysing and interacting with external world.

Limbic system and neocortex require considerable social, emotional, perceptual and cognitive stimulation during the first several months and years of life in order to develop normally.
“The Triune Brain” [McLean, 1967]

Frontal Cortex

“Homo Sapiens Brain:” intellectual and executive functioning

Limbic System

“Mammalian Brain:” somatosensory and emotional experience

Brainstem

“Reptilian Brain:” instinctive responses

Fisher, 2003

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HUMAN BRAIN

Together the 3 systems control a range of regulatory functions:

1- internal vegetative functions, rhythms of life-rest/sleep and activity; feeding, reproductive cycles, etc…

2- control relationships with the outside world, assessing novelty, danger, gratifying. Novelty needs to be analysed against the previously stored knowledge. They use what is needed and discard what is not relevant.

3- in addition, the organism needs to be able to engage in routine tasks without being distracted by irrelevant stimuli… able to learn from experience.

4- social function of the brain allows to engage in complex social systems.
LIMBIC SYSTEM (LS)

- Has centers responding to:
  - Reward and punishment behaviour
  - Pain
  - Anger
  - Rage
  - Fear
  - Vigilance
  - Somnolence.

- Some of the parts of the LS:
  - Hypothalamus
  - Thalamus
  - Amygdala
  - Hippocampus
  - Basal Ganglia

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Amigdala in humans

- Matures by 8/12 prenatally
- Specialises in recognition of danger and fear responses. (flight/fight/freeze responses)
- Processing reward and punishment stimuli, as well as their social significance.
- Recognition of facial expressions.
- Memory for emotional stimuli and events (implicit memory).
- Linking early perceptual processing of stimuli with modulation of such perception via feedback to sensory and association neocortex.
- Modulating cognition through its connections with structures involved in decision-making, memory and attention.
- Linking to emotional response through its output to hypothalamus, brainstem and periaqueductal gray matter.

(Review by Adolphs, 2003)
AMYGDALA

S A ventromedial frontal cortex
E M planning and decision making
M Y hippocampus
N Y basal ganglia
S G memory and attention
G D basal forebrain
O D homeostasis
D L hypothalamus
L A visceral
A A neuroendocrine output

11/11/2010

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Attachment behaviour: limbic system

- The amygdala, septal nuclei, cingulate gyrus, and hippocampus promote all aspects of social and emotional functioning including the capacity to establish, remember, and maintain emotional attachments.

- These limbic nuclei are exceedingly plastic, "experience-expectant", and require considerable emotional, social, and maternal stimulation in order to develop normally.

- "If denied sufficient input limbic system neurons involved in perceiving social emotional nuances, such as conveyed by the face, through body language, and the spoken word, and those responsible for forming and remembering emotional attachments, may atrophy, develop abnormal activity, form or maintain inappropriate or random interconnections, or come to be invaded by competing neural assemblies, and in consequence function abnormally."

(Rhawn J, 1999)
Dr. C. George Boeree

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Psychiatrist
Neocortex

- Cerebral hemispheres
- Heteromodal association cortices
- Cerebellar neocortex
- Large parts of the corpus callosum.

- Part of the “action” brain: reasoning strategies to attain personal goals, making decisions, weighing a range of options and predicting outcomes of our own actions
- Perceptual integration: deciding which stimuli are useful and which are not.

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Consultant Psychiatrist
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Orbitofrontal cortex

- Orbitofrontal cortex as the “highest level of control of behaviour, especially in relation to emotion” (Price et al. 1996);

- It’s the attachment control system (Schore p 278).

- Orbitofrontal regions are not functional at birth, it matures by 9-10/12 age. As a result of attachment experiences this system begins to mature at the same time that internal working models of attachment are first measured.

- Orbitofrontal cortex takes over amygdala functions providing a higher level coding, flexibly coordinates exteroceptive and interoceptive domains and functions to correct responses as conditions change” (Derryberry & Tucker 1992; Schore p 279)

- Centrally involved in “the emotional modulation of experience” (Mesulam, 1998), plays a unique role in the adjustment or correction of emotional responses, that is, affect regulation “this is more observable in situation of novel or ambiguous situations” (Savage et al., 2001).
Orbitofrontal cortex

- Orbitofrontal cortex lesions produce disinhibited or socially inappropriate behaviour and emotional irregularities.

- Lesions can result in difficulties altering behavioral strategies in response to a change in environmental reinforcement contingencies (Rolls, 2000)

- Damage is associated with problems identifying vocal and facial emotional expression (Rolls, 2000; Phillips, 2003)
Anterior cyngulate gyrus: ACC

- Cingulate cortex: evolved probably when animals began displaying maternal behaviour.

- Point of integration for visceral, attention and affective information that is critical for self-regulation and adaptation (Thayer and Lane, 2000). Important for emotion and physical regulation (Phan and Posner, 2003).

- ACC seems to be associated with the conscious allocation of attention (i.e. including inhibition of irrelevant information).

- The ventral and rostral regions- associated with affective, motivated and autonomic behavior. The dorsal region- with response selection as well as pain.

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BPD: neuroimaging studies

- Orbitofrontal dysfunction --→ impulsivity, aggression and mood instability? (Mega & Cummings, 1994) "The patients with orbitofrontal cortex lesions and the patients with BPD performed similarly on several measures. Both groups were more impulsive and reported more inappropriate behaviors." Diminished serotoninergic function in PFC in BPD studies (Brendel et al., 2005).

- "Dysfunction of dorsolateral and medial prefrontal cortex, including anterior cingulate, correlated with recall of traumatic memories in women with BPD. These brain areas might mediate trauma-related symptoms, such as dissociation or affective instability, in patients with BPD." (Brendel et al., 2005)

- Decreased communication between both sides of the brain (Psychiatry Res 2010 Feb 28;181(2):151-4)
Hormones and neurotransmitters in BPD

Today's Gibbletoon By Dan Gibson

Fifty years later, Flossy decides to have the tattoos on her breasts removed.

ACE LASER TATTOO REMOVAL CLINIC

BZZZZZ
opioids

- Pain function: warning signs that s/t is wrong.
- *Early childhood experience of pain changes the wiring of the brain in adulthood.*
- Increase invasive procedures in infants (NICU) decreases response to morphine later in life with less effective morphine in alleviating pain (LaPrairie et al, 2009).
- 3 opioids receptors: Mu; Delta; Kappa.

- Mu-opiod receptors: mediate natural reward; the **basis of infant attachment behaviour; analgesia and addictive properties to opioids** (Zubieta JK et al, 2007; Mole A et al., 2004).

- Brain’s primary reward pathway (the mesolimbic dopamine system): VTA (limbic system), nucleus accumbens (NA) and frontal cortex.
opioids

- Enduring high levels of stress activates the opioid system; animals and humans exposed to stress develop stress induced analgesia mediated by endogenous opioids and blocked by naloxone. (Panksepp, et al., 1985).

- “cutters”: when they mutilate themselves, they can induce a dissociative state, similar to the adaptive response they’d had during the original trauma; in dissociative state people feel little emotional or physical pain. There is release of high levels of opioids, an integral part of the brain’s stress response system, preparing the body to handle both physical and emotional pain (Perry B. p182).

- Naloxone, an antagonist of opioids, can reduce sensitised dissociation (Perry B).

- Pain sensitivity is reduced in BPD, but not in PTSD; this may differentiate the BPD from other stress-related psychiatric conditions (Bohus M et al., 2010).

- BPD Patients showed greater regional mu-opioid receptors than did healthy subjects at baseline (neutral state) in the limbic system except in the posterior thalamus (Prossin AR et al., 2010).
Serotonine (5HT): Pathways / Possible Actions

Raphe Nucleus to:
- Frontal Cortex:
- Basal Ganglia:
- Limbic:
- Hypothalamus:
- Sleep Centers:

- Mood
- Movement (agitation)
- Obsessions and Compulsions
- Anxiety and Panic
- Appetite / Bulimia
- Insomnia
SEROTONIN (5HT)

- In the brain it suppresses behaviour that is motivated by emergencies or by previous rewards (Depue RA, Spoont MR. 1986; Gray JF 198; Soubrie P 1986).

- In animals, low serotonin levels are related to exaggerated startle response, increased arousal in response to novel stimuli (Gerson SC, 1980).

- Decreased serotonin in humans has been correlated with impulsivity and aggression with depression and with BPD (Coccaro EF et al. 1989, Mann JD 1987).

- A gene which controls the way the brain uses serotonin may be related to BPD. Individuals who have this specific variation of the serotonin gene may be more likely to develop BPD if they also experience difficult childhood events. One study found that monkeys with the serotonin gene variation developed symptoms that looked similar to BPD, but only when they were taken from their mothers and raised in less nurturing environments. Monkeys with the gene variation who were raised by nurturing mothers were much less likely to develop BPD-like symptoms. (Greenfield B et al. 2007 review)

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Development of BPD: hypothesis
Cozzolino proposes:

- Hyperactive amygdala (early trauma fight/flight reactions to abandonment) and increased cortisol.
- **Orbitofrontal systems**: not well developed during attachment to engage in self-soothing and the successful inhibition of the amygdala.
- Disconnection between right and left hemisphere and top-down processing, partly accounting for rapid and dramatic shifts between positive and negative appraisals of relationships.
- Networks of the social brain are unable to internalise images from early interactions with caretakers that could provide self-soothing and affect regulation.
- Rapid fluctuations between Sympathetic and PS states: baseline irritability and low threshold for sympathetic responses to real or imaginary abandonment.
chronic high levels of stress hormones compromise hippocampal functioning, decreasing the ability to control amygdala and exacerbating emotional dyscontrol.

amygdala dyscontrol heightens the impact of early memory on adult functioning, increasing impact of early bonding failures.

hippocampal compromise decreases reality testing and memory functioning, hindering the maintenance of positive or soothing memories during states of high arousal.

early bonding failures lead to lower levels of serotonin (greater risk of depression, irritability, decrease positive reinforcement from interpersonal interactions).

self harm during dysregulated states results in endorphin release and a sense of calm, putting the individuals at risk for repeated self-abusive behaviou.

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“Is someone hasn’t developed the ability to understand the clearly defined rules of the parent/child relationship, trying to teach him peer relations is almost impossible. Just as higher motor functions, such as walking, rely upon rhythmic regulation from lower brain areas like the brainstem, more advanced social skills require mastery of elementary social lessons”  (B Perry, p147)
Autonomic Arousal Model  [Ogden, Minton & Pain, 2006]

Optimal Arousal Zone or Window of Tolerance: feelings and reactions are tolerable; we can think and feel simultaneously; our reactions adapt to fit the situation

Signs of Hyperarousal: overwhelm, panic, impulsivity, hypervigilance, defensiveness, feeling unsafe, reactive, racing thoughts, anger or rage

Signs of Hypoarousal: numb, “dead,” passive, no feelings, can’t think, disconnected, shut down, “not there,” can’t defend
Normal response to threat in humans

- Increase of arousal (LC: NE)
- Increase in vigilance
- Cognitive assessment of the situation (threat and response to it)
- Increase autononical activity (preparing body to fight/flight) (EP: SNS and adrenal medulla: epinephrine/sympathetic nervous system)
- Increase output of cortisol from adrenal cortex

In animal and humans: learning in relation to threat, limbic system is implicated: in immediate threat, amygdala and in cases where the threat is perceived/assessed, the hippocampus may play a role (Ledoux 1995)
AUTONOMIC NERVOUS SYSTEM: ANS

- Regulates visceral organs in the body: sweat, temperature, urinary elimination, blood pressure, amongst others.
- The hypothalamus is the organ that regulates this system.
- ANS: 2 subsystems: sympathetic (SNS) (born from the Medulla)
  - parasympathetic (PSS) (>80% from Vagal nerves)
- Often they have opposite effects in the body:
  - SNS (accelerator)
    - dilates pupils,
    - heart rate increases,
    - stimulates metabolism
    - increased blood pressure
    - increased blood in muscles and different tissues
  - PSNS (brakes)
    - constricts pupils
    - heart rate decreases
CORTISOL: STRESS RESPONSE

- Hippocampus
  - STRESS
  - Amygdala
    - Hypothalamus
      - Pituitary
        - Adrenal cortex
          - CORTISOL: decreases response to stress

STRESS
- Increases use of glucose
- Decreases tissue repair
- Decreases immune reaction

CORTISOL
- Decreases use of glucose
- Increases tissue repair
- Increases immune reaction

BPD: CORTISOL
contradictory findings:
- Decrease and increased levels.
- Decreases during day less steeply than in healthy controls
CORTISOL SYSTEM

- **Cortisol: “antistress” hormone**
- Released by the adrenal gland in response to stress.
- In stressful situations: HPT (hypothalamus) signals the pituitary gland to stimulate the release of cortisol from the adrenal gland.
- The role of cortisol in response to stress is to contain biological reactions that have been activated in response to the short-term demands of the stress. If cortisol did not facilitate the termination of these reactions, they would do long-term damage to the body.
- Hippocampus and amygdala: among the primary sites that drive the hypothalamus to promote cortisol release during stress. Both hippocampus and amygdala integrate information from external environment and from memory, about the situation. People with greatest cortisol elevation in response to stress situations exhibit the greatest impaired memory (declarative memory) (Lupien et al, 1997).
NE: Pathways / Possible Actions

Locus Cereleus to:
Frontal Regions  ---------------  ● Mood and Attention

Limbic system  ---------------  ● Psychomotor retardation / agitation, Energy Level, Fatigue

Cerebellum  ---------------  ● Motor movements/ tremor

Brainstem  ---------------  ● Blood pressure

Sympathetic NS  ---------------  ● Heart rate, bladder function
NOREPINEPHRINE

- stress
  - Locus Ceruleus (LC): NE
    - CORTEX
    - CEREBELUM
    - ANS
      - HYPOTHALAMUS
      - LIMBIC SYSTEM
NOREPINEPHRINIE (NE)

- NE has a stimulating effect on neural growth, influences neuronal maturation and promotes neural plasticity and synaptic development during the early stages of pre- and post-natal development.

- **NE depletion** (e.g. chronic stress):

- Unfortunately, **NE may fluctuate wildly in response to even mildly adverse early experiences** including temporary separation from the mother.
- Neurons are exposed to the debilitating effects of enkephalins and corticosteroids (stress hormones released as part of the "fight or flight" response)
- Aberrant neural growth and atrophy may be induced (including formation of abnormal neural networks), especially affecting amygdala, septal nuclei and hippocampus, and can lead to abnormal seizure-like activity.
- If amygdala, septal nuclei and hippocampus are injured or abnormally activated, not just emotional functioning, but the ability to remember those who are emotionally significant is disrupted.
NOREPINEPHRINE (NE)

Summary:
NE is important for:
- Alerting the organism to deal with a threat,
- Initiating fight/flight behavior;
- It also has a role in memory consolidation.

Van der Kolk et al. (1985): link between LC and amygdala in rage reactions often found in PTSD. Suggesting, massive trauma causes vulnerability to response with excessive autonomic reactivity by altering LC activity.
Trauma

HAPPY EASTER!!

WHAT?!
Response to trauma is complex.

Depressive illness, PTSD and BPD appear to involve prefrontal and limbic pathways (Shin et al., 2004).

BPT, depressive illness may be conceptualised as a spectrum of chronic stress-related disorders involving stress-induced changes in these neuronal circuits (Schmahl et al., 2003).
**BPD and PTSD**

- **Differences:**
  - **PTSD:** small hippocampus; **BPD:** small hippocampus and amygdala (Driessen et al., 2000).
  - **PTSD:** increased sensitivity to pain; **BPD:** decreased

(Study of 212 subjects with BPD: 55.9% had a diagnosis of PTSD (Zanarini et al, 1998))

- **Similarities:**
  - Small hippocampus.
  - Loss of emotions as signal:
    - Chronic physiological arousal and the failure to regulate autonomic reactions to internal or external stimuli affects people’s capacity to utilise emotions as signals.
    - They tend to react to things rather than process information to assess what is needed; often they overreact to stimuli and may become aggressive easily.

Dr. Nuri Gene-Cos, Consultant
Psychiatrist
One of these is a square and one is not. Which one is the square?
BPD or Bipolar disorder?

- While a person with depression or bipolar disorder typically endures the same mood for weeks, a person with BPD may experience intense bouts of anger, depression, and anxiety that may last only hours, or at most a day.

- These may be associated with episodes of impulsive aggression, self-injury, and drug or alcohol abuse. Distortions in cognition and sense of self can lead to frequent changes in long-term goals, career plans, jobs, friendships, gender identity, and values.

- Sometimes people with BPD view themselves as fundamentally bad or unworthy. They may feel unfairly misunderstood or mistreated, bored, empty, and have little idea who they are. Such symptoms are most acute when people with BPD feel isolated and lacking in social support, and may result in frantic efforts to avoid being alone. (Zanarini MC, et al., 1998).
Self harm and suicidal behaviour in BPD:

- **Self-mutilation in BPD: significant risk factors:**
  - female
  - severity of dysphoric ideas
  - severity of dissociation (deja vu, unreality)
  - major depression
  - history of childhood sexual abuse and sexual assaults as an adult

- Impulsivity rather than mood instability is more strongly associated with suicidality.

(Zanarini, M 2010)
treatment

IT'S NEVER TOO LATE!
Treatment in BPD

• "...recovery from BPD, with both symptomatic remission and good psychosocial functioning, seems difficult for many patients to attain...once attained, such a recovery is relatively stable over time” (Mary Zanarini, 2010).

• "The interpersonal features slowest to remit were affective responses to being alone, active caretaking, discomfort with care and dependency.”(Mary Zanarini, June 2010).

• There is limited scientific data for medical treatment of BPD, which makes current treatment of the BPD more art than science. There are some studies confirming medication effectiveness, therefore backing up most treatment approaches to some degree. Lack of scientific studies does not prove lack of effectiveness.(Lieb K et al., 2010 review).

• Research may help explain how specific biological or psychological therapies could ease symptoms of BPD for some patients, by addressing the underlying biology of impulsivity in the context of overwhelming negative emotion.
BPD and NICE

- Stepped care
- Chronic care model
- Primary care: Recognition and crisis management
- CMHTs: assessment: (more than one interview; collateral information; risk and welfare of dependent children)
  
  management: involve the person in setting up both short and long term realistic goals; psychoed; helping to develop healthy coping strategies; treat comorbid conditions within a well-structured treatment programme for BPD; referral for psychological treatment.

- Specialist services: Mentalisation (within the developmental attachment theory, analytic techniques)
  
  Dialectic Behavioural Therapy: DBT (for suicidal and self-harm behaviour)
  
  Cognitive Analytic Therapy
  Art Therapies
  Community Therapies
  Group therapy
  Humanistic and Integrative Therapies
  Systemic Therapy and others

Dr. Nuri Gene-Cos, Consultant
Psychiatrist