

# The link between autism spectrum and eating disorders

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*Consultant Clinical Psychologist/ Principal Investigator of PEACE  
Pathway – King's College London*

<https://kclpure.kcl.ac.uk/portal/kate.tchanturia.html>

# Map of the talk

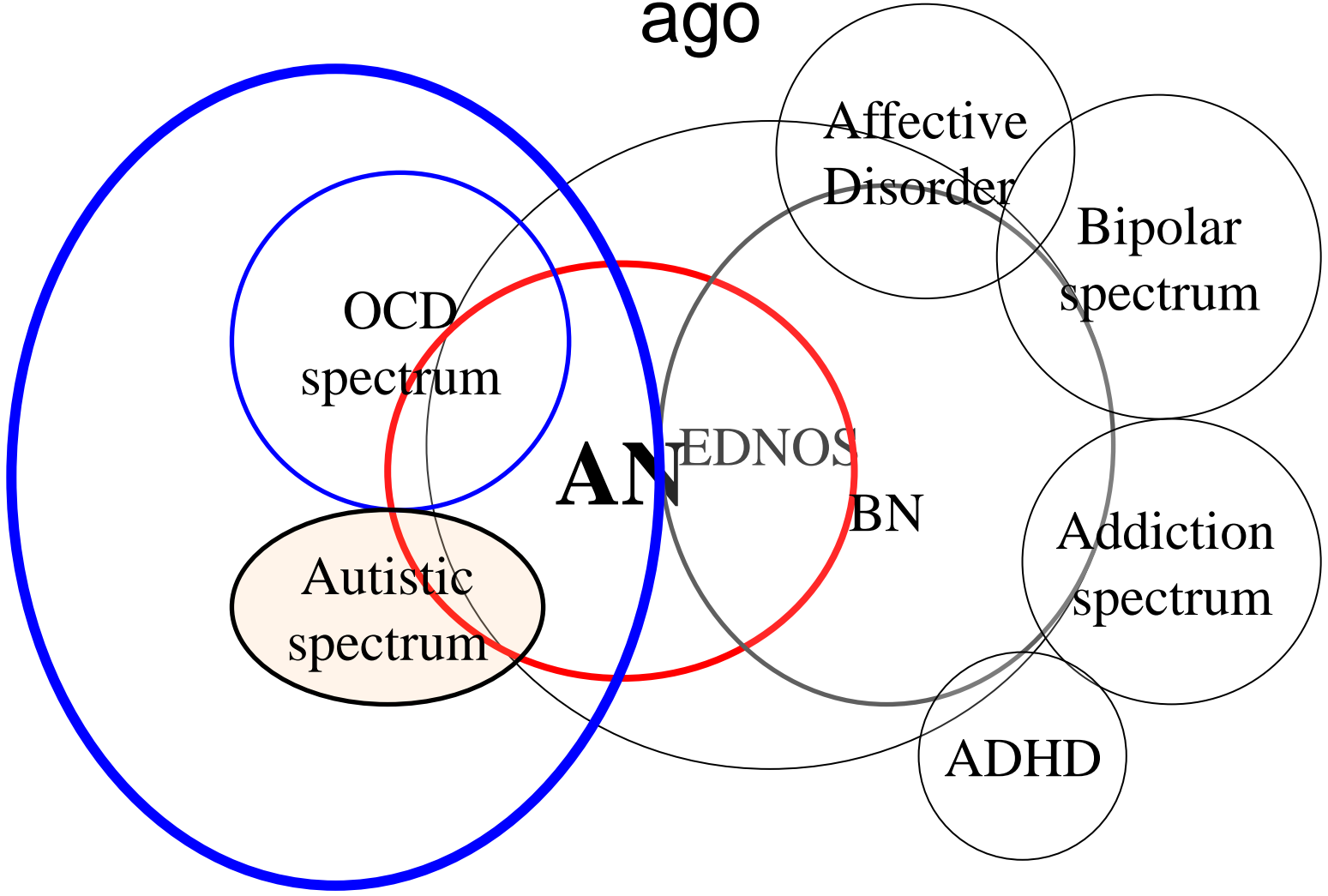
What we know from the literature about link between Autism and Anorexia nervosa (AN)?

What we can do about Autism and AN in the treatment settings?

Can we translate research evidence in clinical practice?

What is practice based evidence for now?

# The comorbidity of Eating Disorders was reported three decades ago



Hollander et al 2009; Murphy et al 2010; Westwood and Tchanturia 2017

# Camouflaging

AS women and girls  
'camouflage' their  
autism

(Dean, Harwood, & Kasari, 2016;  
Rynkiewicz et al., 2016)

Mismatch between  
'external  
presentation' and  
'internal state'

(Lai et al., 2016)

Associated with greater  
depression and anxiety  
– 'exhausting'

(Hull et al., 2017)

Compensatory behaviours –  
'social butterfly'; parallel  
play; eye contact

behind a social mask?

# Finding better ways to treat patients with AN/Autism symptoms

Curr Psychiatry Rep (2017) 19: 41  
DOI 10.1007/s11920-017-0791-9



EATING DISORDERS (S WONDERLICH AND JM LAVENDER, SECTION EDITORS)

## Autism Spectrum Disorder in Anorexia Nervosa: An Updated Literature Review

Heather Westwood<sup>1</sup> · Kate Tchaturia<sup>1,2,3</sup>

- Over-representation of autism in AN
- Poorer treatment outcomes, higher illness severity, longer illness duration
- Need for treatment adaptations

- Need for treatment adaptations
- Clinicians need confidence/training/ recommendations

RESEARCH ARTICLE

Open Access

Clinicians' views on working with anorexia nervosa and autism spectrum disorder comorbidity: a qualitative study



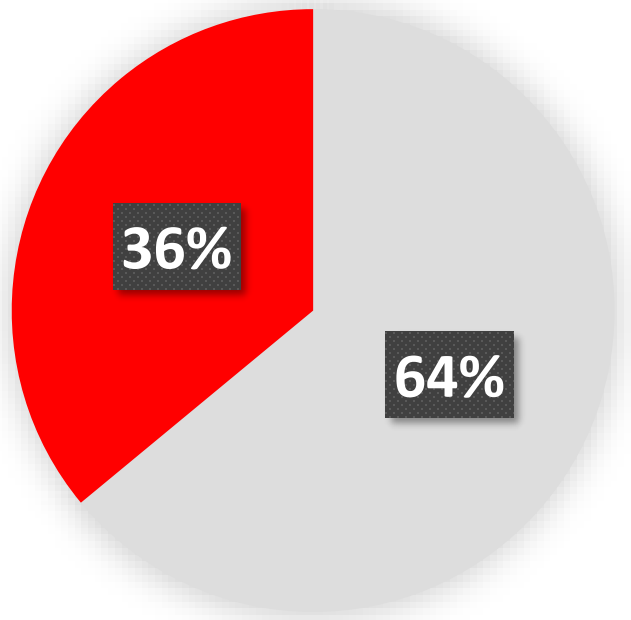
Emma Kinnaird<sup>1</sup>, Caroline Norton<sup>2</sup> and Kate Tchaturia<sup>1,2,3,4\*</sup>

# Clinical reality

Audit data from Maudsley

*The combination of autism and starvation is like autism  
on steroids*

# Clinical Audit Data in our own clinical service



Original Article



## Characteristics of autism spectrum disorder in anorexia nervosa: A naturalistic study in an inpatient treatment programme

Kate Tchanturia<sup>1,2,3</sup>, James Adamson<sup>2</sup>, Jenni Leppanen<sup>1</sup> and Heather Westwood<sup>1</sup>

### Abstract

Previous research has demonstrated links between anorexia nervosa and autism spectrum disorder however, few studies have examined the possible impact of symptoms of autism spectrum disorder on clinical outcomes in anorexia nervosa. The aim of this study was to examine the association between symptoms of autism spectrum disorder and eating disorders, and other psychopathology during the course of inpatient treatment in individuals with anorexia nervosa. Participants with anorexia nervosa (n=171) completed questionnaires exploring eating disorder psychopathology, symptoms of depression and anxiety, and everyday functioning at both admission and discharge. Characteristics associated with autism spectrum disorder were assessed using the Autism Spectrum Quotient, short version. Autism spectrum disorder symptoms were significantly positively correlated with eating disorder psychopathology, work and social functioning, and symptoms of depression and anxiety, but not with body mass index. Autism Spectrum Quotient, short version scores remained relatively stable from admission to discharge but there was a small, significant reduction

Autism  
1–8  
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sagepub.co.uk/journalsPermissions.nav  
DOI: 10.1177/1362361317722431  
journals.sagepub.com/home/aut  
 SAGE

# Our clinical Audit data shows:

505 patients with AQ scores on record

- BMI improvement:  
No difference between patients with and without Autism
- Eating disorder symptoms:  
Small difference between patients with and without Autism
- Work and social functioning:  
Patients with autism have worst social functioning
- Anxiety and depression:
  - Patients with Autism have higher scores vs patients without comorbidity.



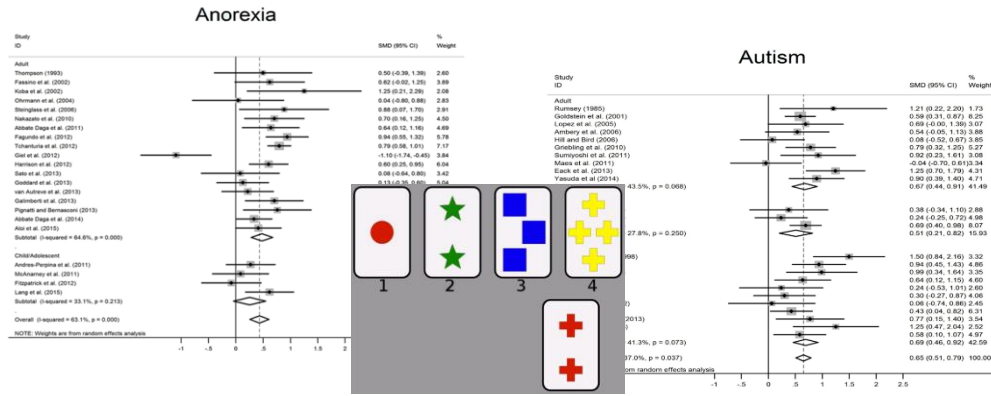
# Research findings with clinical implications

Experimental work:

# Anorexia Nervosa

# Autism Spectrum Disorders

# What we know



Cognitive similarities

Flexibility, Bigger picture.  
Perfectionism

**Research based evidence**

Large datasets/systematic reviews

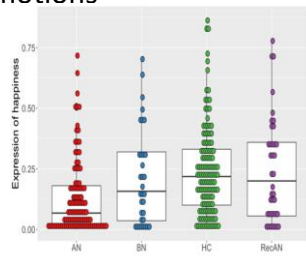
Absence for language for emotions

Alexithymia

Social isolation

limited friendship

## COGNITIVE



Social-emotional similarities

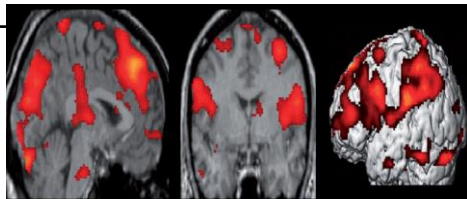
Novel ecologically valid assessments

## EMOTION SOCIAL

Studies of neuro-correlates in progress

Complex systems modelling as a clinical tool

For the relevant publications:  
[www.kate.tchanturia.com](http://www.kate.tchanturia.com)



# Social attention in anorexia nervosa and autism: Role of social motivation

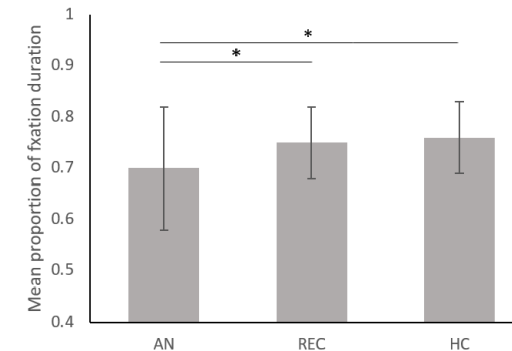


A single frame from the clip (left), and with the areas of interest (AOIs) overlaid (right).

**Participants with AN spent significantly less time looking at faces than REC and HCs.**

No group differences in patterns of attention to the individual facial features, but **AN looked at features less overall;** and all participants looked at eyes more than mouth or nose.

Mean proportion of time spent looking at faces across groups. Error bars = SD. \* =  $p < .05$ .



Expressing emotions

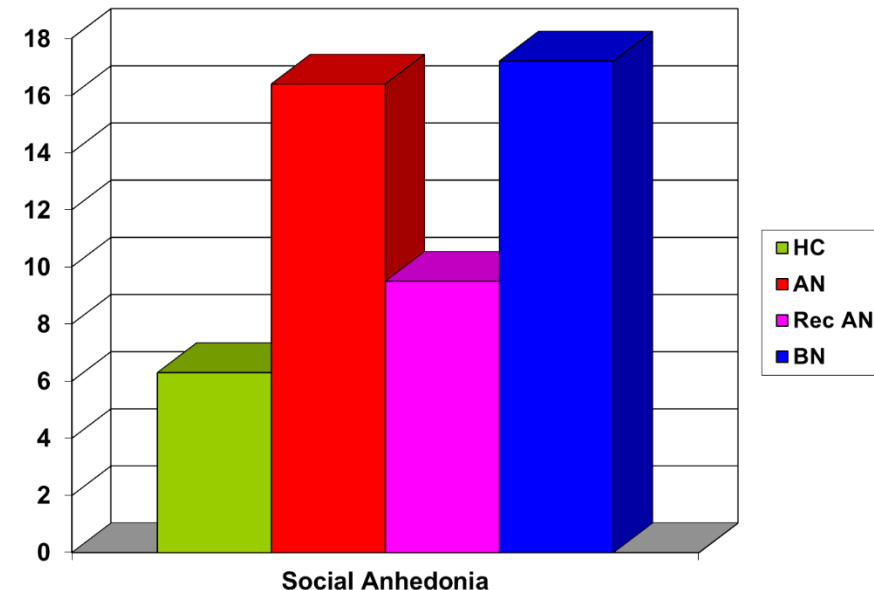
# What can contribute to social isolation?

- Alexithymia – no words for emotions
- “emotional blindness”
- Difficulties to describe emotions to other people
- Meta-analyses of Toronto Alexithymia Scale scores indicate that individuals across the spectrum of eating disorders have difficulties identifying and describing emotions

Westwood et al 2017-systematic review

## Social Anhedonia

Deficits in the ability to experience pleasure from non physical stimuli such as other people, talking, exchanging expressions of feelings



Harrison et al 2014, Tchanturia et al 2012  
Eckblad et al., 1982 (40 items)

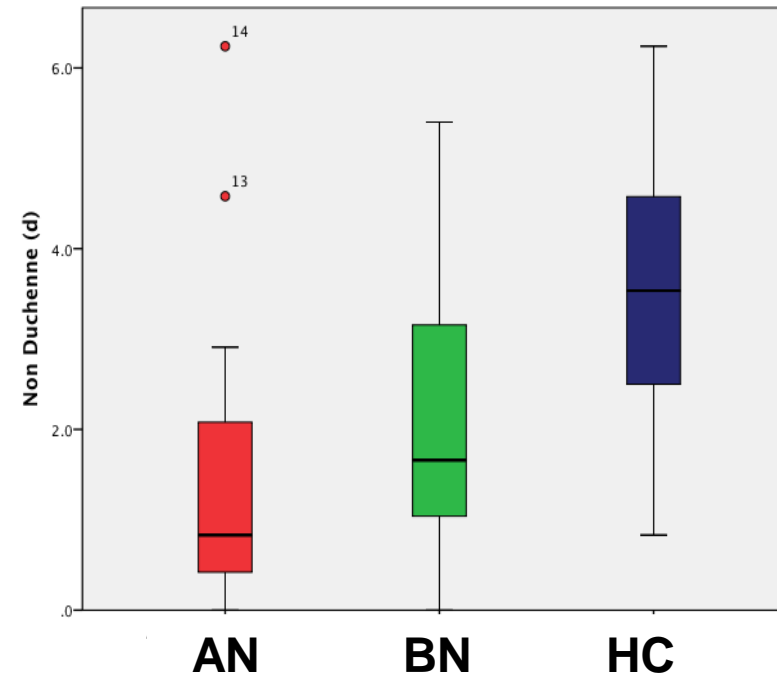
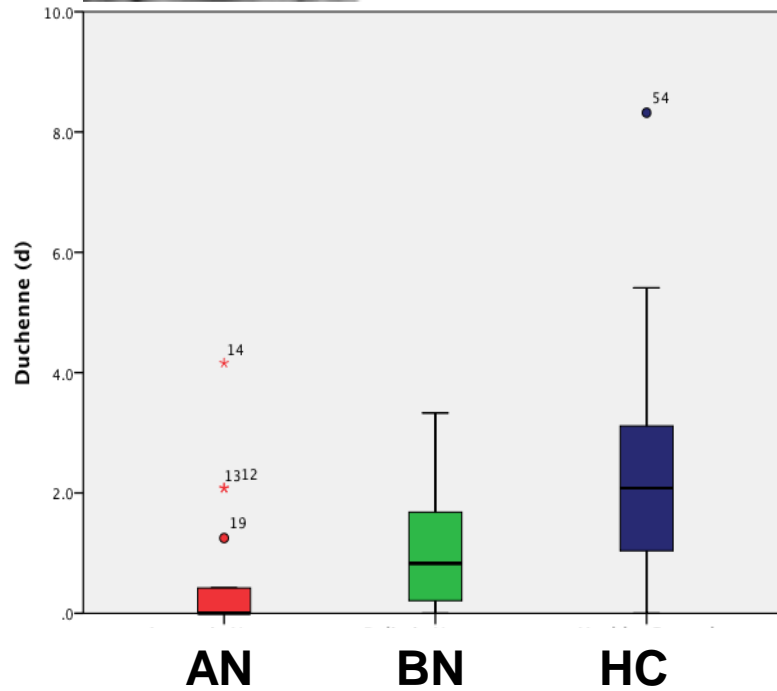
**Expressing positive emotions:**  
 comparative study between people  
 with anorexia, bulimia and non eating disorder females.  
 Marin Dapelo M, Hart S, Hale C, Lynch T, Morris R, Tchanturia K (2015)  
*Psychiatry Research*



**Duchenne smile**



**Non Duchenne smile**



*That "poker face" just might lose you the game! The impact of expressive suppression and mimicry .....*





ELSEVIER

Contents lists available at ScienceDirect

# Psychiatry Research

journal homepage: [www.elsevier.com/locate/psychres](http://www.elsevier.com/locate/psychres)



## Facial expression of positive emotions in individuals with eating disorders

Marcela M. Dapelo<sup>a,1</sup>, Sharon Hart<sup>a,1</sup>, Christiane Hale<sup>b</sup>, Robin Morris<sup>c</sup>, Thomas R. Lynch<sup>d</sup>,  
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Duchenne smile

Facial expression

Emotion

### ABSTRACT

A large body of research has associated Eating Disorders with difficulties in socio-emotional functioning and it has been argued that they may serve to maintain the illness. This study aimed to explore facial expressions of positive emotions in individuals with Anorexia Nervosa (AN) and Bulimia Nervosa (BN) compared to healthy controls (HC), through an examination of the Duchenne smile (DS), which has been associated with feelings of enjoyment, amusement and happiness (Ekman et al., 1990). Sixty participants (AN=20; BN=20; HC=20) were videotaped while watching a humorous film clip. The duration and intensity of DS were subsequently analyzed using the facial action coding system (FACS) (Ekman and Friesen, 2003). Participants with AN displayed DS for shorter durations than BN and HC participants, and their DS had lower intensity. In the clinical groups, lower duration and intensity of DS were associated with lower BMI, and use of psychotropic medication. The study is the first to explore DS in people with eating disorders, providing further evidence of difficulties in the socio-emotional domain in people with AN.

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No/poor expression-“poker face”:



“...to sum up my experience of anorexia nervosa in one word—isolation” (McKnight, 2009)

“Anorexia destroyed my social life.... I lost friends...

Recovery is getting my relationships back“(AD)

(2020)





# Qualitative research

What patients carers and clinicians have to say about this complex comorbidity?

# What can we do about it? What are the main stakeholders needs?

Patients (AN/ASD)



Carers



Qualitative  
interviews



Clinicians



RESEARCH ARTICLE

Open Access

Clinicians' views on working with anorexia nervosa and autism spectrum disorder comorbidity: a qualitative study



Emma Kinnaird<sup>1</sup>, Caroline Norton<sup>2</sup> and Kate Tchanturia<sup>1,2,3,4\*</sup>

# What all stakeholders would like to improve:

Table 1: Overlap with Patients, Staff & Carers

Patients	Staff	Carers
AN & ASD Interlinked	AN & ASD Interlinked	AN & ASD Interlinked
Sensory Difficulties	Sensory Difficulties	Sensory Difficulties
Not enough time / clinician rapport	Takes longer to build rapport	Takes longer to build rapport
Flexible and individualised treatment	Adaptions and specific modifications	Flexible and individualised approach
Difficulty getting diagnosis	No clear pathways for assessment	Difficulty getting diagnosis
Clinician education	Clinician education	Clinician education

# Sensory Screening

## Sensory Summary

Mark where you think you are on the below scales. Hypersensitivity means you are highly sensitive to sensations and may try and avoid them where possible; hyposensitivity means you have lower sensitivity and may try to seek out these sensations. There are examples below each scale. If you think you are neither hyper/hyposensitive and have no sensory differences, mark yourself in the middle as a 5.

### Taste

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

(Hyposensitive) (No sensory differences) (Hypersensitive)

If I am hyposensitive, I might add lots of salt to my food to make it taste stronger. If I am hypersensitive, I might prefer to eat bland foods as I find them too strong.

### Smell

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

(Hyposensitive) (No sensory differences) (Hypersensitive)

If I am hyposensitive, I might not notice strong smells and enjoy smelling essential oils. If I am hypersensitive, I might dislike smelly places like a canteen and find smells overpowering.

### Vision

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

(Hyposensitive) (No sensory differences) (Hypersensitive)

If I am hyposensitive, I might really like watching bright light displays. If I am hypersensitive, I might prefer to have lights dimmed or turned off.

### Sound

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

(Hyposensitive) (No sensory differences) (Hypersensitive)

If I am hyposensitive, I might turn my music up loud and dislike silence. If I am hypersensitive, I might dislike loud spaces and put my hands over my ears.

### Touch

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

### Texture

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

(Hyposensitive) (No sensory differences) (Hypersensitive)

If I am hyposensitive, I might really enjoy the feeling of certain food textures in my mouth (such as liking crunchy food). If I am hypersensitive, I might strongly dislike and avoid eating certain food textures (such as mashed potato).

Based on stakeholder interviews suggesting identifying sensory differences could benefit both autistic patients and their clinicians in adapting treatment.

Over 60 patients have completed the screening. We have found that patients with high autistic traits rate themselves as more hypersensitive.



### Patient Feedback:

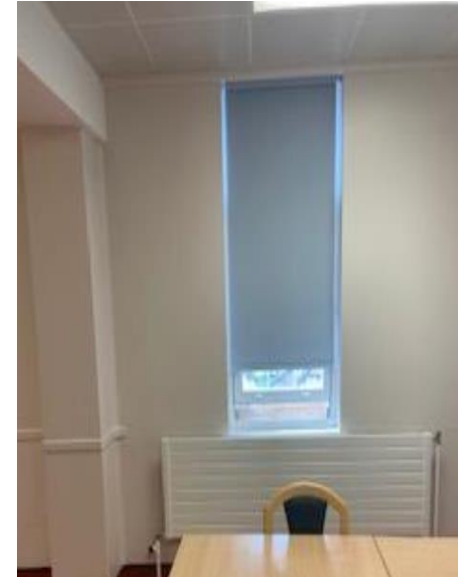
*"It can be very helpful to discover what a particular person likes or dislikes and will help to create an environment comfortable for people who suffer from eating disorders especially during meals."*

# Environmental Adaptations

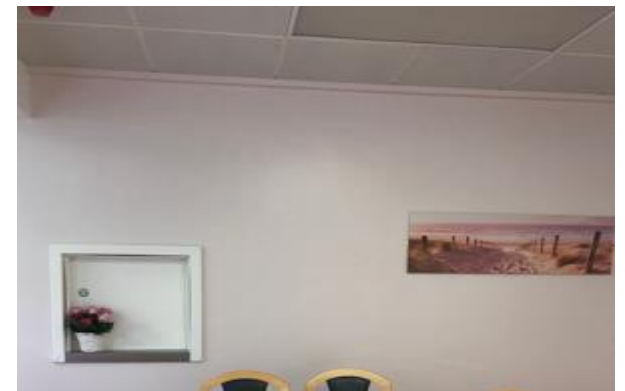
*Little things can make a big difference*



"Go easy on the walls"  
- Patient Feedback



"I really like the changes the PEACE team made to the dining room as it **looks and feels so much more like a calmer environment**"  
- Patient MW





# Example from the dietician working on PEACE pathway

She told me of some of her sensitivities around food:

Texture "the biggest" - cannot tolerate soft, mushy and "blobby" foods, such as porridge, mash, particularly any soft foods with a mix of textures, such as quiche. She has "flash backs" about being asked to eat quiche.

Smell - she recoils from the smell of food, both hot and cold foods

Taste - prefers less highly flavoured foods but thinks this less important than the above  
Brands - she prefers branded food (ketchup etc), her sisters think she should be more concerned about the costs



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# Training, communication and consultations

- Weekly PEACE Huddles/Snapshots that act as a space for clinicians to explore and reflect with their peers on best practice in working with this population (delivered virtually during COVID-19)
- Monthly training sessions by specialists from the Autism field
- Monthly case discussions on autistic patients or those with high autistic traits with the multidisciplinary team
- Supervision

Increase in staff attendance to PEACE meetings



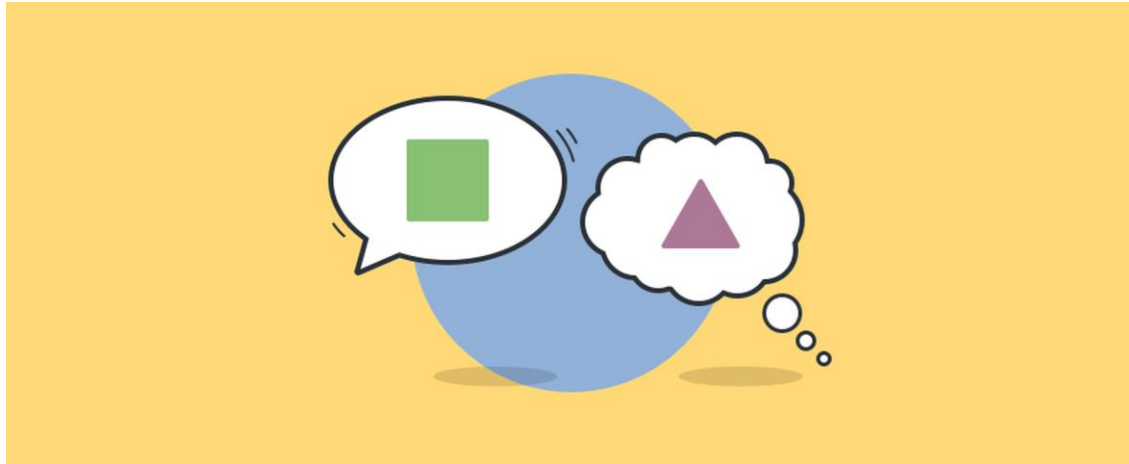


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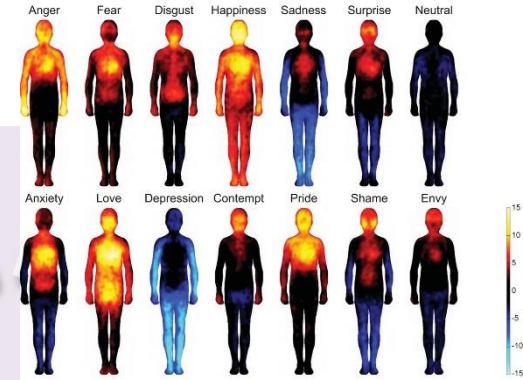
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# How can we address cognitive and social emotional difficulties in treatment




# Remedial treatment approaches are revised and adjusted for ASD/AN comorbidity



# Understanding and Enabling the Autistic Person

Version 1. One-page communication passport

Date completed:

**My Communication Passport** 

**HELLO**  
MY NAME IS

How I would like you to communicate with me:

Sensory needs:




My special interests and strengths are:

Other things you should know about me:

My dislikes and things that I struggle with and how you can support me:

Main message that I would like you to know:

You can support me by:

  South London and Maudsley NHS Foundation Trust  Backing Better Mental Health.

Contributed by Yasemin Dandil (Project Manager - PEACE Pathway)

Version 2. Extended 'Wellbeing Communication Passport' booklet

**My Wellbeing Communication Passport**

**PEACE**   
Pathway for Eating disorders and Autism  
developed from Clinical Experience

**HELLO**  
MY NAME IS

You need to know this about me

These are important to me

My preferences (likes and dislikes)

People who care for my wellbeing this communication passport has important information about me.  
Please make sure you read this before you help me.

This communication passport needs to stay with me but please take a copy for my file.

  South London and Maudsley NHS Foundation Trust   Backing Better Mental Health.



# PEACE Pathway

Pathway for Eating disorders and Autism  
developed from Clinical Experience



# How PEACE benefits patients, families, wider system



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# More detailed information about PEACE project:

- Book is published in 2021
- Peer-reviewed publications (up to 30)
- Social media
- Our website [peacepathway.org](https://peacepathway.org)





Prof Kate Tchanturia  
Consultant Clinical Psychologist  
Principal Investigator



Katherine Smith  
Former Project Manager



Yasemin Dandil  
Former Project Manager



Dr Emma Kinnaird  
PhD Student / PEACE  
Researcher



Zhuo Jo Li  
PhD Student / PEACE  
Researcher



Nike Oyeleye  
Assistant Psychologist  
(Inpatient)



Anna Carr  
Assistant Psychologist  
(Step-up)

We have a great multidisciplinary team  
making team work-dream work



Dr Claire Baillie  
Senior Counselling  
Psychologist



Dr Amy Harrison  
Clinical Psychologist and  
Specialist Family Worker



Caroline Pimblett  
Dietician



Kate Williams  
PEACE Dietetic Advisor



Isis McLachlan  
Occupational Therapist



Jake Copp-Thomas  
Occupational Therapist



Cindy Toloza  
Assistant Psychologist  
(Day Care)



Brandon Southcott  
Staff Nurse



# Thank you



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[www.peacepathway.org](http://www.peacepathway.org)



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