# The legacy of Gerald Russell for eating disorders in 2020 and beyond

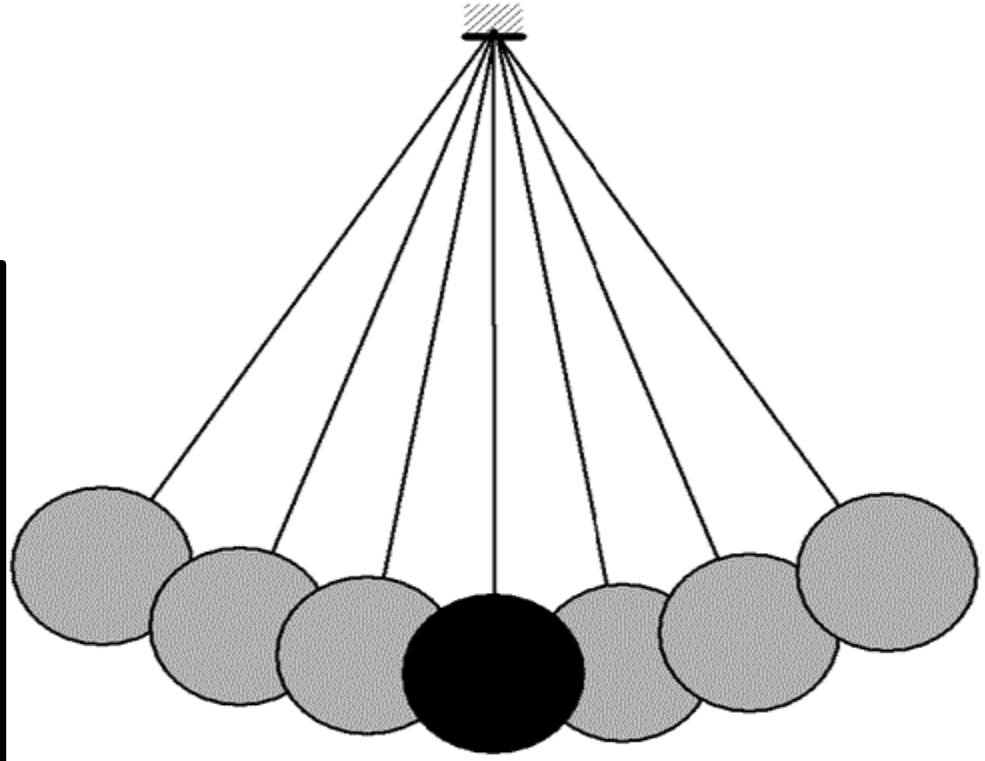
Janet Treasure

# Talk Map

- To consider Gerald Russell's legacy.
- What was the historical context ?
- What ideas did he generate for anorexia nervosa?
- What ideas did he generate for bulimia nervosa?
- What are the known knowns we have established?

# A historical pendulum of Biopsychosocial models

1870
Moral authority of medicine
1980s
Cultural (family) & Feminist Theories.

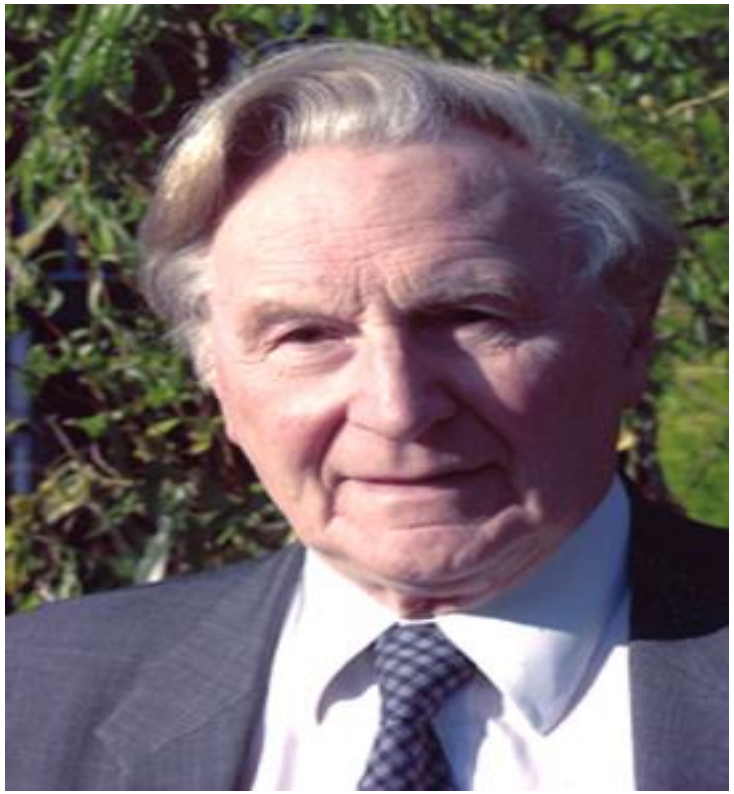


1960's
Hypothalamic theories
Metabolic /Endocrine
2010
Brain Based Theories

# The Legacy

## Maudsley Model of Family therapy

1979-1983: RCT Trial  in progress
1987: One year results published
1993: Five year results published
2005:  NICE guidelines
2017: NICE guidelines



## Bulimia Nervosa

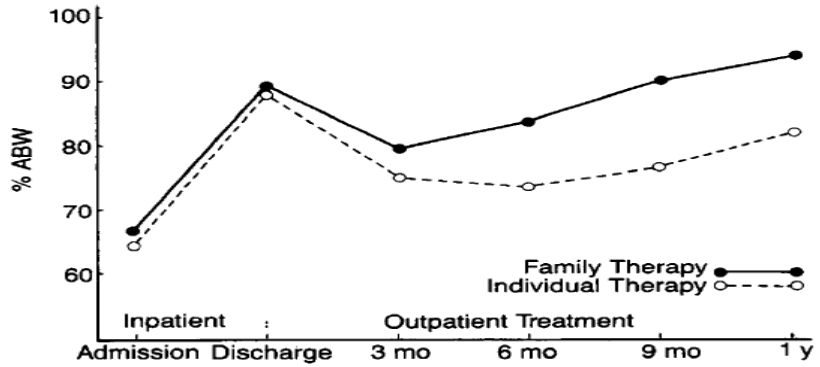
1979: Defined by Russell
1980: Bulimia DSM-III
1987: Bulimia nervosa DSM-III-R
2013: Binge Eating Disorders DSM 5

# Treatment targeting the social

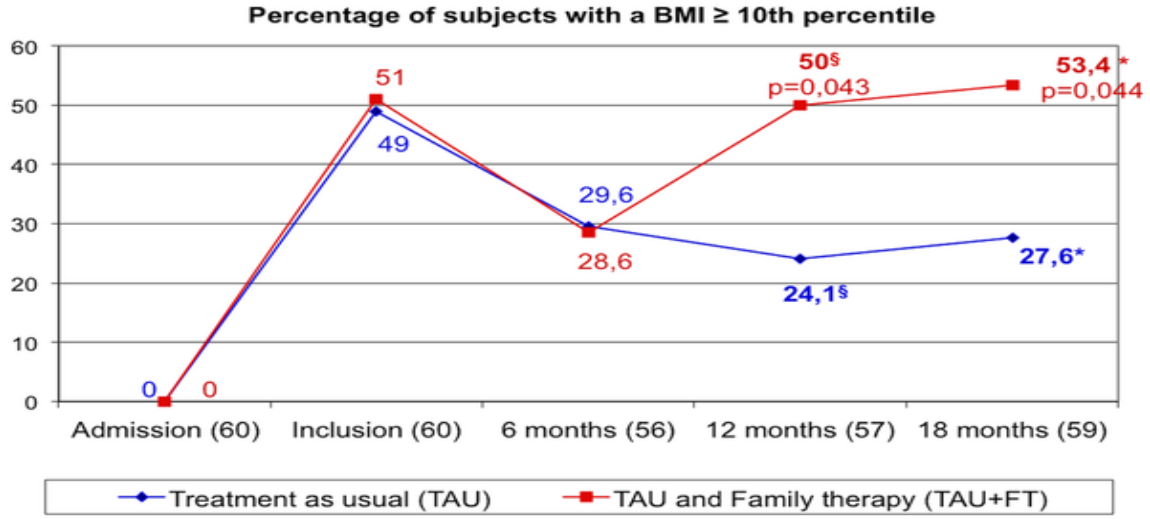
Implicit model of staging/ stratification of patients.

Directed a MRC Trial to compare family based therapy (the Maudsley model) with individual therapy.

# Family Therapy vs Individual therapy Post Inpatient Care Anorexia Nervosa Adolescents.




Maudsley. (Russell et al 1987)
N=21 Age 16.6y dur 1.2y
ABW 65.9%

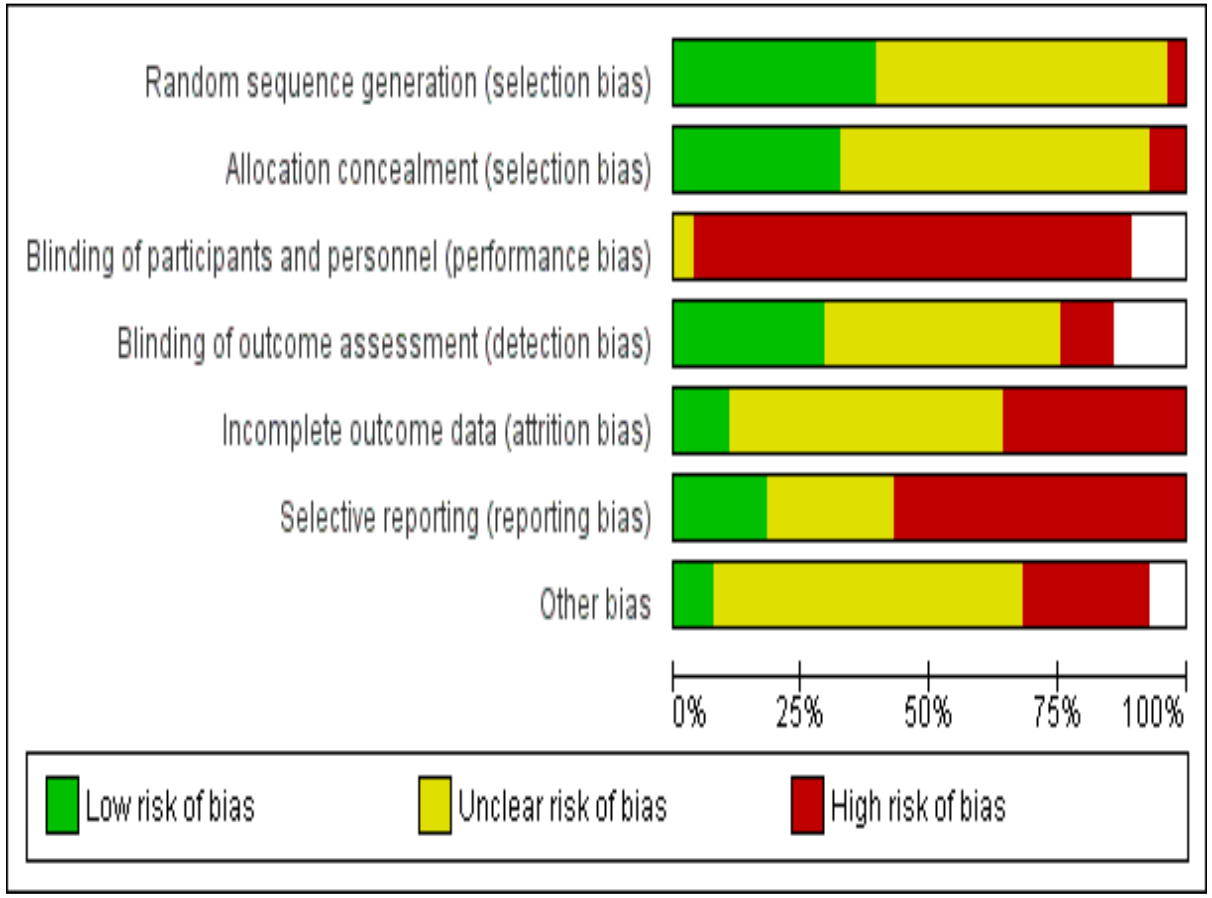



Replication Study.
Paris. (Godard et al 2013)
N=60 Age 14.8y dur 16/12 BMI 13.6

# Family therapy approaches for anorexia nervosa

Fisher CA et al 2018 Cochrane Review

Limited amount of low-quality evidence that family therapy approaches > treatment as usual. Based on two small trials with potential bias.



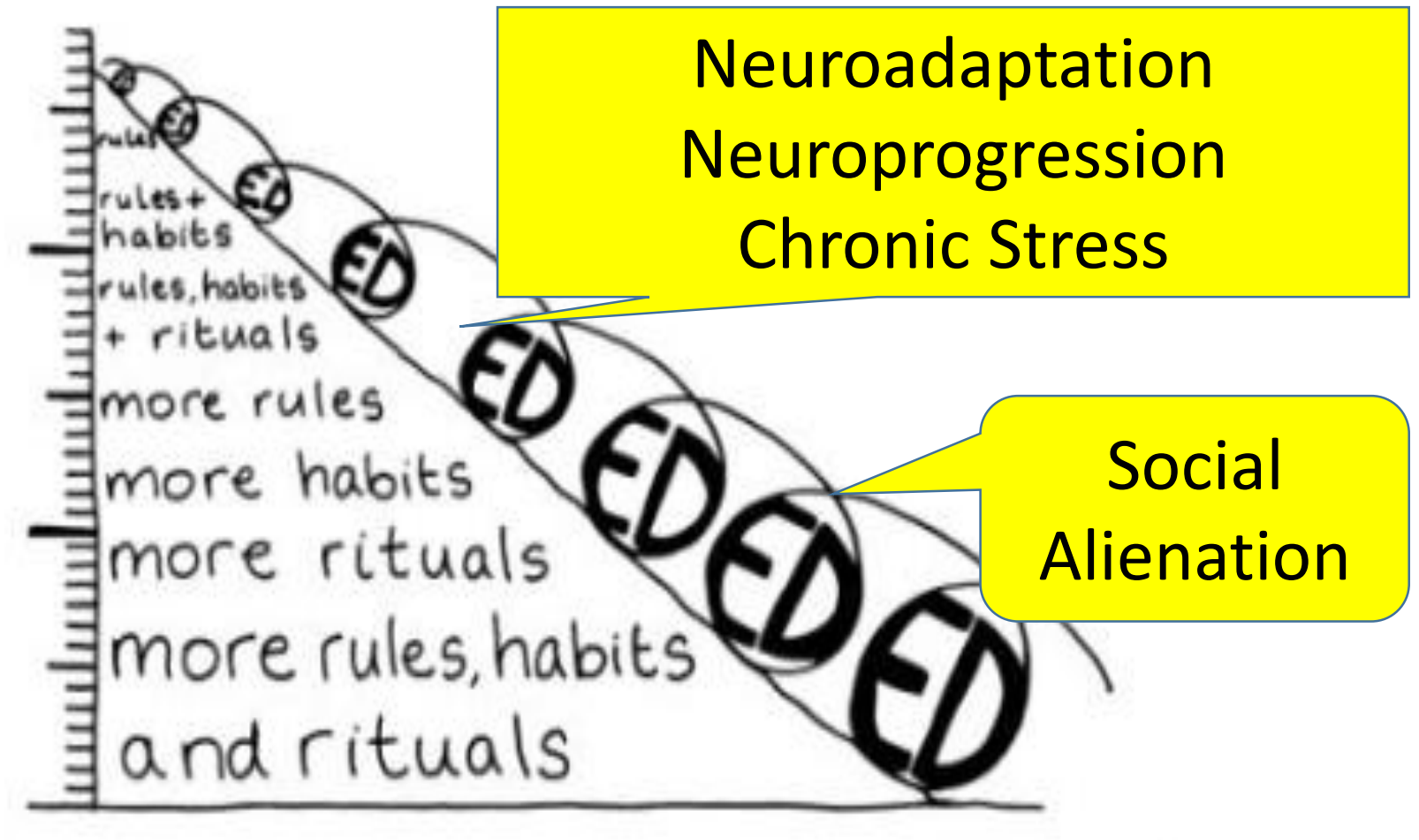
# FBT superior only in <18 yr and <3years of illness

Support  for staging of illness in that treatment outcome varied with age/duration of illness (Treasure et al 2015)

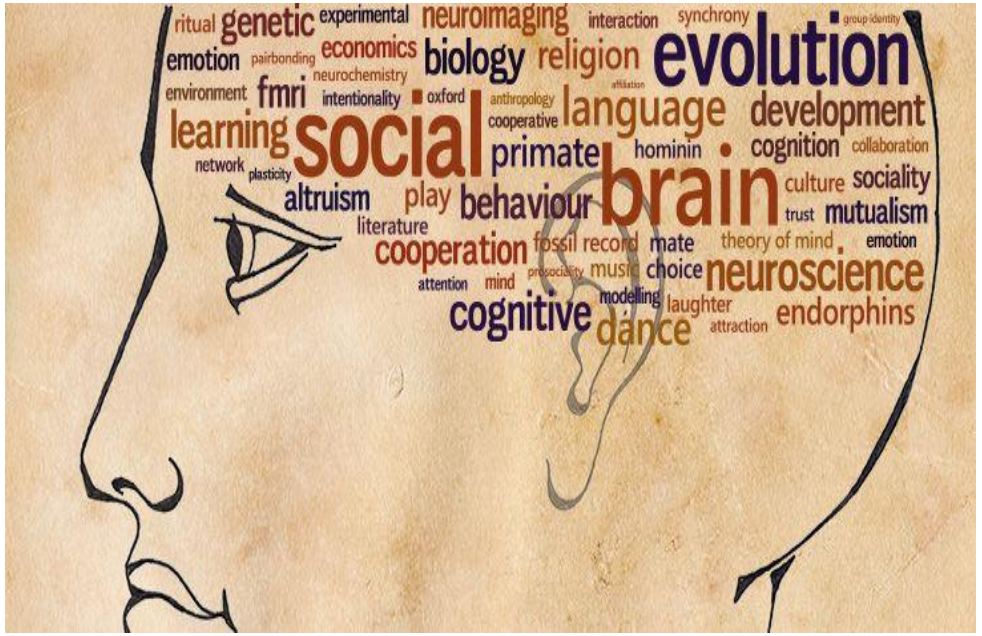
Family based therapy (1984) was agnostic about aetiology but we have come a long way in what we know and what do we know we do not know now.

# What are the mechanisms underpinning staging?

# Staging of Anorexia Nervosa




Treasure et al 2014, Walsh 2013, Steinglass and Walsh 2016




# Neuroprogression

Brain needs 500 Kcal/day- deficits with malnutrition.

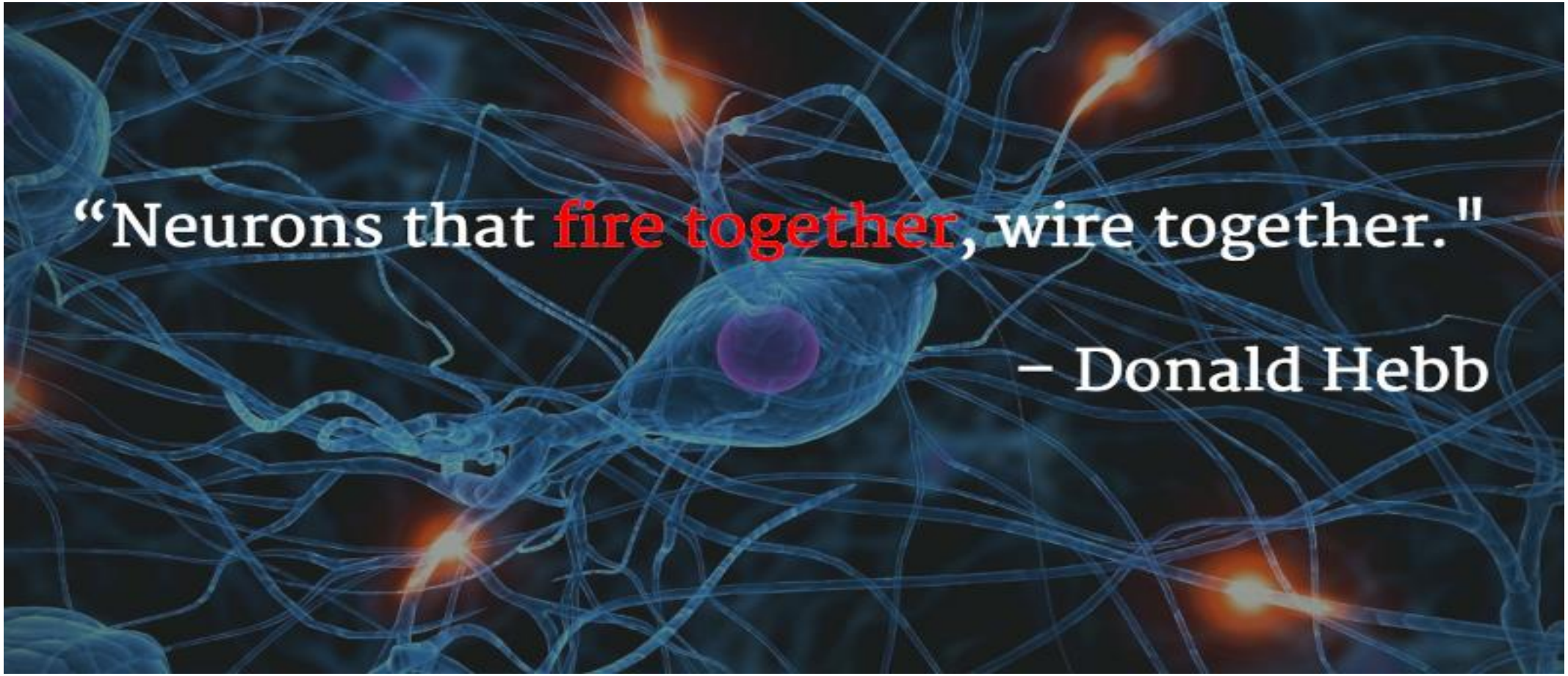
2% of body mass but 20% of energy

- The social brain hypothesis: Brain Size @Social Network (Dunbar).

Chronic Stress: Brain on fire

Neuro adaptation: Emotion learning Damage to hippocampus (↓ new learning/neurogenesis)

# Neuroadaptation



# Problems in Social Cognition

Caglar-Nazali et al *Neuroscience and Biobehavioral Reviews (2013)*

| Domain | Effect |
|---|---|
| Negative self evaluation | 2.2 |
| Lack facial affect | 2.0 |
| Attachment insecurity | 1.3 |
| Sensitivity to social ranking | 1.1 |
| Alexithymia | 0.66 |
| Avoidance emotion | 0.44 |
| Low parental care | 0.55 |
| Reduced agency | 0.39 |
| Parental overprotection | 0.29 |

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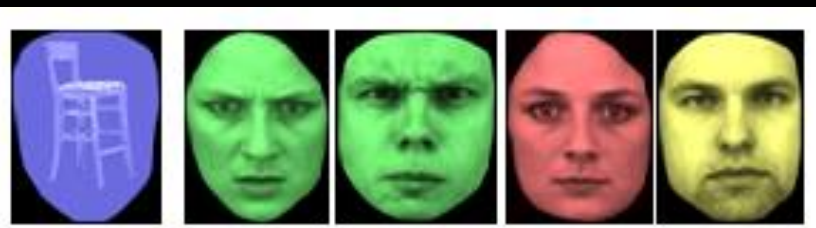
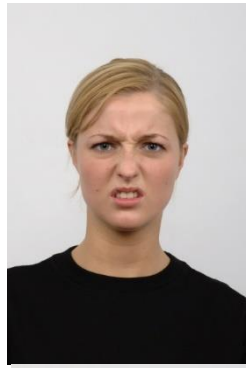
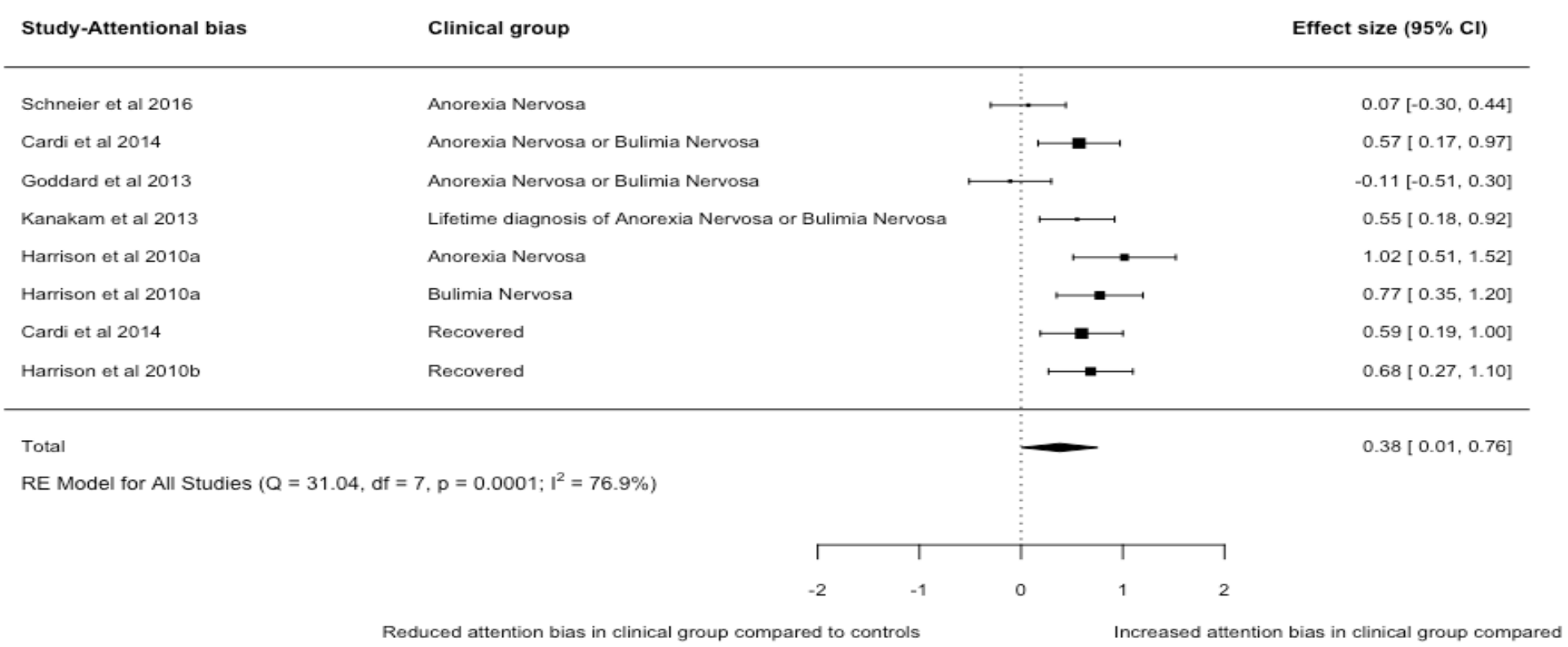
# A meta analysis of reactivity to interpersonal threat (Monteleone et al 2018)

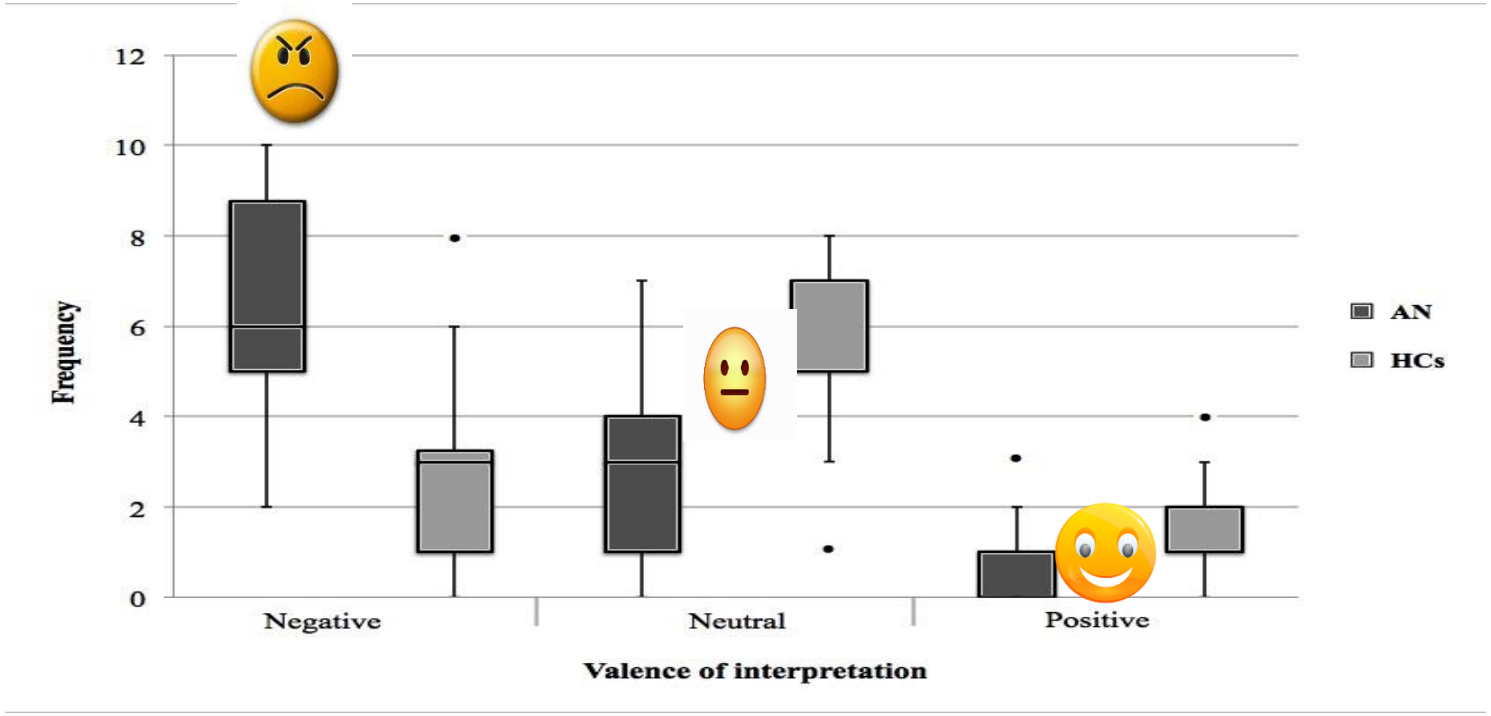


Dot probe and emotional Stroop task





# Interpretation of Ambiguous scenarios




Cardi et al.,2016, 2017

Social Cues:
Attention focus threat
Interpretation focus on negative

# Any reflection?

# Problems in Social Cognition

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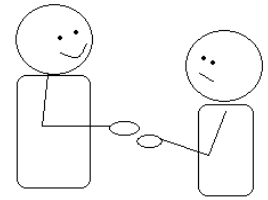
# Social communication: facial expressions



- Acute AN: large +ve/medium-ve ↓expression. Adult>Adolescent.
- Recovered AN: ↑ positive emotions.

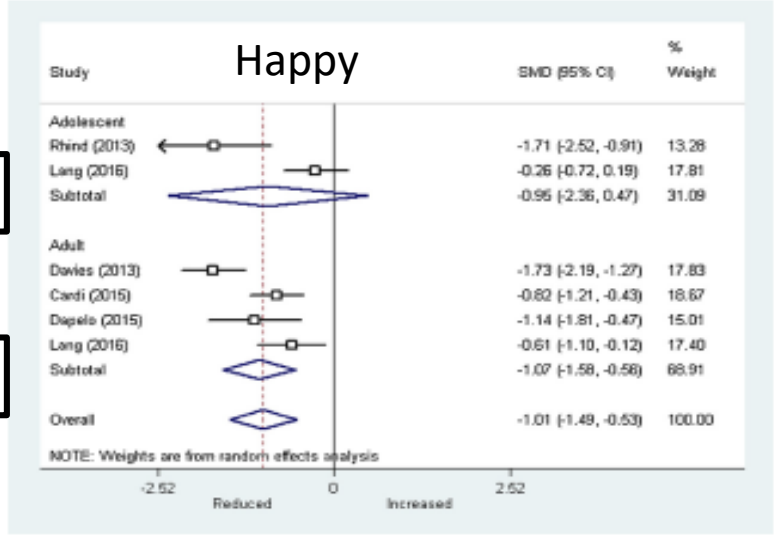





Fig. 2. Forest plot of the meta-analysis for facial emotional expression in response to positive affect in patients with AN.

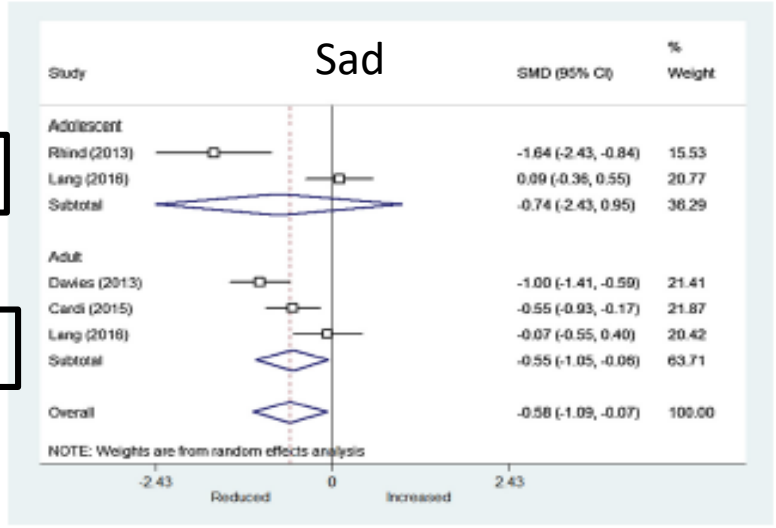
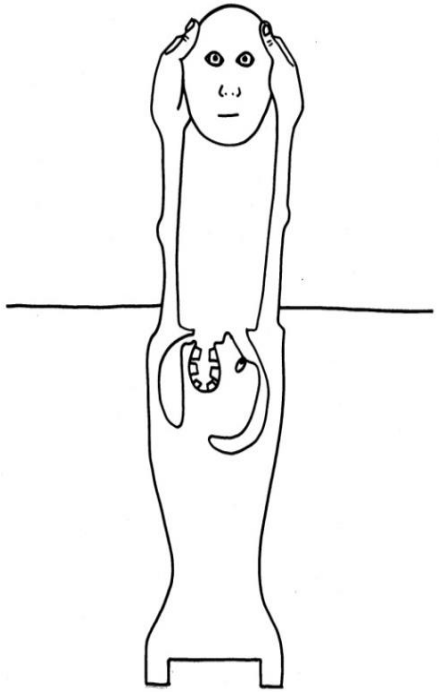


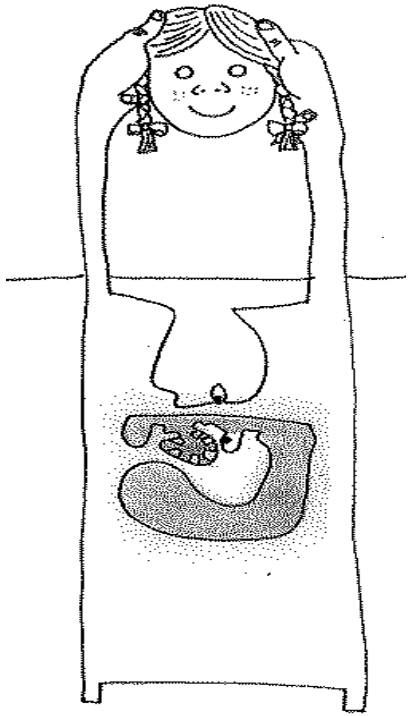



Fig. 3. Forest plot of the meta-analysis for facial emotional expression in response to negative affect in patients with AN.

Davies et al., 2016 Neurosci Biobehav Rev

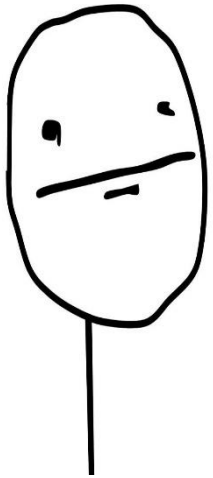
# Social communication inhibited: A blank mask or fake pleasing



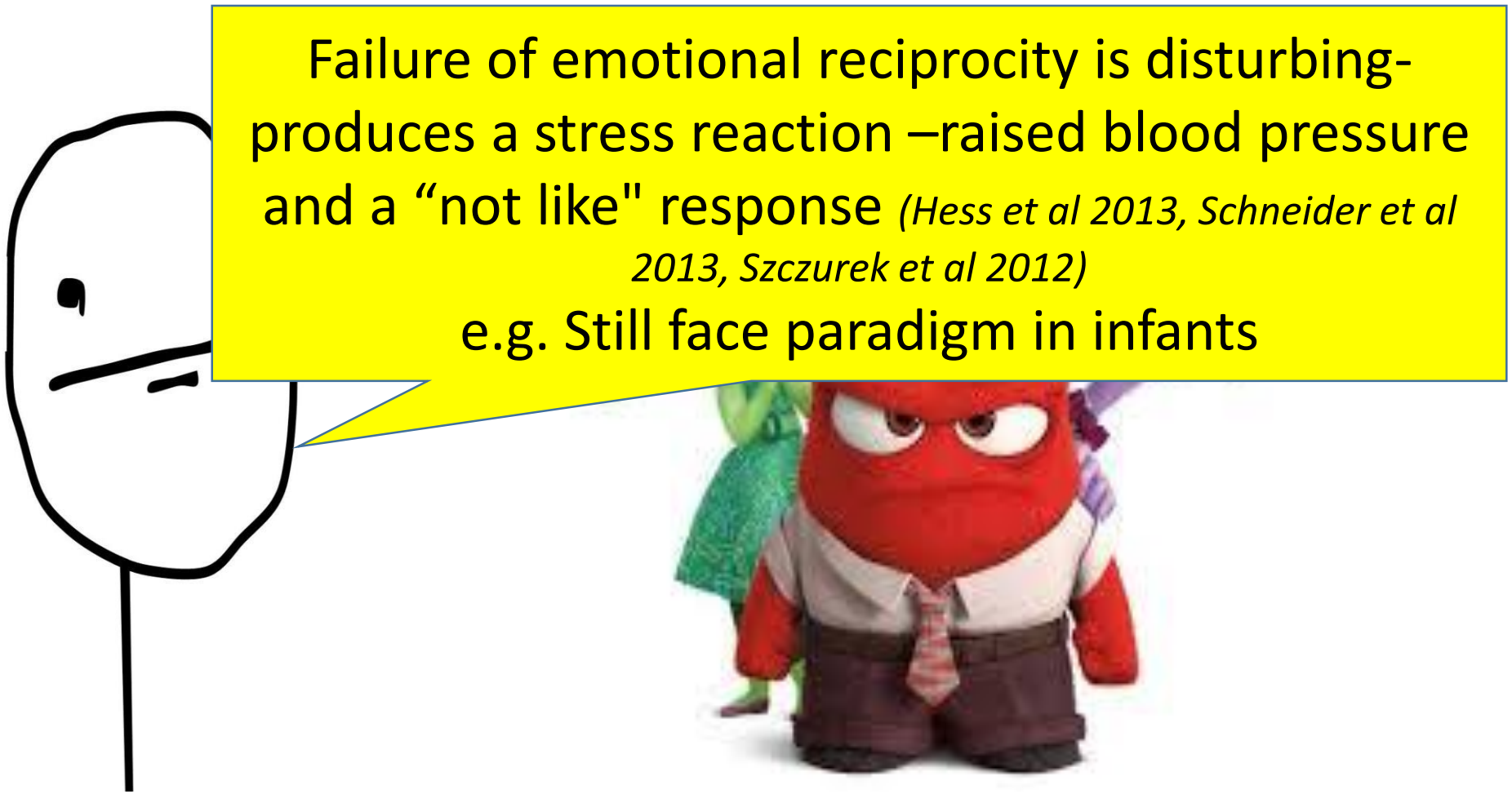


Davies et al., 2011, 2013; Dapelo et al., 2016; Lang et al., 2016; Leppanen J. et al . (2017)

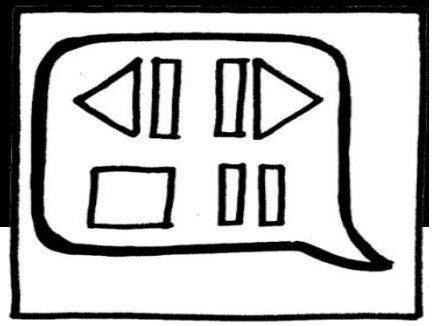
# Typical interpersonal relationship with AN



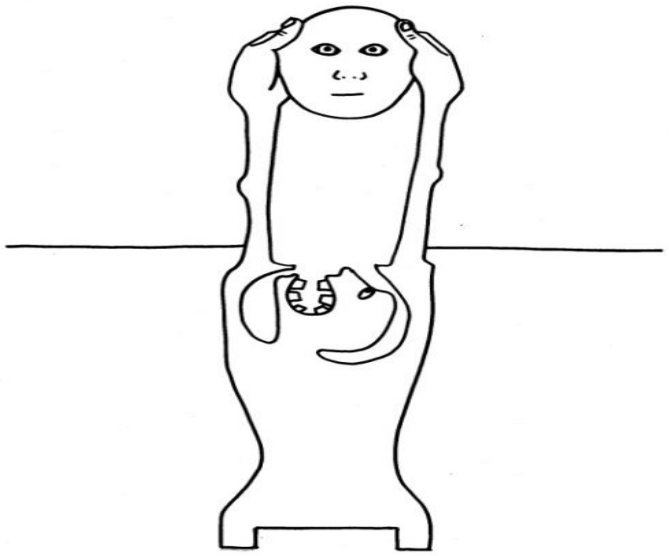
# Disruption of interpersonal relationship



# The Still face paradigm



- https://www.youtube.com/watch?v=6czxW4R9w2g
- In adults dislike and autonomic arousal when interact with still face (Gross et al 2003).
- Also this is recognised in robots as the “uncanny valley effect”.



No reciprocity to warmth, a frosty, “aloof” response.

I was known as the “**ice queen**” at Uni

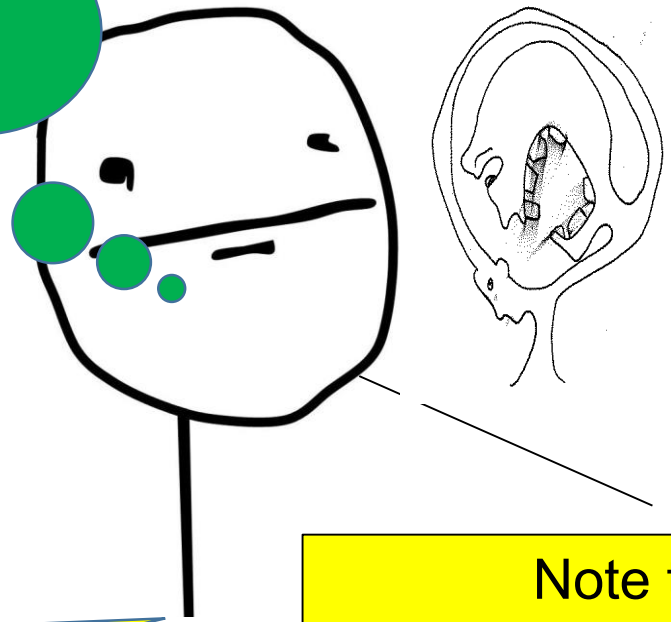
Tutors would get annoyed as **they thought I did not care.**

They did not know what was **going on inside**.

Davies et al 2013, 2014, 2016, Cardi et al 2014, Rhind et al 2014, Ambwani et al 2016

# Confusing Social Signaling

**↓ Social cognition**
**Negative bias**
**↓ Emotional management**



**Anorexic Voice- hissing or shouting**

*I am disgusting. I must try to succeed How many calories in that. What is the food composition. What is my weight. I cannot go above I must keep losing weight . I am weak stupid and lazy and gluttonous. I'm a fat pig. I'm disgusting. I don't deserve to eat. I don't deserve to live. etc. etc.*

HELP! the scream from body

Note the "dead pan" face
↓ Emotion expressivity *(Leppananen et al 2017, Caglar et al 2015)*

# Problems in Social Perception

- Difficulty detecting intimacy (Costanzo & Archer, 1993)
- Respond coldly to warm feedback (Ambwani et al 2016)
- Less appropriate social problem solving (Sternheim et al., 2012)
- Negative bias attention and interpretation (Cardi et al 2017)

People with AN may have difficulty interpreting & reciprocating warmth.
Over sensitised to threat

Any reflection on this ?

- Problems in social cognition impact on the therapeutic alliance and family& peer relationships.

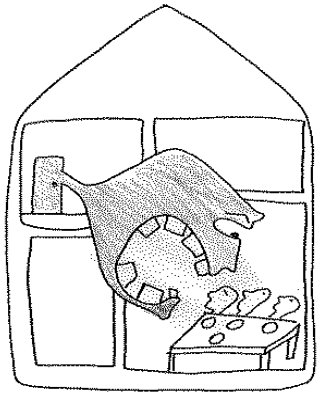
# Social factors over time

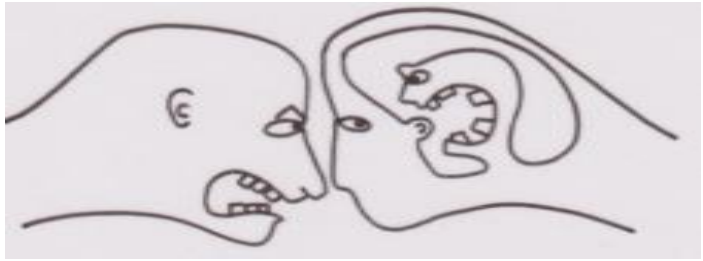
Honeymoon phase –maybe initial praise .

**Families and social networks the start to become organised around the symptoms: accommodate, enable or become angry & frustrated or withdraw because of interpersonal difficulties**

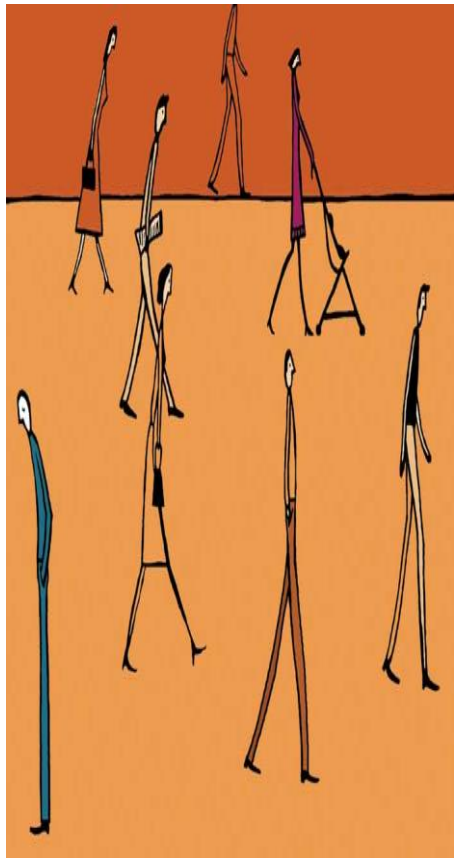
# Interpersonal factors

- Living with or caring about someone with AN is exhausting, relationships can rupture.
- Carers swing from being bullied
- *"I really want you to come out to dinner with us, so we'll make sure we go somewhere that serves plain salad"* ***(*****Accommodating)**
- or exasperated
- *"You're being ridiculous and ruining everyone else's meal by being so demanding"*. **(Hostile)**





# Increasing isolation



- “I was recently asked to sum up my experience of anorexia nervosa in one sentence—actually, I can do it in just one word—isolation.” (McKnight et al 2009)
- “It’s the loneliness that will get you. Not the hunger, or the worrying, or the rituals, or the paranoia. Not even the fear of getting fat. It’s the loneliness that’s the real killer. The longer you’re ill, the worse it is.” Melissa

# Isolation is Maintaining factor.
# Carer Skill Therapy to improve interpersonal relationships and increase social network

- Magill et al 2016; Hodsall et al 2017

# The evidence base from IOPPN

RESEARCH ARTICLE

**A Pilot, Multicentre Pragmatic Randomised Trial to Explore the Impact of Carer Skills Training on Carer and Patient Behaviours: Testing the Cognitive Interpersonal Model in Adolescent Anorexia Nervosa**

John Hodsoll[1], Charlotte Rhind[2], Nadia Micali[3,4], Rebecca Hibbs[2], Elizabeth Goddard[2], Bruno Palazzo Nazar[2,5], Ulrike Schmidt[2], Simon Gowers[6], Pamela Macdonald[2], Gillian Todd[2], Sabine Landau[1] & Janet Treasure[2]*

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[6]Adolescent Psychiatry, University of Liverpool, Chester, UK

**Abstract**

**Aim:** The aim of the study is to establish the acceptability, feasibility and approximate size of the effect of adding a carer intervention [Experienced Caregivers Helping Others (ECHO)] to treatment as usual (TAU) for adolescents with anorexia nervosa.
**Methods** The study is a pilot randomised trial comparing TAU ($n = 50$) alone or TAU plus ECHO with ($n = 50$) or without ($n = 49$) telephone guidance. Effect sizes (ESs) were regression coefficients standardised by baseline standard deviations of measure.
**Results:** Although engagement with ECHO was poor (only 36% of carers in the ECHO group read over 50% of the book), there were markers of intervention fidelity, in that caregivers in the ECHO group showed a moderate increase in carer skills (ES = 0.4) at 12 months and a reduction in accommodating and enabling behaviour at 6 months (ES = 0.17). In terms of efficacy, in the ECHO group, carers spent less time care giving (ES = 0.40, $p = 0.04$) at 1 year, and patients had a minor advantage in body mass index (ES = 0.17), fewer admissions, decreased peer problems (ES = −0.36) and more pro-social behaviours (ES = 0.53). The addition of telephone guidance to ECHO produced little additional benefit.
**Conclusions:** The provision of self-management materials for carers to standard treatment for adolescent anorexia nervosa shows ben-

**Health and Quality of Life Outcomes**

BioMed Central

Research

Open Access

**Development and validation of an Eating Disorders Symptom Impact Scale (EDSIS) for carers of people with eating disorders**

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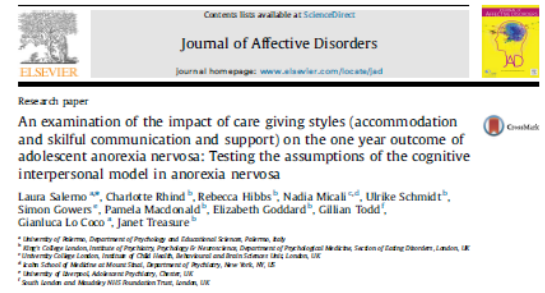

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Research paper

**An examination of the impact of care giving styles (accommodation and skilful communication and support) on the one year outcome of adolescent anorexia nervosa: Testing the assumptions of the cognitive interpersonal model in anorexia nervosa**

Laura Salerno[a,*], Charlotte Rhind[b], Rebecca Hibbs[b], Nadia Micali[c,d], Ulrike Schmidt[b], Simon Gowers[e], Pamela Macdonald[b], Elizabeth Goddard[b], Gillian Todd[f], Gianluca Lo Coco[a], Janet Treasure[b]

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RESEARCH ARTICLE

**Two-year Follow-up of a Pragmatic Randomised Controlled Trial Examining the Effect of Adding a Carer's Skill Training Intervention in Inpatients with Anorexia Nervosa**

Nicholas Magill[1], Charlotte Rhind[2], Rebecca Hibbs[2], Elizabeth Goddard[2], Pamela Macdonald[2], Jon Arcelus[3†], John Morgan[4], Jennifer Beecham[5], Ulrike Schmidt[2], Sabine Landau[1] & Janet Treasure[2*†]

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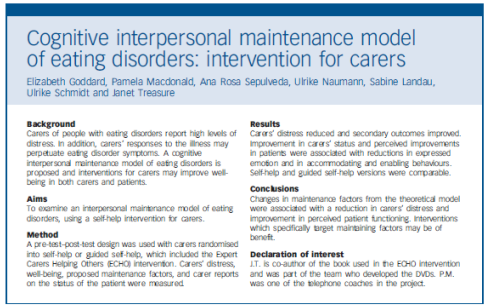
[5]London School of Economics and Political Sciences, London, UK

**Abstract**

**Background:** Active family engagement improves outcomes from adolescent inpatient care, but the impact on adult anorexia nervosa is uncertain.
**Aim:** The aim of this study was to describe the 2-year outcome following a pragmatic randomised controlled trial in which a skill training intervention (Experienced Caregivers Helping Others) for carers was added to inpatient care.
**Method:** Patient, caregiver and service outcomes were measured for 2 years following discharge from the index inpatient admission.
**Results:** There were small-sized/moderate-sized effects and consistent improvements in all outcomes from both patients and carers in the Experienced Caregivers Helping Others group over 2 years. The marked change in body mass index and carers' time caregiving following inpatient care was sustained. Approximately 20% of cases had further periods of inpatient care.
**Conclusion:** In this predominately adult anorexia nervosa sample, enabling carers to provide active support and management skills may improve the benefits in all symptom domains that gradually follow from a period of inpatient care. 



BJPsych The British Journal of Psychiatry (2011) 199, 225–231. doi: 10.1192/bjp.bp.110.088401



**Cognitive interpersonal maintenance model of eating disorders: intervention for carers**

Elizabeth Goddard, Pamela Macdonald, Ana Rosa Sepulveda, Ulrike Naumann, Sabine Landau, Ulrike Schmidt and Janet Treasure

**Background**
Carers of people with eating disorders report high levels of distress. In addition, carers' responses to the illness may perpetuate eating disorder symptoms. A cognitive interpersonal maintenance model of eating disorders is proposed and interventions for carers may improve well-being in both carers and patients.

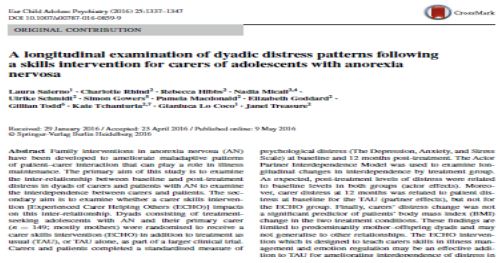
**Aims**
To examine an interpersonal maintenance model of eating disorders, using a self-help intervention for carers.

**Method**
A pre-test–post-test design was used with carers randomised into self-help or guided self-help, which included the Expert Carers Helping Others (ECHO) intervention. Carers' distress, well-being, proposed maintenance factors, and carer reports on the status of the patient were measured.

**Results**
Carers' distress reduced and secondary outcomes improved. Improvement in carers' status and perceived improvements in patients were associated with reductions in expressed emotion and in accommodating and enabling behaviours. Self-help and guided self-help versions were comparable.

**Conclusions**
Changes in maintenance factors from the theoretical model were associated with a reduction in carers' distress and improvement in perceived patient functioning. Interventions which specifically target maintaining factors may be of benefit.

**Declaration of interest**
J.T. is co-author of the book used in the ECHO intervention and was part of the team who developed the DVDs. P.M. was one of the telephone coaches in the project.



Eur Child Adolesc Psychiatry (2016) 25:1337–1347
DOI 10.1007/s00787-016-0859-9

ORIGINAL CONTRIBUTION

**A longitudinal examination of dyadic distress patterns following a skills intervention for carers of adolescents with anorexia nervosa**

Laura Salerno[1] · Charlotte Rhind[2] · Rebecca Hibbs[2] · Nadia Micali[3,4] · Ulrike Schmidt[2] · Simon Gowers[5] · Pamela Macdonald[2] · Elizabeth Goddard[2] · Gillian Todd[6] · Kate Tchanturia[2,7] · Gianluca Lo Coco[1] · Janet Treasure[2]

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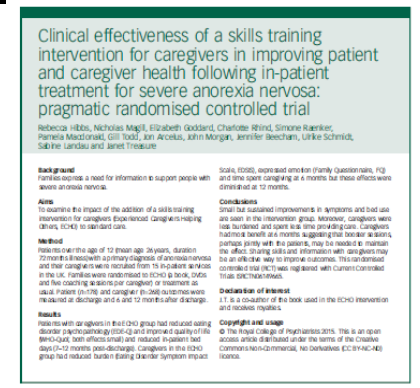
**Abstract** Family interventions in anorexia nervosa (AN) have been developed to ameliorate maladaptive patterns of patient–carer interaction that can play a role in illness maintenance. The primary aim of this study is to examine the interrelationship between baseline and post-treatment distress in dyads of carers and patients with AN to examine the interdependence between carers and patients. The secondary aim is to examine whether a carer skills intervention [Experienced Carer Helping Others (ECHO)] impacts on this interrelationship. Dyads consisting of treatment-seeking adolescents with AN and their primary carer (*n* = 149, mostly mothers) were randomised to receive a carer skills intervention (ECHO) in addition to treatment as usual (TAU), or TAU alone, as part of a larger clinical trial. Carers and patients completed a standardised measure of psychological distress (The Depression, Anxiety, and Stress Scale) at baseline and 12 months post-treatment. The Actor Partner Interdependence Model was used to examine longitudinal changes in interdependence by treatment group. At baseline, cross-sectional levels of distress were related to baseline levels in both groups (actor effects). Moreover, carer distress at 12 months was related to patient distress at baseline for the TAU (partner effects), but not for the ECHO group. Finally, carers' distress change was not a significant predictor of patients' body mass index (BMI) change in the two treatment conditions. These findings are limited to predominantly mother–offspring dyads and may not generalise to other relationships. The ECHO intervention which is designed to teach carers skills in illness management and emotion regulation may be an effective addition to TAU for ameliorating interdependence of distress in



Clinical effectiveness of a skills training intervention for caregivers in improving patient and caregiver health following in-patient treatment for severe anorexia nervosa: pragmatic randomised controlled trial

Rebecca Hibbs, Nicholas Magill, Elizabeth Goddard, Charlotte Rhind, Simone Raenker, Pamela Macdonald, Gill Todd, Jon Arcelus, John Morgan, Jennifer Beecham, Ulrike Schmidt, Sabine Landau and Janet Treasure

**Background**
Families express a need for information in support people with severe anorexia nervosa.

**Aims**
To examine the impact of the addition of a skills training intervention for caregivers (Experienced Caregivers Helping Others; ECHO) to standard care.

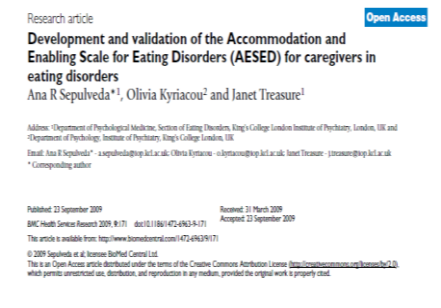
**Method**
Patients over the age of 12 (mean age 24 years, duration 72 months) illness(with a primary diagnosis of anorexia nervosa and their caregivers were recruited from 15 in-patient services in the UK. Families were randomised to ECHO (a book, DVDs and five coaching sessions per caregiver) or treatment as usual. Patient (*n* = 178) and caregiver (*n* = 268) outcomes were measured at discharge and 6 and 12 months after discharge.

**Results**
Patients with caregivers in the ECHO group had reduced eating disorder psychopathology (EDE-Q) and improved quality of life (EHIO-QoL; both effects small) and reduced in-patient bed days (3–12 months post-discharge). Caregivers in the ECHO group had reduced burden (caring Disorder Symptom Impact Scale, EDSIS), expressed emotion (Family Questionnaire, FQ) and time spent caregiving at 6 months but these effects were diminished at 12 months.

**Conclusions**
Small but sustained improvements in symptoms and bed use are seen in the intervention group. Moreover, caregivers were less burdened and spent less time providing care. Caregivers had more benefit at 6 months suggesting that booster sessions, perhaps jointly with the patient, may be needed to maintain the effect. Sharing skills and information with caregivers may be an effective way to improve outcomes. This randomised controlled trial (RCT) was registered with Current Controlled Trials (ISRCTN61911948).

**Declaration of interest**
J.T. is a co-author of the book used in the ECHO intervention and receives royalties.





**BMC Health Services Research**

BioMed Central

Research article

Open Access

**Development and validation of the Accommodation and Enabling Scale for Eating Disorders (AESED) for caregivers in eating disorders**

Ana R Sepulveda*[1], Olivia Kyriacou[2] and Janet Treasure[1]

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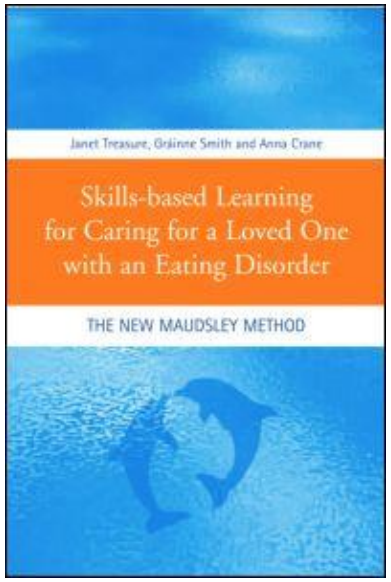
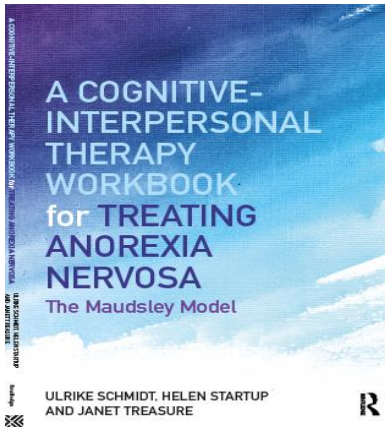
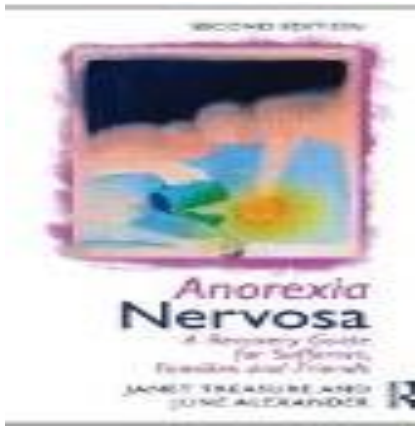
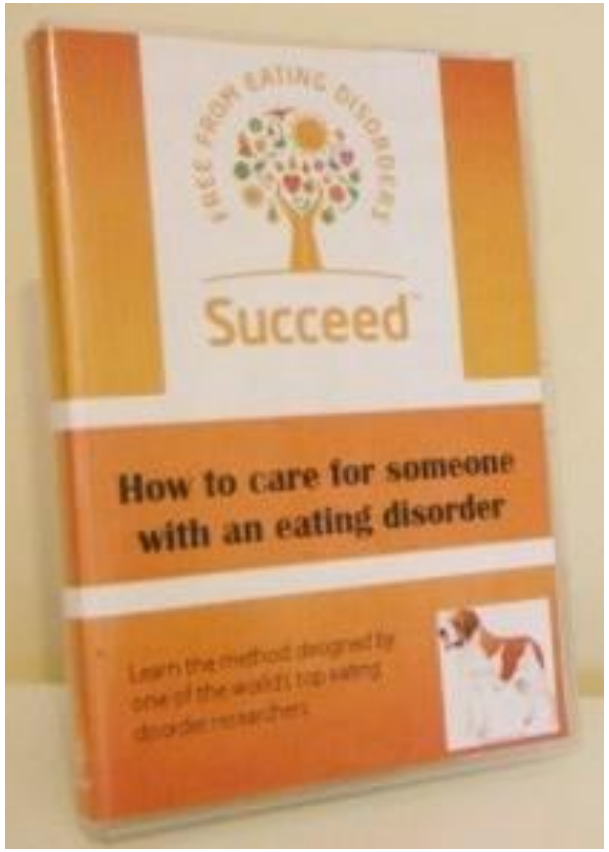
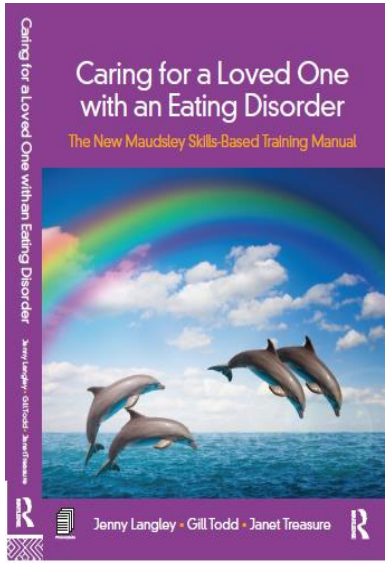


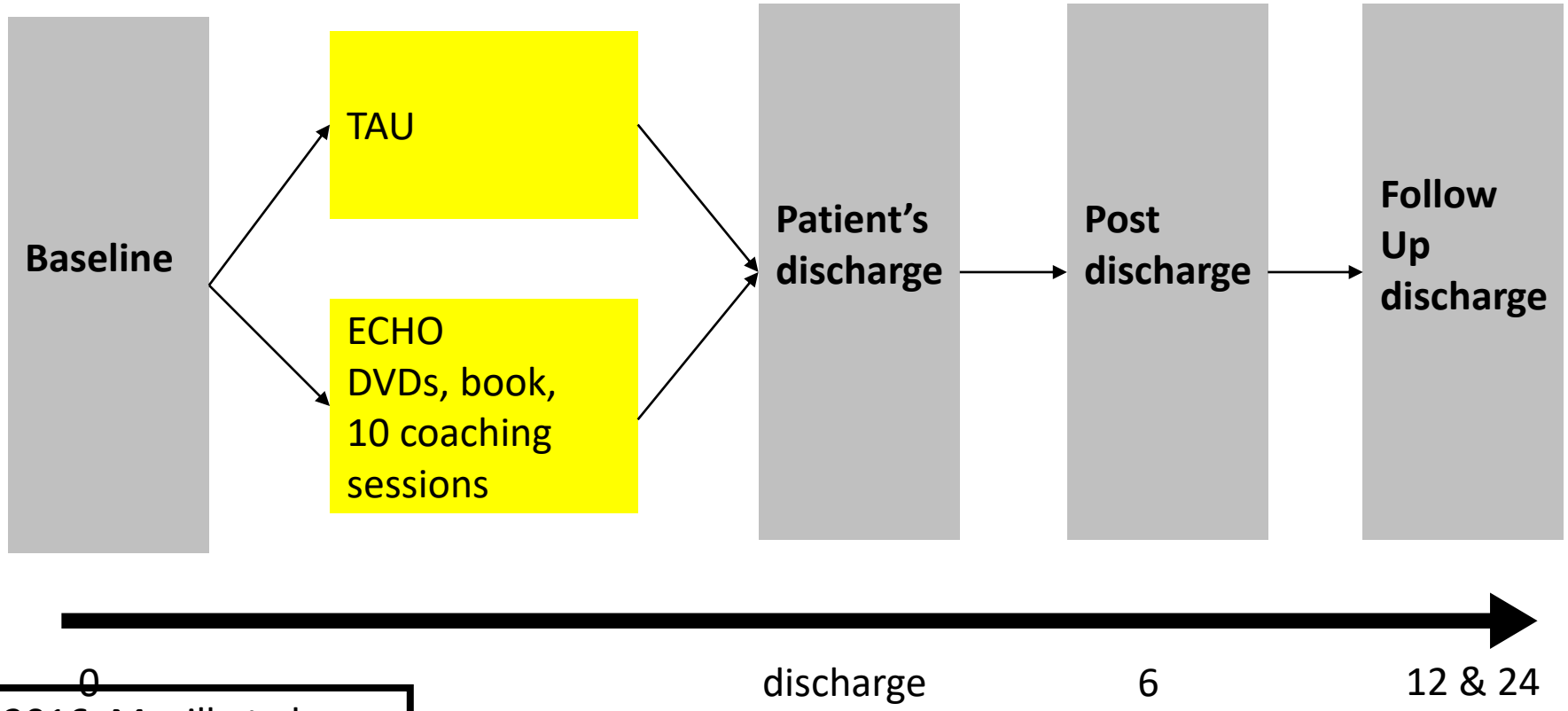




Materials used for guided task sharing with carers. Skills to reduce interpersonal maintaining factors

# Does ECHO improve outcome from inpatient care for patients with severe enduring anorexia nervosa?

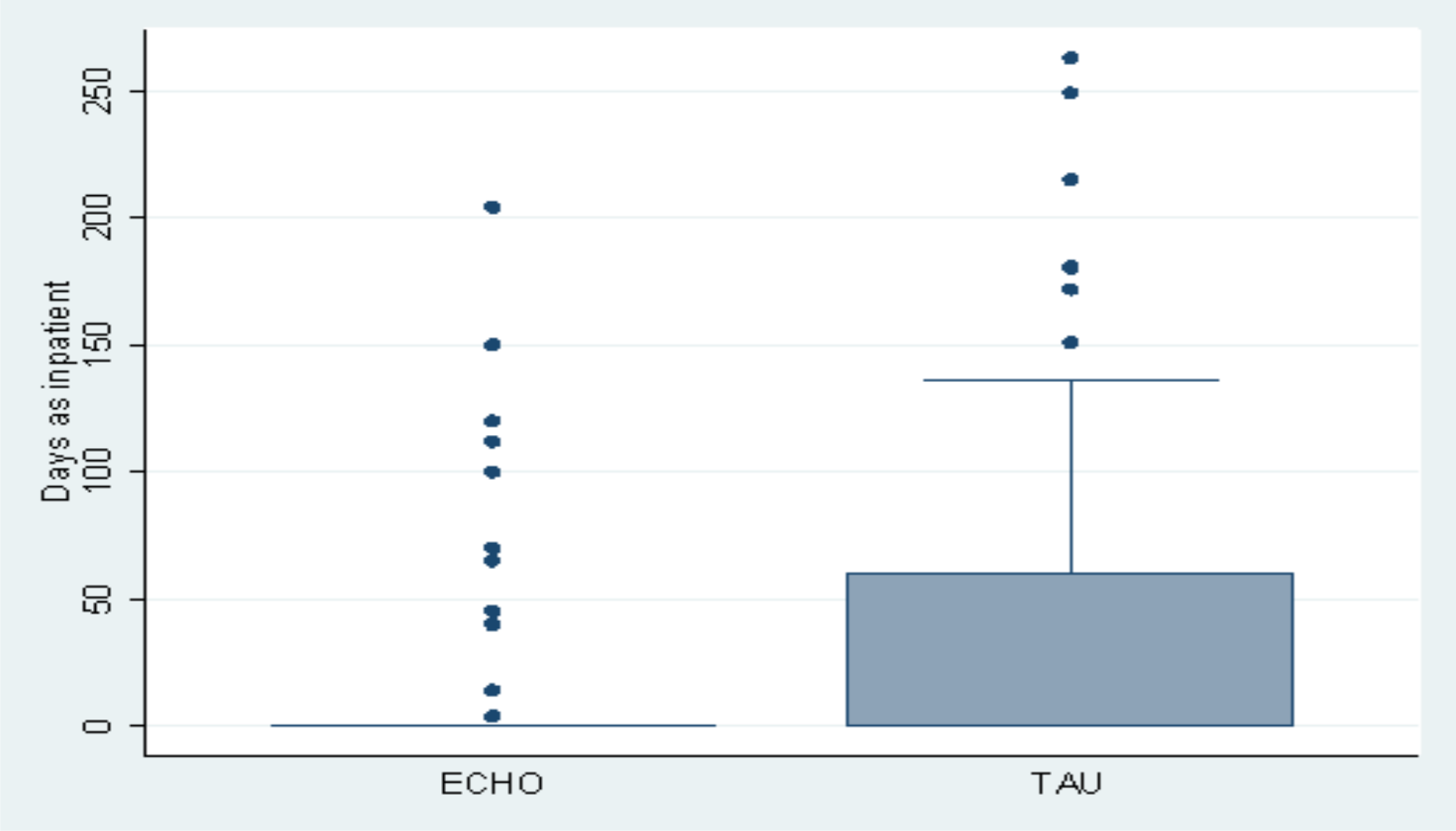
**Assessment carer (n= 267) and patient (n=178)**




Hibbs et al 2016, Magill et al 2017

**BMI =14 (2.1) ; Age 27 (9.3) : 69% > 3y, 47%> 6y**

# Adult : Bed Usage in first 6 months after admission

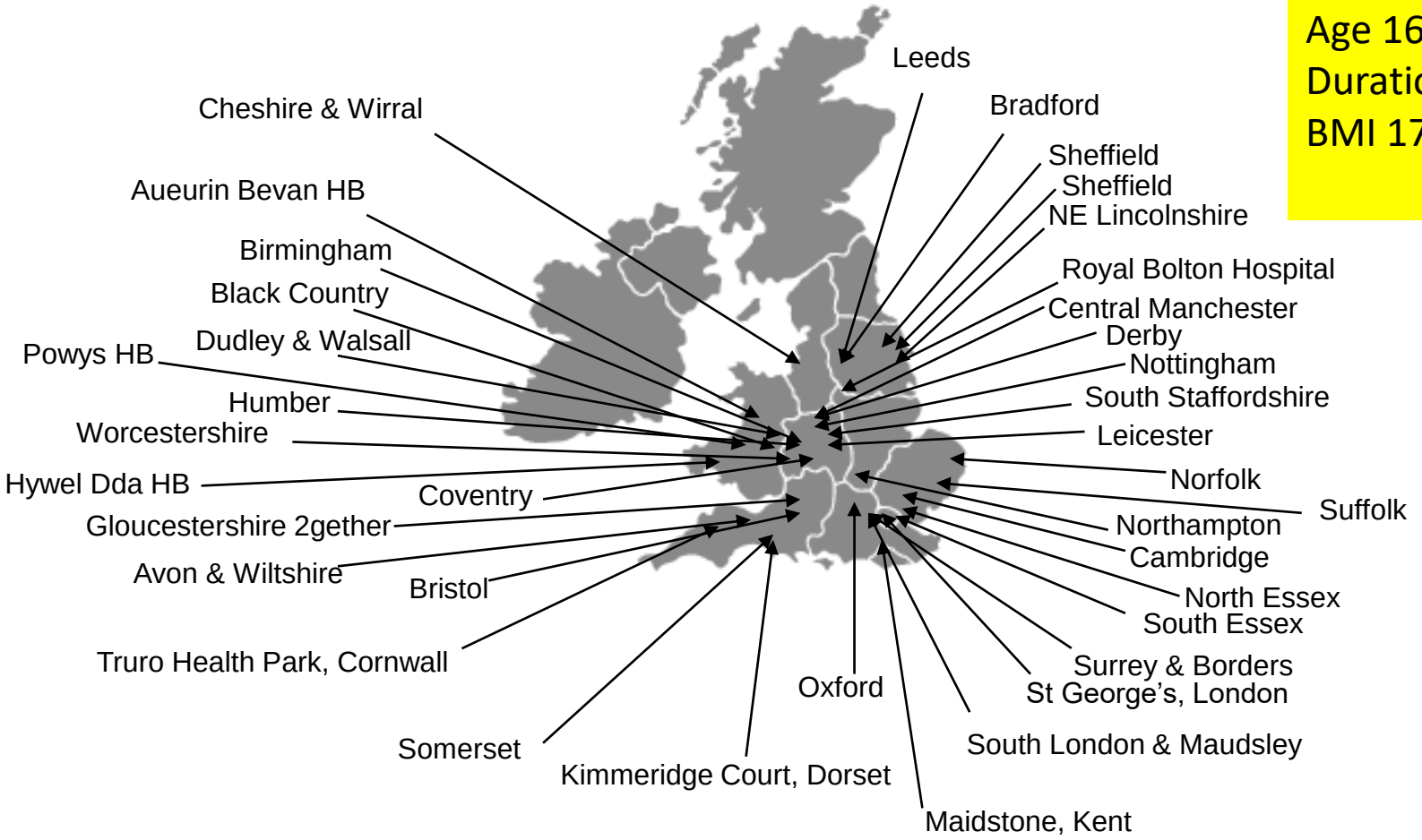



Hibbs et al BJPsych Open 2015;1(1):56-66.

# Multi centre RCT for outpatients under 21years (Hodsall et al 2017)

38 NHS ED services (17 CAMHS, 13 adult, 8 both)

N=149
Age 16.5 y.
Duration 1.8y.
BMI 17.1

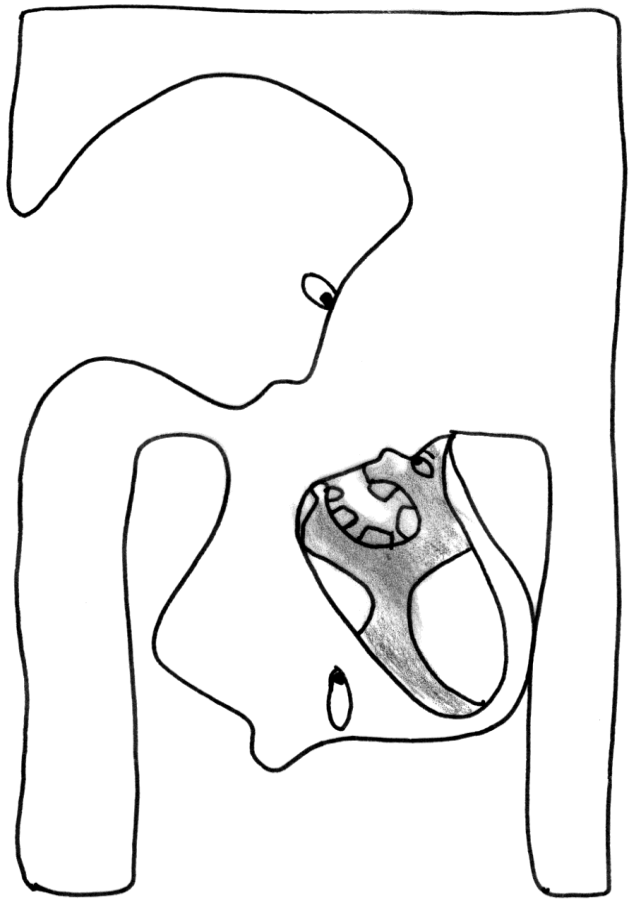


# Number of Hospital Admissions: Adolescents (Hodsall et al 2017)

| Patient/carer Group | 6 months | 12 months |
|---|---|---|
| ECHO | 12% | 9% |
| TAU | 16% | 8% |

# The impact on Carers

- Skills ↑
- Expressed emotion ↓
- Accommodate ↓
- Time caring ↓



Families can be a bridge to social connection by repairing relationships

# The good news

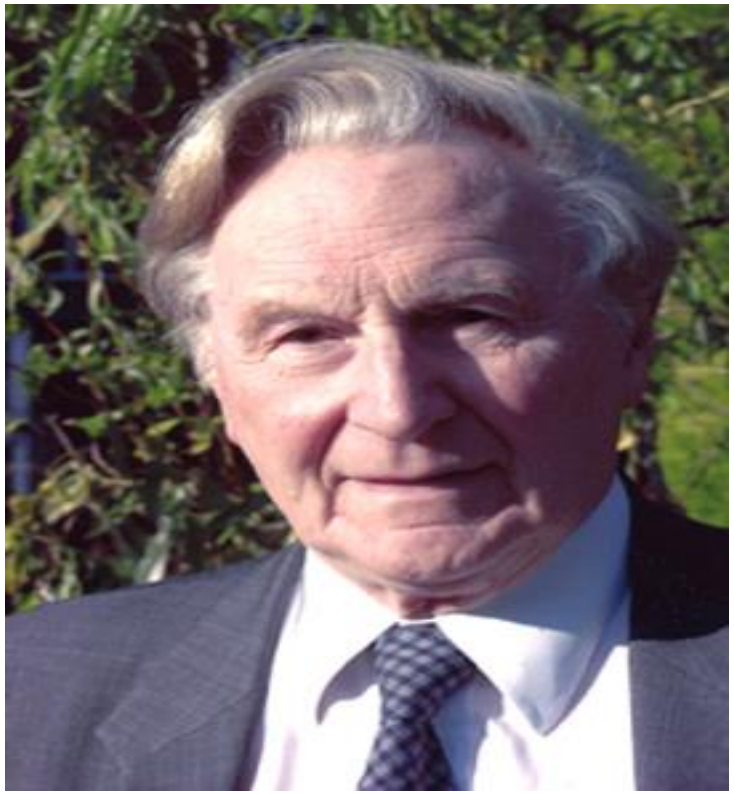
- Work with carers can moderate these difficulties and have an impact on the interpersonal environment.
- Skills training for carers reduces the need for admissions and improves carer well being.


Goddard et al 2011, Hibbs et al 2015, Magill et al 2015, Hodsoll et al 2016

# The Legacy

## Maudsley Model of Family therapy

1979-1983: RCT Trial  in progress
1987: One year results published
1993: Five year results published
2005:  NICE guidelines
2017: NICE guidelines



## Bulimia Nervosa

1979: Defined by Russell
1980: Bulimia DSM-III
1987: Bulimia nervosa DSM-III-R
2013: Binge Eating Disorders DSM 5

# Bulimia Nervosa is Born: Case Series (n=30)

*Psychological Medicine*, 1979, 9, 429–448
*Printed in Great Britain*

## Bulimia nervosa: an ominous variant of anorexia nervosa

GERALD RUSSELL[1]

*From the Academic Department of Psychiatry, Royal Free Hospital, London*

SYNOPSIS Thirty patients were selected for a prospective study according to two criteria: (i) an irresistible urge to overeat (bulimia nervosa), followed by self-induced vomiting or purging; (ii) a morbid fear of becoming fat. The majority of the patients had a previous history of true or cryptic anorexia nervosa. Self-induced vomiting and purging are secondary devices used by the patients to counteract the effects of overeating and prevent a gain in weight. These devices are dangerous for they are habit-forming and lead to potassium loss and other physical complications. In common with true anorexia nervosa, the patients were determined to keep their weight below a self-imposed threshold. Its level was set below the patient's healthy weight, defined as the weight reached before the onset of the eating disorder. In contrast with true anorexia nervosa, the patients tended to be heavier, more active sexually, and more likely to menstruate regularly and remain fertile. Depressive symptoms were often severe and distressing and led to a high risk of suicide.

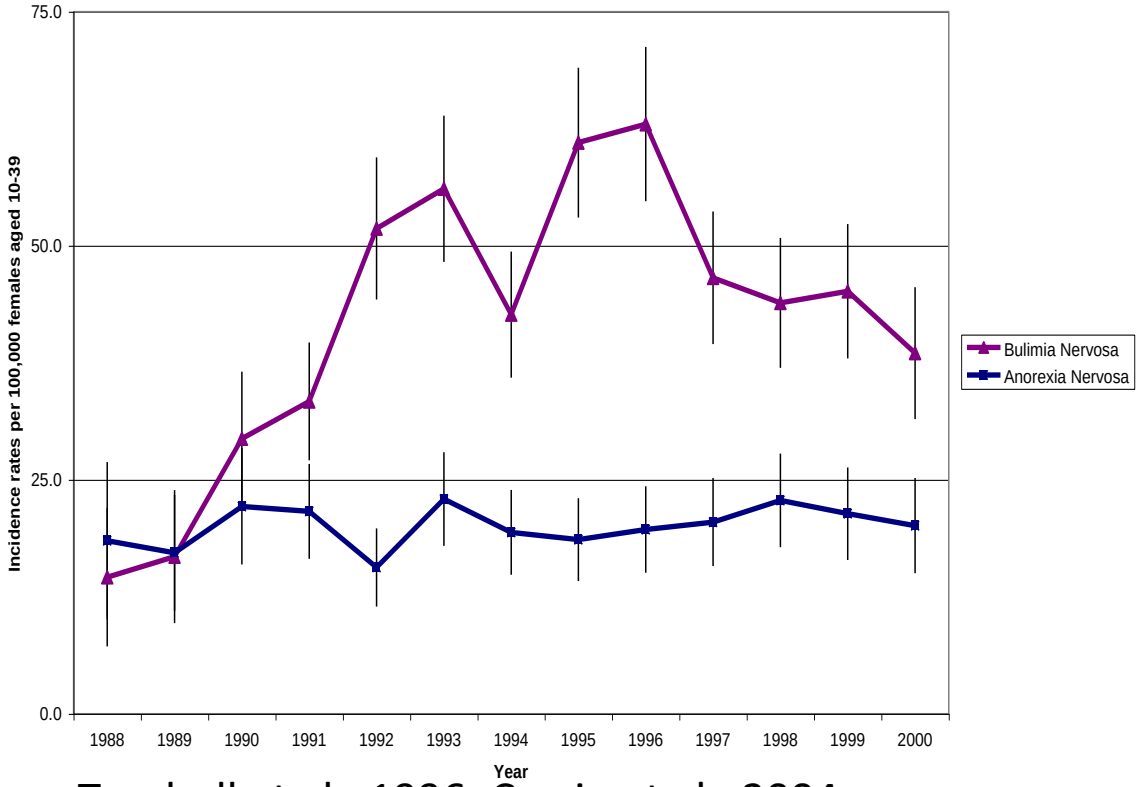
A theoretical model is described to emphasize the interdependence of the various symptoms and the role of self-perpetuating mechanisms in the maintenance of the disorder. The main aims of treatment are (i) to interrupt the vicious circle of overeating and self-induced vomiting (or purging), (ii) to persuade the patients to accept a higher weight. Prognosis appears less favourable than in uncomplicated anorexia nervosa.

**A Theoretical model**

These devices (eg purging) are habit forming……..

Role of self perpetuating mechanisms.

"Don't step on it . . . it makes you cry."



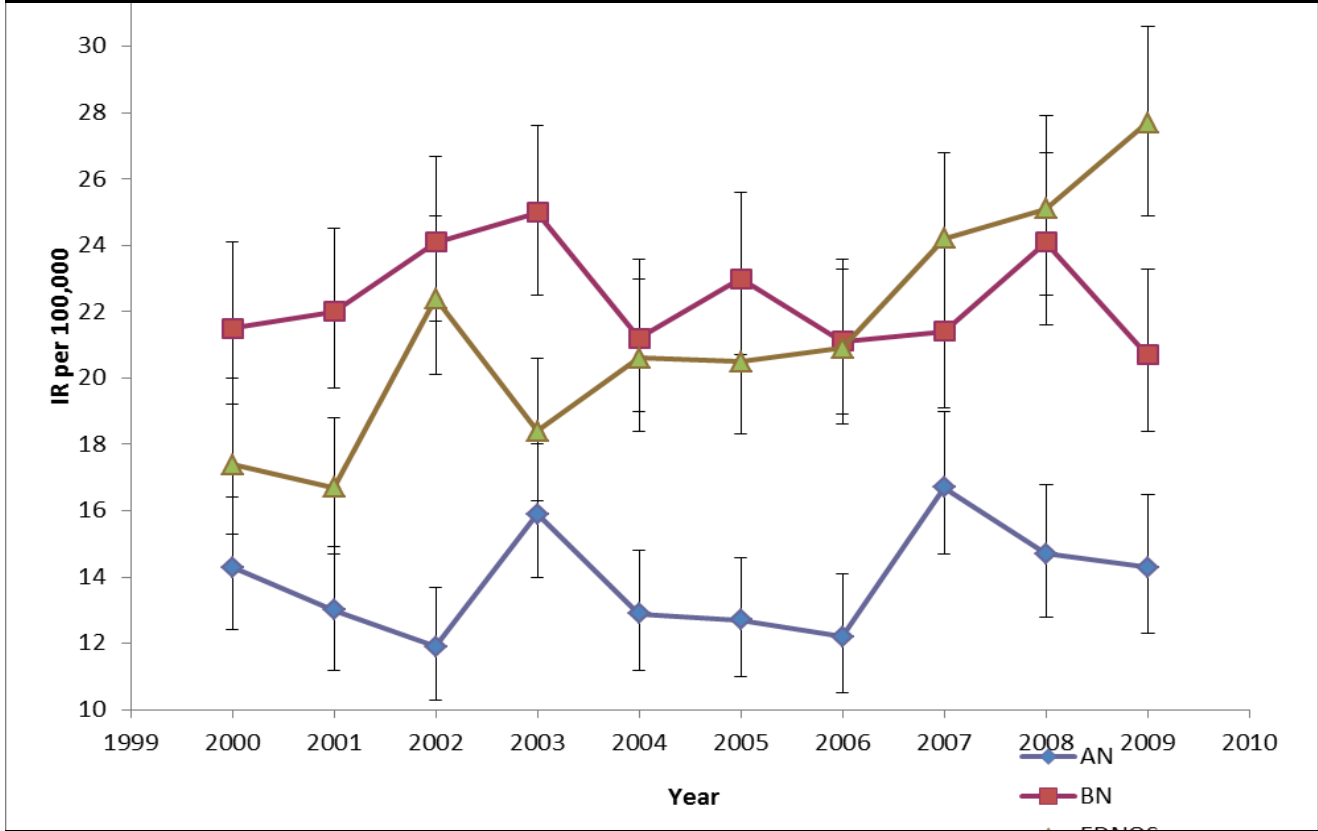

Turnbull et al., 1996; Currin et al., 2004

# Bulimia nervosa presenting to GP

# Bulimia Nervosa
# Binge Eating Disorder

| Community Cases (Solmi et al 2015) | |
|---|---|
| | OR |
| Black | 1.2 |
| Asian | 1.9 |
| Other | 1.8 |
| Underweight | 1.6 |
| overweight | 1.5 |
| Obese | 2.1 |
| Female | 2.0 |

## Cases presenting to primary care in UK (Micali et al 2013)




10% M= 5.9% , F= 12.2% (N=164) ED behaviours in community previous year & 20% @ primary care (Solmi et al 2015).

| | All | Males | Females | χ test |
|---|---|---|---|---|
| Whole sample | 18.3 | 8.6 | 27.7 | <0.001 |
| 11–13 years old (*n* = 252) | 7.2 | 7.1 | 9.4 | NS |
| 14–16 years old (*n* = 365) | 19.2 | 7.3 | 32.8 | <0.001 |
| 17–19 years old (*n* = 153) | 32.7 | 14.5 | 49.4 | <0.001 |
| Underweight (*n* = 38) | 8.1 | 6.3 | 9.1 | NS |
| Normal weight (*n* = 533) | 14.9 | 6.9 | 23.3 | <0.001 |
| Overweight (*n* = 147) | 28.9 | 15.2 | 42.0 | <0.01 |
| Obese (*n* = 22) | 38.1 | 14.3 | 53.3 | NS |

Data are presented as percentages and significance levels of the differences between males and females. NS, not significant.

Norway *(Wisting et al 2013) – see above*

UK – 36% *(Johnson et al 2014)*

Germany-9% (467/52215) *(Scheuing et al 2014))*

High Prevalence of eating disorders (diabulimia) in Type I Diabetes Mellitus.

# What does epidemiology tell us about causation?

Many studies have documented the rising incidence in BN and BED from people born in 1950's onward.

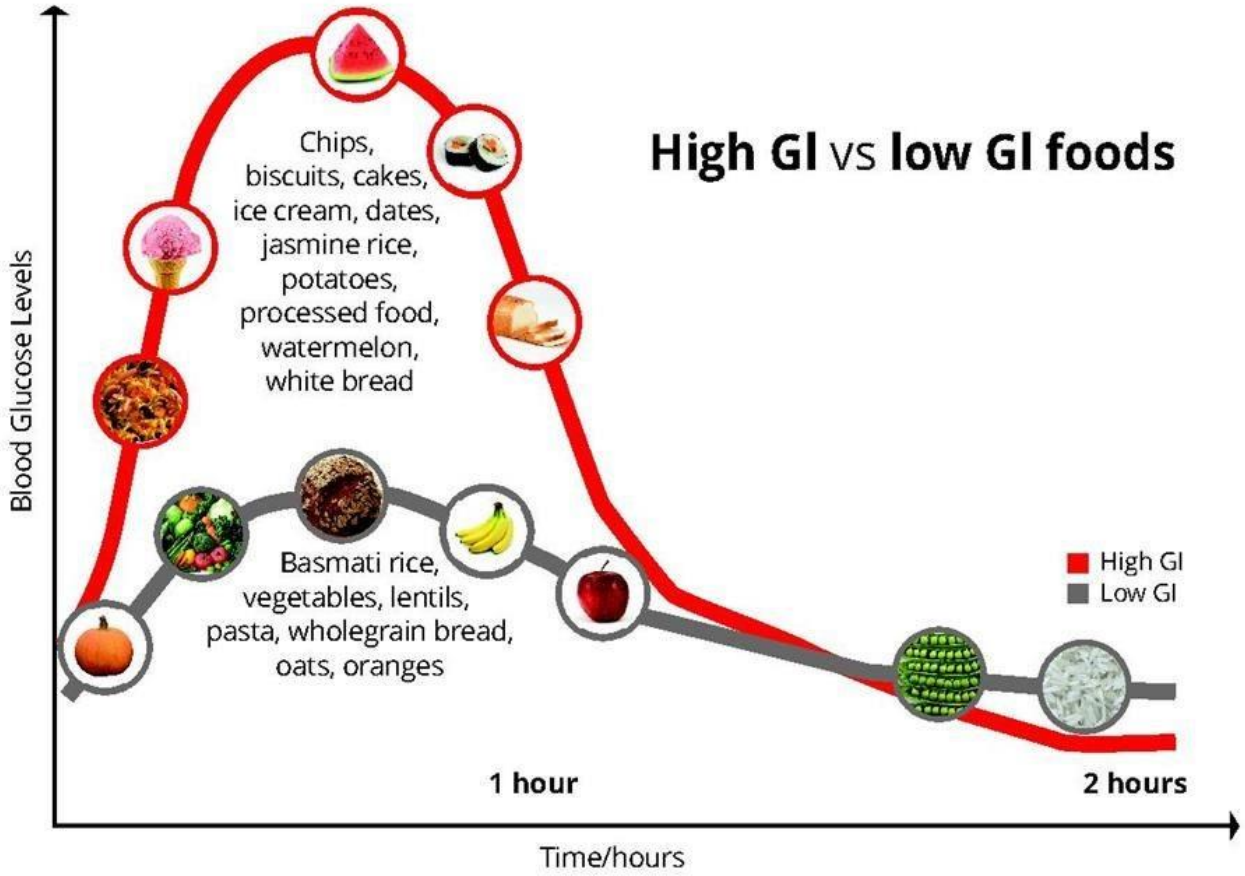
High risk groups:

- Type1 diabetes
- Urban dwellers.
- Dietetic & aesthetic body students.

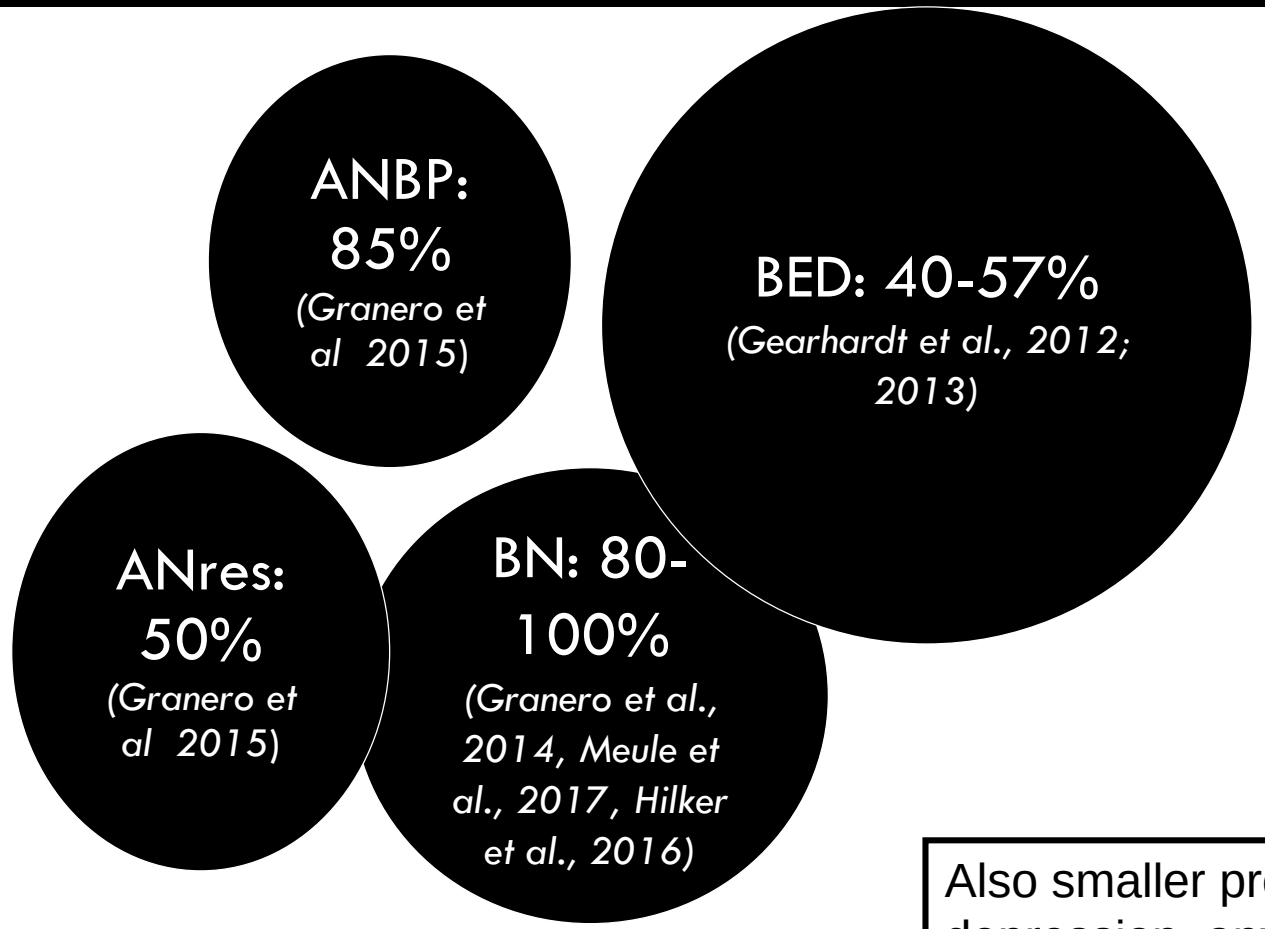
# Changing body image

# Changes in foods and eating behavior

- Content: Processed foods with added refined carbohydrates and fat and/or with high glycaemic/salt load are most “addictive” (Schulte et al., 2015)
- Pharmacokinetics: Rate  change glucose (e.g. balance between food absorption (high GI foods) and metabolism (insulin; baseline glucose etc). (Treasure et al 2018, Brewerton 2015)



# Food Addiction & Eating Disorders




Also smaller prevalence in depression, anxiety
Systematic review (Burrows et al 2018)

# Predisposing factors

# Childhood Eating Behaviour BN, BED

## Prospective

↑ BMI @ age 7 y ↑binge eating/diet &, weight and shape concerns in M & F @ 13 y *(Reed et al 2018)*

Child overeat ↑BED @ 16y *(Sonneville et al 2015)*

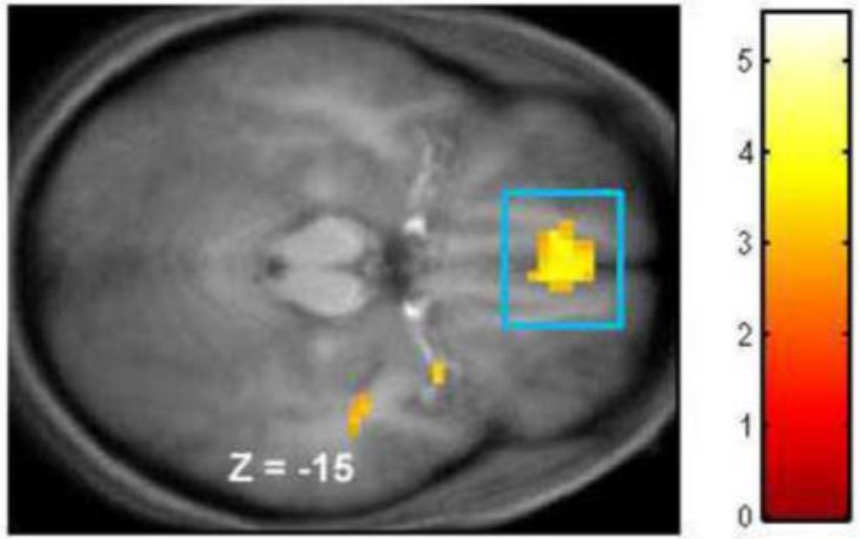
Association between binge-eating at either age 14 or 16 and rs1558902 (FTO gene) (OR=1.3, p≤0.01) and polygenetic risk for obesity*(Micali et al 2016)*

FTO gene tncrease childhood appetite and weight *(Wardle et al 2009; Cecil et al 2008 )*

# Perpetuating factors

# Common Brain Circuitry: BN/BED & Addiction

- Reduced dopamine binding is observed in BN (Broft et al., 2012; Steward et al., 2017) and obesity (Wang et al., 2004)




Effect size z-value = 0.55

# Building models

Received: 31 October 2017 | Revised: 11 December 2017 | Accepted: 14 December 2017
DOI: 10.1002/erv.2578

INVITED REVIEW

WILEY

## Are trans diagnostic models of eating disorders fit for purpose? A consideration of the evidence for food addiction

Janet Treasure[1†] | Monica Leslie[1†] | Rayane Chami[1] | Fernando Fernández-Aranda[2]

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[2]Eating Disorders Unit, Department of Psychiatry, University Hospital of Bellvitge and CIBERobn (ISCIII), Barcelona, Spain

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**Funding information**
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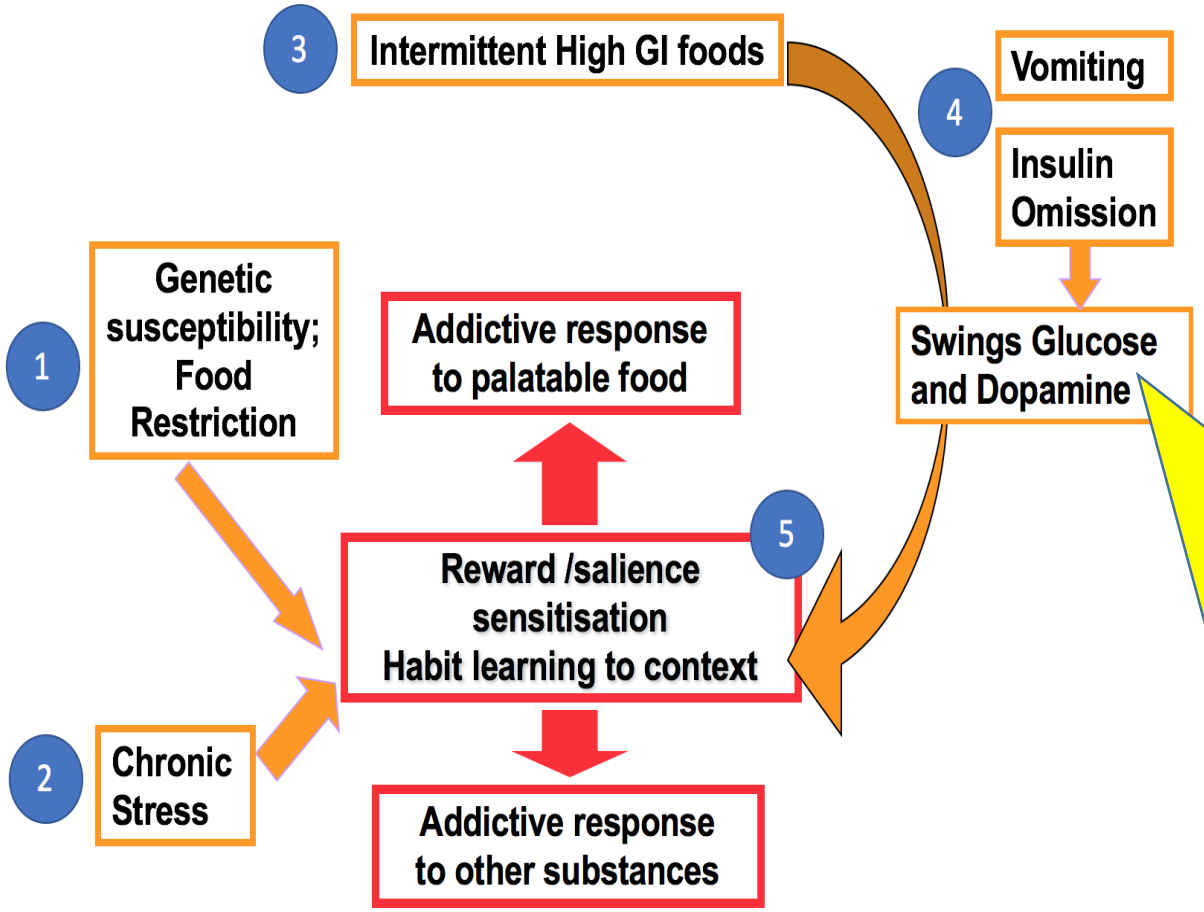
**Abstract**
Explanatory models for eating disorders have changed over time to account for changing clinical presentations. The transdiagnostic model evolved from the maintenance model, which provided the framework for cognitive behavioural therapy for bulimia nervosa. However, for many individuals (especially those at the extreme ends of the weight spectrum), this account does not fully fit. New evidence generated from research framed within the food addiction hypothesis is synthesized here into a model that can explain recurrent binge eating behaviour. New interventions that target core maintenance elements identified within the model may be useful additions to a complex model of treatment for eating disorders.

**KEYWORDS**
binge eating disorder, bulimia nervosa, food addiction, insulin, neuroadaptation

Also Wiss & Brewerton 2016 The disordered eating food addiction nutrition guide (DEFANG)

# A maintenance model of binge eating

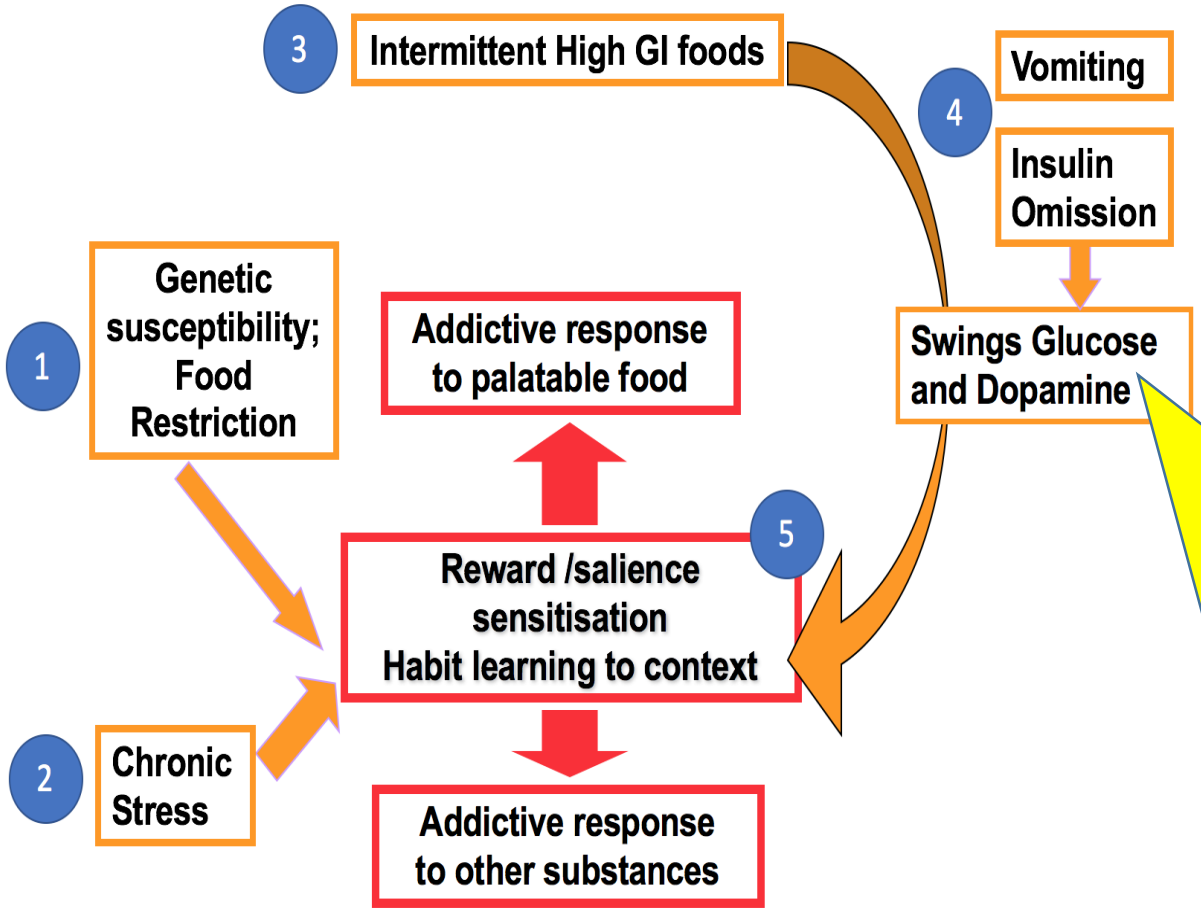



**Addiction Hypothesis**

Glucose fluxes caused by mis match insulin/glucose (Diabetes, high glycaemic foods, vomiting)

↑ dopamine.

# Implications for Treatment




## Treatment Implications

- Regular meals with complex carbohydrates.
- Avoid sugar snacks/drinks
- Avoid behaviours give insulin/metabolism mismatch
- Medication: reward system opiate/cannabinoid/ dopamine

# Conclusion –a few of the milestones

- Gerald brought eating disorders into Psychiatry in the UK.
- Gerald proved that randomised trials of psychotherapy were possible.
- Gerald recognised the importance of stratification of patients (precision psychiatry before the term was invented).
- Family based therapy (the Maudsley Model) remains recommended treatment for adolescent  anorexia nervosa .
- Gerald listened to patients stories and recognised bulimia nervosa as a new form of eating disorder.
- These models need to be updated with new evidence we can no longer be agnostic about aetiology.

# Reflections on Gerald

- The truly great thing about Gerald to me is the way he changed his view based on his own scientific enquiry. He was not scientifically bigoted or blinkered. He even recognised when he was wrong (or amiss might be better phrase in the light of more recent research). So as examples he rejected his early hypothalamic theory. The efficacy of family therapy was against the run of his original ideas.  HL

# Reflections on Gerald

- Strengths: a physician in the traditional mould, with fantastic powers of observation and ability to see patterns in random pictures, which no-one else could see eg the discovery of bulimia nervosa PR
- ..good at collecting people around him who were experts in their field and represented ways of thinking that were different from his eg family therapy group.PR
- Immense kindness with patients and families as well as his trainees. PR.