



## 2018 Conference on Transdiagnostic Approaches to Mental Health Challenges

17-18 September 2018

MRC Cognition and Brain Sciences Unit

University of Cambridge, UK

Programme

MRC

Cognition and  
Brain Sciences Unit



UNIVERSITY OF  
CAMBRIDGE

## Welcome to the Medical Research Council Cognition and Brain Sciences Unit

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Established as the Applied Psychology Unit by the Medical Research Council in 1944, the Cognition and Brain Sciences Unit is one of the largest and most enduring contributors to the understanding of human cognition and its disorders.

Our research investigates fundamental human cognitive processes such as attention, language, memory, and emotion. We do this using a combination of behavioural experiments, neuroimaging, and computer modelling. Where possible, we use our discoveries to improve human health and well-being from childhood through to older age, for example by developing new treatments for clinical disorders of cognition and mental health.

The Unit provides a lively intellectual environment for scientific research, with regular lecture and seminar series and research meetings. At any one time, we have about 15 core research programmes, each run by a senior scientist. We also typically have between 15 and 20 postgraduate students, registered with the University of Cambridge.

The Unit is based at Chaucer Road in Cambridge. The original building was a large Edwardian family house which has been extended to provide modern laboratories, MEG and MRI neuroimaging facilities and a lecture theatre.



## Welcome to the 2018 Conference on Transdiagnostic approaches to mental health challenges – Tim Dalgleish

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Dear friends and colleagues,

A very warm welcome to Cambridge to this exciting meeting on transdiagnostic approaches to mental health. We are very much looking forward to a stimulating and provocative two days of talks, posters and discussion of recent advances in both basic research on transdiagnostic processes and on the development and refinement of transdiagnostic psychological interventions.

We have a fantastic line up of keynote, symposium and rapid talk presenters and a really great set of posters. There are no parallel sessions so everyone can attend the same programme. We have also included time for discussion and debate. We hope that this will facilitate the development of a collective understanding of the recent advances and current challenges in the field across the two days which can provide an evolving context for discussion and debate. A central theme is the consideration of the challenges involved in integrating basic research, theory and nosological advances with treatment developments and this will be a thread throughout the presentations and a topic for Roundtable discussion after tea on Day 2.

We are very lucky to have The Mental Elf team taking the conference 'Beyond the Room'. They will be tweeting throughout the two days, will release podcasts and blogs around key papers, and will approach some of you for interviews. Please assist them if you can so the proceedings of the meeting can benefit those who have been unable to make it in person.

Please don't hesitate to approach any of us if you have any questions or need assistance – we are here to ensure that you have a great meeting and enjoy your visit to Cambridge. We wish you a productive and enjoyable conference!

Tim Dalgleish

Melissa Black

David Johnston

## Conference Dinner

### Downing College, Cambridge

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Newest of the old and oldest of the new



Founded in 1800, through a bequest made by Sir George Downing 3rd Baronet, the Downing College Charter granted a perpetual college for students in 'Law, physic and the other useful arts and learning'. Downing elected its first Fellow in 1808 and admitted its first undergraduate in 1817. It is also the location of our Conference drinks and dinner.

Following the first day of the conference we would like to invite you to join us for a drink before dinner at 6pm. Drinks will be held at the reception hall of Downing College before Executive Head Chef Michael Penny and his team will provide high-quality restaurant standard cuisine using seasonal, organic and where possible locally-sourced produce. Dinner will include wine (1/2 bottle per person) and be catered to any dietary requirement.

## Online Discussion and Participation in #Transdx2018

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We are working with #BeyondtheRoom to increase the reach of the conference and engage as many people as we can in the discussion. The #BeyondtheRoom Service is brought to us by @Mental\_Elf and @MarkOneinFour and will include:

1. **Live tweeting:** opening up the event to as wide and varied an audience as possible; including tweet chats, hashtag registration and analytics.
2. **Live blogging:** evidence-based summaries of research being presented at the conference which will be disseminated via the major international blogging platform – the National Elf Service.
3. **Live podcasting:** recording short audio interviews with people at the event and sharing them online. These will be hosted on the National Elf Service Soundcloud page and will be added to their podcast feed. The aim here is to give a flavour of the less formal/conversational parts of the event; something people obviously miss if they don't attend in person.

Should you wish to engage with your social media accounts, please use **#Transdx2018** and **#BeyondtheRoom** when referencing the conference.

## Facilities

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### How to get here

Directions on how to get to the unit can be found using the link below.

<http://www.mrc-cbu.cam.ac.uk/contact-us/>

### Parking

If travelling by car please be aware that we do not have parking available at the unit.

Car park information can be found here:

<https://www.cambridge.gov.uk/parking>

### Guest Wireless Access

We provide wireless networking for visitors to the Unit, these are provided via a local Guest network and we provide access to the eduroam network for member institutions. Access to the CBSUGUEST network is via temporary tickets which can be issued by our Reception staff. eduroam and CBSUGUEST wireless is available from anywhere within the building. The CBSUGUEST network is an open (i.e. unencrypted) wireless network, and therefore network access is restricted to web browsing and secure/encrypted connections only.



## Programme

### Monday, September 17, 2018

Registration and Poster Setup 9am-9.30am		
9.30am	Welcome and opening of the Transdiagnostic Conference	Tim Dalgleish
Session 1 – Open Papers		
9.45am	Evaluating the Validity and Utility of the General Factor of Psychopathology as a Tool for Transdiagnostic Research	Ben Lahey
10.05am	Testing RDoC's hypotheses: Is the transdiagnostic approach living up to its promise?	Sarah Morris
10.25am	A transdiagnostic genomics-first investigation of child neurodevelopment	Samuel Chawner
10.45am	Discussion	
Morning Tea - 11am - 11.30am		
Session 2 – Keynote Address (Session Chair: Praveetha Patalay)		
11.30am	Internet-delivered transdiagnostic treatments: outcomes, challenges, and future directions	Jill Newby
Poster Session and Lunch 12.30pm – 1.30pm		
Session 3 – Open Papers (Session Chair: Nina Reinholdt)		
1.30pm	The experience of adolescent anhedonia	Shirley Reynolds
1.50pm	The use of the transdiagnostic themes and the severity and complexity of their impact to assist in the allocation to clinical interventions	Pat Gwyer
2.10pm	Current Evidence Regarding a Core Transdiagnostic Process	Warren Mansell
2.30pm	Insights from longitudinal transdiagnostic investigations in children and adolescents	Praveetha Patalay
2.50pm	Discussion	
Afternoon Tea - 3.15pm – 3.45pm		
Session 4 – Rapid Talks (Session Chair: Caitlin Hitchcock)		
3.45pm	Can enhancing the ability to self-distance and broaden one's perspective be an effective transdiagnostic treatment?	Emma Travers-Hill
3.50pm	Group Rumination-focused cognitive behavioural therapy (CBT) versus group CBT for depression: phase II trial	Morten Hvenegaard
3.55pm	Computerised metacognitive cognitive bias modification training on post-traumatic stress disorder symptoms	Danielle Hett
4.00pm	Are women ovary-acting? An association between ovarian hormones and symptoms in women with and without generalised anxiety disorder	Sophie Li
4.05pm	The development of affective control	Susanne Schweizer
4.10pm	Co-occurring emotional and behavioural problems across development: a complex networks approach	Eoin McElroy
Session 5 – Keynote Address (Session Chair: Warren Mansell)		
4.30pm	Perfectionism as a transdiagnostic treatment: Can we have our cake and eat it too?	Roz Shafran
5.30pm - Closing		
Reception Drinks & Conference Dinner – Downing College, Cambridge 6pm		

## Posters Day 1

<b>Charlotte Wilson</b>	Worry: a transdiagnostic phenomenon
<b>Andrea Kusec</b>	Benefits and challenges of treating intolerance of uncertainty in mood disorders after acquired brain injury
<b>Elizabeth Appiah-Kusi</b>	Imaginator: a proof of concept feasibility trial of functional imagery training for self-harm
<b>Sophie Li</b>	Fatigue as a transdiagnostic symptom and its association with ovarian hormones: an exploratory study.
<b>Joni Holmes</b>	Identifying dimensions of mental health, cognitive and behavioural problems in a developmentally at-risk population
<b>Nina Reinholt</b>	Trans-diagnostic group CBT vs. standard group CBT for depression, social anxiety disorder and agoraphobia/panic disorder: A pragmatic, multicenter, non-inferiority, randomized controlled trial
<b>Erin Hawkins</b>	A cross-diagnostic approach to understand the relationship between language problems and ADHD behaviours in childhood



# Tuesday, September 18, 2018

Poster Setup  
9am-9.30am

## Session 1 – Open Papers (Session Chair: Melissa Black)

9.30am	Autobiographical memory as a proposed RDoC Construct	Caitlin Hitchcock
9.50am	Transdiagnostic CBT for adult emotional disorders: a feasibility open trail from Saudi Arabia	Yousra Alatiq
10.10am	Preliminary Evaluation of Augmented Depression Therapy (ADepT) as a transdiagnostic treatment for wellbeing deficits in mood disorders	Barney Dunn
10.30am	The influence of social rank on mental health	Jason Stretton
10.50am	Discussion	

Morning Tea  
11.00am-11.30am

## Session 2 – Keynote Address (Session Chair: Tim Dalgleish)

11.30am	Transdiagnostic Approaches to Treating Neuroticism	David Barlow
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Lunch and Poster Session  
12.30pm – 1.30pm

## Session 3 – Open Papers (Session Chair: Colette Hirsch)

1.30pm	The practice and evaluation of a principles based transdiagnostic therapy: The Method of Levels	Sara Tai
1.50pm	Group Transdiagnostic CBT for Comorbid Anxiety and Depression	Peter Norton
2.10pm	The HARMONIC Trial: A Transdiagnostic Modular Approach to Mood and Anxiety Disorders	Melissa Black
2.30pm	Discussion	

Afternoon Tea  
3- 3.30

## Session 4 – Round Table Discussion

3.30pm	Panel Discussion  “What do you think is the biggest challenge in linking fundamental research to transdiagnostic interventions?”  Chair: Tim Dalgleish Panel Members: Sarah Morris David Barlow Jill Newby Ed Watkins	
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## Session 5 – Keynote Address (Session Chair: Susanne Schweizer)

4.30pm	Examining transdiagnostic interventions: reviewing conceptual and methodological issues	Ed Watkins
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5.30pm Closing

## Posters Day 2

<b>Colleen Rollins</b>	A systematic review and meta-analysis of transdiagnostic and transmodal structural MRI studies investigating neural correlates of hallucination status
<b>Fergus Gracey</b>	Transcutaneous Vagal Nerve Stimulation (tvNS) for episodic aggression in people with neurodevelopmental conditions or acquired brain injury
<b>Gabriella Tyson</b>	A new transdiagnostic intervention to improve resilience to mental ill health: A pilot randomised controlled trial with emergency workers
<b>Emily Vanderbleek</b>	The Initial Development and Validation of a Measure of Overcontrol
<b>Ava Schulz</b>	One size fits all? Transdiagnostic therapies for emotional disorders. A systematic review
<b>Alberto Gonzalez-Robles</b>	Effectiveness of a transdiagnostic Internet-based protocol for emotional disorders vs. treatment as usual in specialized care: a randomized controlled trial
<b>Amanda Díaz-García</b>	The positive affect regulation in an online transdiagnostic protocol for emotional disorders: a randomized controlled trial
<b>Debra Russo</b>	The Tailoring Psychological Therapies in Wellbeing Services (TYPPEX) programme: Managing complexity as indexed by psychotic experiences in Improving Access to Psychological Therapies (IAPT) services
<b>Carmen Schaeuffele</b>	Transdiagnostic guided iCBT for emotional disorders: Study protocol and preliminary results

## Collection of Abstracts

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Monday 17<sup>th</sup> of September 2018, Session 1 – Open Papers

### Benjamin Lahey – Evaluating the Validity and Utility of the General Factor of Psychopathology as a Tool for Transdiagnostic Research

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We hypothesized that the general factor of psychopathology defined in a bifactor models provides a phenotype that reflects nonspecific etiologies and mechanisms shared by all forms of psychopathology. Thus, the general factor hypothesis has potentially important implications for transdiagnostic research on etiologies and mechanisms. It is critical, therefore, to carefully consider both the valid concerns that have been raised about bifactor models and the rapidly growing evidence supporting the criterion validity of the general factor. Many studies have reported that bifactor models defining a general factor of psychopathology and two or more specific factors (e.g., internalizing and externalizing psychopathology) fit the data better than corresponding correlated factor models. Nonetheless, Bonifay, Lane, and Reise (2017) persuasively argued that bifactor models cannot be chosen on the basis of potentially misleading fit indices. Rather, they argued that general factor hypothesis must be adjudicated using external validation. That is, if the general factor reflects more than spurious overfitting, it would correlate with external criteria with which it does not share measurement error, over and above correlations with the other dimensions of psychopathology. In fact, more than a dozen recent studies reported independent and differential correlations with theoretically and practically important external variables that robustly support the criterion validity of the general factor. We will review these papers reporting independent and differential associations of the general factor with relevant *traits and processes* (deficient executive control of impulses and negative emotionality), *variables of etiologic significance* (chronic stress, child abuse, family history of psychopathology, and genetic influences assessed in both twin and molecular genetic studies), *brain structure and function* (particularly in the ACC and prefrontal cortex), and *long-term health and mental health outcomes*.

### Sarah Morris - Testing RDoC's hypotheses: Is the transdiagnostic approach living up to its promise?

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The Research Domain Criteria (RDoC) initiative was launched by the US National Institute of Mental Health to provide a framework for research that explores alternative approaches to conceptualizing and classifying mental disorders. This presentation will provide an overview of the rationale for RDoC, an update about its current uptake and implementation, and a discussion of scientific issues to be considered as the initiative approaches its second decade. Implicit in the RDoC framework are hypotheses about the validity of categorical versus dimensional approaches to classification, the utility of integrative analysis which incorporate various units of analysis, and the promise of new classification schemes for improving the treatment efficacy and detecting novel treatment targets. These hypotheses will be evaluated considering data emerging from RDoC-informed studies and implications for the next generation of RDoC will be considered.

**Importance:** Several copy number variants (CNVs) have been frequently associated with a range of psychiatric disorders including intellectual disability (ID), autism spectrum disorder (ASD) and schizophrenia. Genetic first studies are now possible where patients are identified on the basis of genetic risk rather than psychiatric diagnosis.

**Objectives:** To characterize the effects of psychiatric risk copy number variants in childhood using transdiagnostic dimensional measures of human behaviour, as well as traditional psychiatric measures. The phenotype of CNV carriers will be contrasted to familial controls Genotype-phenotype correlations within the CNV carrier group will be explored.

**Design, Setting, and Participants:** 172 Child CNV carriers and 62 familial controls were recruited via British Medical genetic clinics on the basis of their genotype not phenotype. Families underwent psychiatric assessments as well as dimensional behavioural trait measure. Linear mixed models were used to estimate the effect of psychiatric risk CNVs on behavioural traits by comparison with non-carrier relatives.

**Main Outcomes and Measures:** Quantitative traits representing the following neurodevelopmental domains: neurocognitive ability (Full-Scale IQ, Verbal IQ (VIQ), Performance IQ (PIQ), executive function, attention, processing speed), social behaviour (Social Responsiveness Scale); as well as categorical DSM-IV diagnoses, developmental measures and psychosocial outcomes.

**Results:** Child CNV carriers represents a patient group with a large burden of neurodevelopmental burden. Rates of psychiatric disorder, and cognitive and social impairment was elevated in CNV carriers compared to familial controls. Within CNV carriers, the specific genotype does predict profile and accounts for 5-15 % of the variance depending on domain.

**Conclusions and Relevance:** Psychiatric risk CNVs impact a range of transdiagnostic neurodevelopmental domains in childhood. Although specific genotype-phenotype relationships can be identified, risk variants were found to overlap in the neurodevelopmental domains they impact. Individual genomic variants do not represent discrete forms of neurodevelopmental disorder.

## Monday 17<sup>th</sup> of September 2018, Session 2 – Keynote Address

### Jill Newby - Internet-delivered transdiagnostic treatments: outcomes, challenges, and future directions

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A growing body of evidence supports the use of face-to-face transdiagnostic treatment protocols delivered in groups or individual therapy sessions for adult depression and anxiety disorders. However, treatment barriers (e.g., cost, stigma), long waiting lists, and the lack of trained clinicians (especially in rural areas and in developing countries) prevent many individuals from seeking and receiving effective treatment. Delivering transdiagnostic treatment via the internet with clinician guidance provides a novel, cost-effective method to overcome these barriers, and improve access to treatment. In this presentation, I will discuss recent advances in research and clinical applications of clinician-guided transdiagnostic internet treatments for anxiety and depression, from a CBT and mindfulness-based treatment perspective. The presentation will also deliver the latest research into the effectiveness of internet interventions in routine or 'real-world' clinical settings, including some of the challenges of delivering internet interventions in these contexts and areas for future research. Together the research shows that transdiagnostic internet CBT is an effective treatment for people across the lifespan, including those with severe symptoms and comorbidities (both mental and physical health disorders). Recent evidence indicates that internet-delivered mindfulness interventions may also present a viable and effective treatment alternative to internet CBT for people with mild to moderate symptoms of anxiety and depression. Given the strong empirical support for internet treatments, we now need to improve the uptake of these treatments in routine care, train clinicians in how to incorporate these interventions in clinical practice, and use this treatment modality to test unanswered questions in the field of transdiagnostic psychological therapies.

## Monday 17<sup>th</sup> of September 2018, Session 3 – Open papers

### Shirley Reynolds – The experiences of adolescent anhedonia

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Many mental health problems and disorders emerge first during childhood and adolescence. Many respond well to adaptations of psychological and pharmacological therapies that were designed for use with adults and there is a tendency to assume that the experience and expression of mental health problems have a high degree of stability across the lifespan. However the natural course of mental health problems during childhood and adolescents is poorly understood.

Anhedonia is a core symptom of Major Depressive Disorder and defined as the loss of interest or pleasure in most activities, most of the time (APA, 2013). It is also a feature of other neuropsychiatric disorders. Recent data suggests that anhedonia is experienced by more than 60% of young people who have a diagnosis of depression (Goodyer et al., 2017). The subjective experience of anhedonia in young people has not been explored. Current measures of anhedonia have serious limitations when used with adolescents and this disabling symptom is rarely targeted in treatment. As part of a project developing a new measure for adolescent anhedonia we conducted a qualitative study to explore the experience of anhedonia by young people.

We recruited 22 adolescents with elevated symptoms of depression (10 females; 12 males) aged 13 and 18 years from secondary schools. Twelve adolescents with a diagnosis of depression were also recruited from NHS CAMHs. Young people in both groups took part in Individual semi-structured interviews. Interviews followed a topic guide that explored a) current and past interests and hobbies, b) future plans c) changes in enjoyment and d) loss of enjoyment. Constant comparative techniques were used to analyse

the data based on Braun and Clark (2006) six-stage template analysis. Five major themes emerged, 1) positive affect and emotional flattening, 2), incentive and motivation, 3) connectedness, 4), agency and control, and 5) reflection, perspective and outlook. There was marked similarity between these experiences and those labelled as 'negative symptoms' of schizophrenia. We are currently refining our results via an expert validation study and then will pilot and test a new measure anhedonia in young people. This is a necessary step in developing more targeted interventions for young people who report anhedonia across different disorders.

## **Pat Gwyer** - The use of the transdiagnostic themes and the severity and complexity of their impact to assist in the allocation to clinical interventions

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Transdiagnostic approaches are receiving increasing attention as an effective way that psychological wellbeing can be improved. As many typical and "common" presentations often occur with comorbid elements (such as depression with anxiety and vice versa) and more complex presentations often have several aspects to them (such as Post Traumatic Stress or Personality Disorders), having approaches that can integrate all of an individual's experience into a single coherent formulation and approach are of clear benefit. Transdiagnostic approaches clearly have this ability and offer an exciting way forward for the improvement of wellbeing. Based upon findings from Thematic Analysis conducted on over 100 assessments and clinical work performed across a range of settings (Crisis Resolution & Home Treatment, CMHT, Primary Care, Addictions service and Inpatient), across a variety of presentations, this paper presents the common themes identified. Supporting the value of transdiagnostic approaches, these themes occurred across different presentations and different clinical settings with only the severity and complexity of their impact changing. It was suggested that instead of basing allocation to intervention upon "diagnosis" the complexity and severity of an individual's presentation could be a useful tool in the allocation to different therapeutic approaches. Research into this possibility (conducted in a primary care clinical setting), considered the possibility that such a matrix could be used to allocate clients to different treatments (e.g., Watchful waiting, Bibliotherapy, CCBT, Courses, Counselling, CBT, Schema Therapy, or EMDR). Further exploration then considered the possibility that a Severity & Complexity Of Presentation Evaluation (SCOPE) matrix and measure could be created based on the themes identified. Interesting the use of mindfulness was found to change across presentations, but again several transdiagnostic themes were observed. To conclude the paper addresses several methodological issues and avenues for future research.

## **Warren Mansell** - Current Evidence Regarding a Core Transdiagnostic Process

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The transdiagnostic approach to psychopathology research has consistently revealed that the cognitive and behavioural processes identified as maintaining specific psychological disorders are Transdiagnostic (Harvey et al., 2004). However, given the multitude of different processes, informed by diverse conceptual frameworks, a further crisis in parsimony remains (Mansell et al., 2009).

A series of published studies each involving patient groups (Bird et al., 2013; Patel et al., 2015; Mansell & McEvoy, 2017) indicates that a single latent factor accounts for the active component of the various transdiagnostic processes that have been identified.

From the basis of perceptual control theory, we propose that this core process is the maintenance outside conscious awareness of the source of conflict between important personal goals such that control is undermined. A simple, efficient intervention known as Method of Levels (MOL; Carey, 2006), may help target this process by allowing clients to take control by shifting and sustaining their attention towards the source of their problematic goal conflict.

In order to test the above hypothesis a series of recent studies were conducted. They indicate that:

(a) distress in 96 spider-fearful students, and distress from hearing voices in 23 psychiatric patients and 23 non-clinical voice-hearers is closely related to the degree of goal conflict they entail, even when accounting for a number of other potential psychological factors.

(b) raising goal conflict awareness mediates reduction in psychological distress within analogue a study of expressive writing and a study of engaging with an artificial 'chatbot' therapist.

The limitations of these studies will be discussed, along with current projects aimed at refining the tests of this hypothesis. This submission complements a talk by Dr Sara Tai on the practice and evaluation of Method of Levels.

## Praveetha Patalay - Insights from longitudinal transdiagnostic investigations in children and adolescents

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**Background.** Much of the transdiagnostic debate and empirical analysis has focussed on adult psychiatric symptom data. Given the relevance of childhood to symptom development and disorder onset, investigations starting in infancy have the potential to shed light on how disorders develop and the role of comorbidity in this. In this talk I will present insights gained regarding the utility of transdiagnostic approaches in terms of understanding the course of symptoms, aetiology and predictive capacity using both variable centred (bi-factor modelling) and person centred (typologies) analytic approaches.

**Method.** Longitudinal symptom data from various datasets including the NICHD study of early child development and Millennium Cohort Study from infancy to mid-adolescence have been used to investigate various transdiagnostic models. We investigate the stability of transdiagnostic and specific factors through development, their utility in predicting future psychopathology and common and specific antecedents of transdiagnostic domains and specific subdomains.

**Results.** A common bi-factor across internalising and externalising symptoms is highly predictive of future psychopathology. In terms of longitudinal stability, the factor is moderately stable across childhood and development with a tendency for explaining more variance in the data as children get older. The findings for antecedents and correlates vary between general and specific factors and will be discussed.

**Conclusion.** Transdiagnostic approaches to understanding development of symptoms across childhood and adolescence provide insights into disorder development beyond analyses that have focussed only on specific disorder domains in childhood.



**Emma Travers-Hill** - Can enhancing the ability to self-distance and broaden one's perspective be an effective transdiagnostic treatment?

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A Self-distancing and Perspective broadening training package developed as a brief therapeutic intervention for major depressive disorder has been shown to have beneficial effects for individuals in remission from depression (Travers-Hill, Dunn, Hoppitt, Hitchcock and Dalgleish (2017)). These include an increased ability to self-distance and broaden perspectives on experiences, reduce distress in relation to memories and everyday events, and reduce residual symptoms of depression. Could such an intervention which has the potential to target these areas be helpful for other disorders? A single-case series with bipolar disorder has shown promising evidence that this could be the case, reflecting similar results to the studies in depression (Travers-Hill et al., in prep). The studies on the intervention to date have also shown improvements in anxiety scores which have led to us questioning whether more pilot studies are needed to explore the possibilities of this training package. This presentation will consider the benefits and limitations of a transdiagnostic approach to problems in self-distancing and perspective broadening.

**Morten Hvenegaard** - Group Rumination-focused cognitive behavioural therapy (CBT) versus group CBT for depression: phase II trial

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**Background**

Although cognitive-behavioural therapy (CBT) is an effective treatment for depression, less than one third of patients achieve full-sustained remission. Targeting known psychopathological processes such as rumination may increase treatment efficacy.

**Aims**

To test whether adding group Rumination-focused CBT (RFCBT) that explicitly targets rumination to routine medical management is superior to adding group CBT to routine medical management in treating major depression.

**Method**

A total of 131 outpatients with major depression were randomly allocated to 12 sessions group RFCBT vs. group CBT, each in addition to routine medical management. The primary outcome was observer-rated symptoms of depression. Secondary outcomes were rumination and worry. (Trial registered: NCT02278224).

**Results**

RFCBT significantly improved depressive symptoms and remission rates relative to group CBT at post-treatment on the primary outcome. No differences were found in rumination and worry at post-treatment or in depressive symptoms at 6 months follow-up, although these secondary analyses may have been underpowered because of missing data.

**Conclusions**

This is the first randomised controlled trial providing evidence of benefits of RFCBT in major depression compared to an existing evidence-based active psychotherapy. Group RFCBT may be a beneficial alternative to group CBT for major depression.

## Danielle Hett - Computerised metacognitive cognitive bias modification training on post-traumatic stress disorder symptoms

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Pre-existing maladaptive metacognitive beliefs are associated with the development of post-traumatic stress disorder (PTSD) following trauma exposure. This study developed and tested a new cognitive bias modification (CBM) training protocol (i.e., CBM<sub>Metacog</sub>) to reduce pre-existing maladaptive metacognitive appraisals/beliefs. Using the trauma film paradigm, we tested whether the training, when delivered immediately after an analogue traumatic event, would reduce maladaptive metacognition and reduce PTSD symptoms compared to a control group (CBM<sub>Control</sub>). Participants' pre-existing metacognitive beliefs were measured prior to session 1. At session 1, participants watched a film-clip and were then randomly assigned to a CBM training condition. Their metacognitive beliefs and analogue PTSD symptoms (IES-R) were measured over 24 hours (session 2). The CBM<sub>Metacog</sub> group demonstrated more adaptive metacognitive appraisals and self-reported fewer analogue PTSD symptoms compared to the CBM<sub>Control</sub> group. However, the CBM<sub>Metacog</sub> training failed to reduce maladaptive metacognitive self-reported beliefs. These results demonstrate the causal role of adaptive metacognition in mitigating against the development of PTSD symptoms.

## Sophie Li - Are women ovary-acting? An association between ovarian hormones and symptoms in women with and without generalised anxiety disorder

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The relationship between menstrual cycle phase, ovarian hormones and symptoms of premenstrual dysphoric disorder (PMDD) has been widely studied. Evidence suggests that progesterone levels in the luteal phase of the menstrual cycle is a key component in the underlying aetiology of PMDD. Many psychological disorders are more prevalent in women and share symptomatic features with PMDD, including depressed mood, anxiety, irritability and fatigue, raising the notion that associations between hormonal fluctuation across the menstrual cycle and symptoms may be a transdiagnostic feature of psychological disorders. Supportive of this notion are two studies that report premenstrual worsening of symptoms in obsessive-compulsive disorder and social anxiety disorder. However, these studies relied on retrospective reporting of symptoms, a methodological weakness that may have confounded the results. This study examined variability in symptoms of generalised anxiety disorder (GAD) across the menstrual cycle in regularly cycling women with (n=20) and without (n=20) GAD, and associations between salivary estrogen (oestradiol) and progesterone and GAD symptoms. All women completed GAD symptom measures assessing worry, avoidant behaviours and anxiety and provided saliva samples on menstrual days 1, 7, 14 and 21 allowing for a comparison of symptoms at times of low versus high levels of oestradiol and/or progesterone. Results indicated that GAD symptoms varied significantly across menstrual days and women with and without GAD displayed the same fluctuations in symptoms across the menstrual cycle. In addition, higher levels of progesterone and lower levels of oestradiol were associated with improved GAD symptoms on menstrual day 14. These results suggest an association between menstrual fluctuations in ovarian hormones and GAD symptoms, and suggest symptom variability across the menstrual cycle may be a transdiagnostic feature of psychological disorders.

## Susanne Schweizer - The development of affective control

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Mental health problems are now the leading cause of life-years lived in disability in young people and rates of common mental health disorders are increasing worldwide, with the trend being strongest in young women. A core characteristic of common mental health disorders is dysregulated affect, which is associated with deficits in cognitive control, particularly in social-affective contexts. However, little is

known about how cognitive control in social-affective contexts develops during adolescence prior to and around the time of onset of the majority of common mental health problems. The aim of the present study was to provide a preliminary exploration of the development of cognitive control in social-affective contexts and how it relates to mental health problems from early adolescence through to adulthood.

To address this question 91 young women across three age groups: young adolescence (11-14 years,  $n = 29$ ), mid-late adolescence (15-18 years,  $n = 30$ ), adulthood (23-30 years,  $n = 31$ ) completed the social-affective flexibility task, a novel card sorting paradigm in neutral and social-affective contexts as well self-report measures of mental health. The social-affective flexibility task required participants to sort cards according to three unpredictably changing sorting rules: colour, numbers and shapes (neutral version) or emotional expression (social-affective version).

More errors in the social-affective relative to neutral condition were associated with more internalising and externalising mental health difficulties ( $F(1, 85) = 18.92, p \leq .001, R^2 = .18$ ). Cognitive control in social-affective contexts mediated the association between age group and mental health problems ( $z = 2.52, p = .010, R^2 = .15$ ).

This preliminary evidence suggests that poor cognitive control in social-affective contexts may index poor mental health functioning in early adolescence. If supported by prospective studies, then targeting affective control in early adolescence may constitute a promising target for transdiagnostic prevention.

## Eoin McElroy - Co-occurring emotional and behavioural problems across development: a complex networks approach

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Emotional (i.e. internalizing) and behavioural (i.e. externalizing) problems are strongly associated, both concurrently and sequentially, across childhood and adolescence. The mechanisms that underpin this developmental overlap, however, remain poorly understood. This lack of progress may be due, at least in part, to the manner in which we have conceptualised and measured these constructs; i.e. using aggregate scores from highly heterogeneous indicators to reflect underlying disorders and/or dimensions. The network approach to psychopathology offers an alternative means of exploring the associations between these domains whilst taking into account the heterogeneous nature of symptom expression.

This study will use network methodologies to explore the co-development of emotional and behavioural problems in a large nationally representative cohort between the ages of 3 and 14 years (Millennium Cohort Study;  $n=13,859$ ). Weighted undirected networks will be constructed at each wave, and the relative importance of symptoms will be assessed using three common measures of network centrality; strength, closeness, and betweenness. Developmental changes in key bridging edges (i.e. symptom-symptom associations that link the two domains) will be explored using non-parametric permutation tests.

This exploratory study will help determine whether key symptom-symptom associations serve to link the domains of emotional and behavioural problems, and whether these 'bridges' remain consistent or vary developmentally. As such, the findings will offer insight into the complex mechanisms that lead to the development of comorbid emotional and behavioural difficulties.

**Roz Shafran** - Perfectionism as a transdiagnostic treatment: Can we have our cake and eat it too?

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Perfectionism is a transdiagnostic process that can be dysfunctional in a number of ways. First it can present as a significant clinical problem in its own right that interferes with functioning. Second, it can interfere with successful treatment of a range of psychopathology. Third, it is a risk factor for the development of psychopathology. The first part of the keynote will present an overview of the current cognitive-behavioural approach to the understanding and treatment of perfectionism including results from the first meta-analysis indicating that it can be successfully addressed. Findings from different modes of delivery will also be presented. The second part of the keynote will discuss when to use this transdiagnostic approach in clinical practice. Particular consideration will be given to when this transdiagnostic approach should be used to address comorbidity and its relative advantages and disadvantages compared to disorder-specific or modular approaches.

Additional Keynote Address (cancelled) – slides to be shared with attendees

**David Watson** - Basic Dimensions of Temperament as Transdiagnostic Factors for Psychopathology

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Extensive evidence has demonstrated the existence of two broad, higher order dimensions within affective experience: negative emotionality and positive emotionality. Negative emotionality (e.g., feeling fearful, sad, guilty, and angry) reflects individual differences in the behavioral inhibition system (BIS) and is strongly related to the general personality trait of neuroticism. Conversely, positive emotionality (e.g., feeling happy, energetic, confident, and alert) reflects individual differences in the behavioral activation system (BAS) and is substantially linked to the higher-order personality trait of extraversion. I will summarize a broad range of evidence establishing that these two dimensions of temperament represent important transdiagnostic factors that can be linked to diverse forms of psychopathology; they therefore provide a useful organizing framework for understanding underlying mechanisms and for guiding treatment. As I will show, most major forms of psychopathology are associated with elevated levels of negative emotionality/neuroticism. In particular, distress-based disorders—such as major depression, generalized anxiety disorder, posttraumatic stress disorder, borderline personality disorder, and avoidant personality disorder—clearly contain a substantial component of negative emotionality. In contrast, the accumulating evidence indicates that positive emotionality shows much more complex associations with psychopathology. On the one hand, positive emotional deficits are prominent in major depression, syndromes characterized by social anxiety and avoidance (such as social anxiety disorder and avoidant personality disorder), and negative symptoms of schizophrenia/schizotypy (and related conditions, such as schizoid personality disorder). On the other hand, many other forms of psychopathology are associated with *elevated* levels of positive emotionality. These conditions include mania, various types of internalizing (including narcissism/narcissistic personality disorder, histrionic personality disorder, and psychopathy/antisocial personality disorder), and positive symptoms of schizophrenia/schizotypy. I will conclude by discussing these associations in the context of the evolutionary functions of the BIS and BAS, emphasizing how they appear to reflect various types of dysfunction within these systems.

**Caitlin Hitchcock** - Autobiographical memory as a proposed RDoC Construct

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The National Institute of Mental Health's Research Domain (Rdoc) criteria propose dimensional psychological constructs which will transdiagnostically impact human cognition and behaviour. It was proposed that these criteria would evolve over time as science advances understanding of the defined constructs, and that further research would indicate that new constructs should be included. This talk will present evidence to support inclusion of a new construct - autobiographical memory. There are three elements of autobiographical memory (i.e., memory for personal life experiences) which have been consistently found to impact mental wellbeing; consolidation and reconsolidation, voluntary retrieval, and involuntary retrieval. The role of each of these factors in predicting wellbeing will be discussed, along with the molecular, neurocircuit, and behavioural units of analysis that can be used to measure autobiographical memory processes.

**Yousra Alatiq** - Transdiagnostic CBT for adult emotional disorders: a feasibility open trail from Saudi Arabia

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Transdiagnostic cognitive behavioural therapy (CBT) focuses on the processes shared across disorders and can be applied to a wide range of mental health problems or comorbid conditions. The transdiagnostic approach provides the potential opportunity to improve access to CBT, particularly in countries such as Saudi Arabia, where the number of well-trained therapists is limited. This study aims to examine the feasibility and potential benefit of transdiagnostic CBT using an open trail methodology for Saudi patients who presented a wide range of symptoms and conditions without conducting any specific diagnostic assessments.

The presentation will review methodology and outcome of interventions, discussing limitation and possible future directions.

**Barney Dunn** - Preliminary Evaluation of Augmented Depression Therapy (ADepT) as a transdiagnostic treatment for wellbeing deficits in mood disorders

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Augmented Depression Therapy (ADepT) is being developed to help build wellbeing and reduce anhedonia in the context of depression and related mood disorders. ADepT involves setting valued life goals, activating clients towards these clients, identifying how their symptoms stop them thriving (taking opportunities) and being resilient (overcoming challenges) when working towards these goals, and developing alternative coping strategies. Further, booster sessions for a year after therapy help clients develop and sustain a long term wellbeing plan. The wellbeing focus of ADepT potentially makes it a transdiagnostic approach that could be used across mental and physical health conditions. This talk will present data evaluating ADepT to date, including looking at secondary outcomes other than depression that start to evaluate its potential as a transdiagnostic approach.

Hierarchy exists as an organisational phenomenon. As humans we enjoy, or at the very least tolerate hierarchies not just to efficiently categorize our knowledge about the world, but use our perception and knowledge of the *social* hierarchy as a way to navigate our social surroundings. Our social rank describes the position we hold in a given social hierarchy, both subjectively (*I am a better person than...*) and objectively (*I am the Principle Investigator of ...*). At a biological level, the perception of rank can be conceptualized as a system which guides dominant and submissive behaviour, and responsivity to perceptions of power and subordination. There is plethora of evidence relating social rank to mental health and as such social hierarchies are an ongoing priority study area in the RDoC framework. This talk will introduce the evolutionarily grounded theories of social rank as a pathway to disorder by reviewing the evidence linking social rank to mental health. Further, I will explore the neural underpinnings of dominance perception and explore how perceptions of social rank diverge in psychopathological disorder. Finally, the notion of social rank as a transdiagnostic marker will be discussed in relation to its position in the RDoC and HiTOP frameworks.

**David Barlow** - Transdiagnostic Approaches to Treating Neuroticism

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Describing interventions as “transdiagnostic” has become ubiquitous in the last 5 years, diluting its meaning. One definition would be a “shared mechanisms” bottom-up transdiagnostic approach that attempts to identify underlying processes that contribute to and maintain multiple disorders. Emerging research on the latent structure of anxiety, mood and related disorders of emotion indicates that trait neuroticism underscores the development of a range of these disorders. Based on evidence from cognitive and behavioral science, and neuroscience, we have distilled a set of psychological procedures that comprise a transdiagnostic unified intervention for emotional disorders. This intervention, which emphasizes the adaptive functional nature of emotions, seeks to identify and correct maladaptive attempts to regulate emotional experiences through the implementation of 5 core transdiagnostic change principles. New data on the efficacy of this approach compared to more focused single disorder interventions will be presented along with applications to various problems and disorders, such as eating disorders, alcohol use disorders, and the occurrence the trauma in global mental health contexts.



**Sara Tai** - The practice and evaluation of a principles based transdiagnostic therapy:  
The Method of Levels

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The extent to which cognitive therapies can be translated to real life clinical settings is debated. Variable and unpredictable pragmatic challenges affect how service users can engage in and make decisions about their treatment, the specific content of therapy delivered, treatment delivery modalities, treatment duration, session frequency, and so on. Service users commonly experience multiple, complex problems, presenting further challenges for therapists trained to deliver disorder-specific interventions.

This presentation outlines a transdiagnostic therapeutic approach known as the Method of Levels (MOL; Carey, Mansell & Tai, 2015). MOL is a direct application of Perceptual Control Theory (PCT; Powers; 1973), a robust scientific theory that provides a functional model of human behaviour. PCT integrates three key principles, evidenced in the literature of psychological distress and psychological change (control, conflict and reorganisation). The importance of control is well documented, often using terms such as regulation and self-determination. Conflict (incompatible goals, dilemmas,) is also well evidenced and used to formulate psychological distress as resulting from wanting two incompatible goals at the same time. A third principle of reorganisation is referred to in the literature as a process of therapeutic change through which new perspectives, insights, and solutions are generated.

This presentation will provide a brief overview of MOL and present some of the key evidence for this being an effective and efficient transdiagnostic approach that enables clinicians to work flexibly and responsively across a range of disorders. Case examples will illustrate this work, indicating how a principles based transdiagnostic approach might facilitate service users having more choice, control and a sense of empowerment within their own treatment and overcome some of the challenges to implementing psychological interventions in everyday practice.

This submission complements a talk by Dr Warren Mansell on the evidence for a core transdiagnostic process.

**Peter Norton** - Group Transdiagnostic CBT for Comorbid Anxiety and Depression

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Transdiagnostic models of anxiety, and cognitive-behavioural treatments based on these models, have been gaining considerable support as effective and easy-to adopt. Transdiagnostic models hold that common elements across the anxiety and emotional disorders outweigh differences. From these models, treatments have been developed which incorporate different emotional diagnoses under the same protocol. Recent research from a number of clinical trials has shown that Transdiagnostic Cognitive-Behavioural Therapy is efficacious and highly economical for treatment providers. Further, a majority of patients present with two or more “comorbid” diagnoses at once. Given that Transdiagnostic CBT focuses on the patient’s entire emotional presentation, as opposed to just one primary diagnosis, psychological scientists have suggested that Transdiagnostic CBT may be more efficient than traditional CBT in treating comorbid presentations (those with more than one anxiety disorder or depressive diagnosis). The presentation will present a state-of-the-art relating to transdiagnostic CBT for anxiety and emotional disorders. Future directions for the treatment of complex comorbid anxiety and anxiety-depression patients will be discussed.

Anxiety, mood and trauma-related disorders are common, affecting up to 20% of adults. Many of these individuals will experience symptoms of more than one disorder as diagnostically defined. Existing transdiagnostic treatments for emotional disorders are efficacious (Newby et al., 2015), but many packages are “one-size-fits-all” and tailored, modular packages may better address heterogeneity in presentations (Chorpita, Daleiden, & Weisz, 2005). The Healthy and Resilient Mind Programme: Building Blocks for Mental Wellbeing (HARMONIC) trial introduces a novel transdiagnostic intervention (*Shaping Healthy Minds (SHM)*), which synthesises several evidence-based treatment techniques to address the gap in effective interventions for people with complex and comorbid difficulties. This early phase trial aims to estimate the efficacy and feasibility of the transdiagnostic intervention in preparation for a later-phase randomised controlled trial, and to explore mechanisms of change. We present the design for a patient-level two-arm randomised controlled trial (HARMONIC) that compares *SHM* to treatment-as-usual for individuals aged >18 years (N=50) with comorbid mood, anxiety, obsessive-compulsive or trauma/stressor disorder diagnoses, recruited from outpatient psychological services within the UK National Health Service (NHS). The co-primary outcomes will be 3-month follow-up scores on self-report measures of depressive symptoms, anxiety symptoms, and disability and functional impairment. Secondary outcomes include changes in symptoms linked to individual diagnoses. *SHM* has the potential to provide a more cost-effective and efficacious intervention for many individuals who experience significant impairment as the result of multiple mood, anxiety, and stress disorders, as well as reduce burden on therapists. This talk presents independent research funded by the National Institute of Health Research (NIHR) under its Research for Patient Benefit (RfPB) Programme (Grant Reference Number PB-PG-0214-33072) grant. The views expressed are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health and Social Care.

**Ed Watkins** - Examining transdiagnostic interventions: reviewing conceptual and methodological issues

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The development and validation of trans diagnostic treatments offers potential scope for clinical benefit especially in terms of addressing co-morbidity, heterogeneity of clinical presentations and potential ease of dissemination. There are also different approaches to transdiagnostic interventions and the evaluation of trans diagnostic interventions. I will consider one approach - the focus on a transdiagnostic mechanism - rumination, with examples from clinical trials indicating the potential benefit of this approach (e.g. Topper et al., 2017). I will also explore how we can conceptualise different approaches to trans diagnostic interventions and their evaluations, with a view to opening debate.

## Posters – Monday 17<sup>th</sup> September

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### Charlotte Wilson - Worry: a transdiagnostic phenomenon

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Worry is both a normal phenomenon and also a key symptom across a number of psychological disorders. As well as being the key symptom in Generalised Anxiety Disorder (GAD), worry is present across all anxiety disorders; part of the diagnostic criteria for some, and part of the clinical presentation for others. There has also been convincing evidence for worry, as well as rumination, being an important process in depression. In addition, the role of worry in psychosis is currently being delineated and explored. However, the importance of worry may go beyond this. As a perseverative process focused on threat, worry is likely to play an important role in understanding and treating common problems such as conduct problems and eating disorders, but also may be crucial in understanding the link between compromised cognition and negative affect that can be seen in some people with ASD and ADHD.

A number of models of worry exist, many of them being developed in order to effectively treat GAD, but few of them focus on the early development of worry. Focusing on the early development of worry allows us to explore more fully how and when worry becomes pathological and to develop treatments that work across disorders.

The main aim of this presentation is to present a new model of worry that allows the same psychological processes to be present from early infancy through childhood into adulthood and to explore the implications of this model for the treatment of worry across the life-span. The presentation will also draw together the evidence that worry is important transdiagnostically and highlight the mechanisms by which worry maintains attention on threat, thus maintaining symptoms and distress. It will review possible transdiagnostic treatment approaches and synthesise the small literature on the impact treating worry directly has on other symptoms.

### Andrea Kusec - Benefits and challenges of treating intolerance of uncertainty in mood disorders after acquired brain injury

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Mood disorders are a common occurrence following acquired brain injury (ABI; Hackett et al., 2005; Alway et al., 2016). Intolerance of uncertainty (IU) is a dispositional trait predictive of many anxiety disorders and depression in non-ABI populations (Einstein, 2014). Specifically, prospective anxiety (need for predictability of future events) is an important factor in worry and obsessive-compulsive symptoms, while inhibitory anxiety (uncertainty prevents one from doing things) is an important factor in panic disorder, agoraphobia, depression, and social anxiety. Across all ABIs, adjusting to life post-injury can cause considerable uncertainty (Caplan et al., 2016). Hence, IU may be an important transdiagnostic factor in mood disorders post-ABI. The purpose of this review is to discuss the benefits and challenges of integrating IU therapy into the treatment of mood disorders post-ABI. Firstly, when administering behavioural therapy to those with an ABI, targeting inhibitory anxiety prior to therapy may increase engagement. Uncertainty exposure (e.g., seeing a film without knowing anything about it) may help individuals with high levels of inhibitory anxiety become more comfortable with engaging in new tasks. Secondly, high levels of prospective anxiety may cause significant worry post-ABI about therapeutic outcome (i.e., concern that outcomes will be negative). Instructing individuals to practice reflecting upon events where they were uncertain about an outcome but were still able to cope may reduce worry about therapeutic outcome. However, heterogeneous outcomes post-ABI may lead to inconsistencies in treatment effects when investigating the potential benefit of targeting IU. Reflective tasks that aim to treat prospective anxiety may have minimal effects post-ABI due to difficulties with memory, attention,

and other cognitive processes. It is recommended that clinicians working with ABI populations understand individual differences in IU when treating mood disorders. Investigations into the extent to which treating IU when coping with self-identity changes post-ABI may also be beneficial.

## Elizabeth Appiah-Kusi - Imaginator: a proof of concept feasibility trial of functional imagery training for self-harm

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### Background

Self-harm behavior has a UK prevalence of 9-23% in young people, with substantial personal impacts and increased risk of suicidality. It occurs in the absence of and across mental disorders, and long disorder-specific treatments can reduce self-harm, but don't suit everyone. There is a need for effective transdiagnostic short-term therapy for self-harm, with a specific focus on young people.

### Methods

We tested a new brief psychological intervention (functional imagery training, FIT) for 16-25 year olds who self-harm: two face-to-face sessions alongside treatment as usual (TAU), followed by 5 follow-up calls and supported by the Imaginator app (developed together with young people with lived experience of self-harm). Participants with minimum 2 self-harm episodes in the previous 3 months were randomized to Immediate FIT+TAU, or Delayed FIT+TAU after three months waiting. Outcomes were measured at 3 and 6 months.

### Results

Thirty-eight young people (31 female, mean age = 19.5) were recruited via self-referral (e.g. social media, 20/38) or referred by health services / schools. Of 32 starting therapy, 61% completed face-to-face sessions and at least one phone follow-up. Over six months self-harm frequency diminished across the whole sample with reduction positively associated with motivation to stop self-harming at baseline. FIT supported by the Imaginator app reduced the number of self-harm episodes occurring over three months with some effect maintained after six months. FIT appeared most beneficial for those who still wanted therapy after waiting three months and who completed at least three phone follow-ups.

### Discussion

Offering a brief intervention focused on self-harm allows reaching young people not otherwise accessing mental health support. While self-harm behaviour can reduce spontaneously or with general mental health support, a brief imagery-based intervention with a digital app might be a useful addition in particular for young people who continue presenting with self-harm over longer periods.

## Sophie Li - Fatigue as a transdiagnostic symptom and its association with ovarian hormones: an exploratory study

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Fatigue is a characteristic shared by many psychological disorders, including depression and generalised anxiety disorder. However, little is understood about either the aetiology or the nature of fatigue in psychological disorders. For example, is fatigue solely a product of disrupted sleep, or are biological factors also at play? One biological factor that has been associated with symptom variability in anxious women is menstrual cycle phase, whereby low or declining levels of sex hormones are associated with worse symptoms. We conducted a proof of concept study, whereby 40 healthy, naturally cycling women completed fatigue symptom measures and provided saliva samples on two separate occasions to determine whether natural fluctuations in hormone levels across the menstrual cycle were associated

with reported levels of fatigue. Preliminary data indicate that women with fatigue levels in the healthy range show variability in fatigue levels across the menstrual cycle, with worse fatigue associated with lower oestradiol and progesterone levels. In contrast, women reporting high levels of fatigue, consistent with those reported by people with fatigue-related conditions such as chronic fatigue syndrome, displayed no such variability, nor an association between fatigue and hormone levels. These data suggest an association between fatigue and hormones that is disrupted when fatigue is at levels usually associated with pathology. Further investigations are required to determine whether these patterns of results are replicated in women with anxiety and depression.

### Joni Holmes - Identifying dimensions of mental health, cognitive and behavioural problems in a developmentally at-risk population

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A substantial proportion of the school-age population experience cognitive-related learning difficulties. Not all children who struggle at school receive a diagnosis, yet their problems are sufficient to warrant additional support. Understanding the causes of learning difficulties is the key to developing effective prevention and intervention strategies for struggling learners. The aim of this project is to apply a transdiagnostic approach to children with cognitive developmental difficulties related to learning to discover the underpinning mechanisms of learning problems.

A cohort of 1000 children aged 5 to 18 years is being recruited to the Centre for Attention Learning and Memory (CALM). The sample consists of 800 children with problems in attention, learning and / memory, as identified by a health or educational professional, and 200 typically-developing children recruited from the same schools as those with difficulties. All children are completing assessments of cognition, including tests of phonological processing, short-term and working memory, attention, executive function and processing speed. Their parents/ carers are completing questionnaires about the child's family history, communication skills, mental health and behaviour. Children are invited for an optional MRI brain scan and are asked to provide an optional DNA sample (saliva). Hypothesis-free data-driven methods are being used to identify the cognitive, behavioural and neural dimensions of learning difficulties.

In this study we explore the dimensions underpinning problems in cognition, mental health, learning and behaviour in the developmentally at-risk population recruited through the CALM clinic. Exploratory factor analyses are used to identify dimensions underpinning parent ratings of children's internalizing and externalizing mental health and behaviour problems, communication difficulties and everyday difficulties related to executive function problems.

### Nina Reinholt - Trans-diagnostic group CBT vs. standard group CBT for depression, social anxiety disorder and agoraphobia/panic disorder: A pragmatic, multicenter, non-inferiority, randomized controlled trial

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**Objective:** The use of one transdiagnostic manual instead of several diagnosis-specific manuals could simplify logistics, reduce waiting time, and increase therapist expertise in Mental Health Service (MHS). In a naturalistic pilot trial, we have shown effects comparable to standard diagnosis-specific CBT with a group version of "The Unified Protocol for Transdiagnostic Treatment of Emotional Disorders" (UP-CBT) manual adapted to Danish MHS. In the current study, the main objective is to investigate the effects of group UP-CBT compared with standard, diagnosis-specific group CBT for psychiatric outpatients with a primary diagnosis of Unipolar Depression, Social Anxiety Disorder (SAD) or Agoraphobia/Panic Disorder (Ag/PD).

**Methods:** The trial is an investigator-initiated, partially blinded, pragmatic, parallel, non-inferiority, multi-center randomized clinical trial (RCT). Two equally sized intervention arms, UP-CBT and standard-CBT, are compared. In total, we include 248 patients with a principal DSM-5 diagnosis of Unipolar Depression (single episode or recurrent) (app. 50%), SAD (app. 25%), and Ag/PD (app 25%). Patients are recruited from three regional MHS clinics in Copenhagen, Slagelse and Risskov. The primary outcome is self-reported well-being (WHO Well-being Index, WHO-5) at the end of treatment and at 6 months follow-up.

**Results:** The trial is currently running. So far, 199 patients have been included. Thirty-five groups have been completed, another 20 groups are expected to be completed within 2018. Inclusion of patients is running until the end of 2018. Intervention ends spring 2019.

**Discussion:** The current study will be the first RCT investigating the dissemination of the UP manual in a MHS setting. Furthermore, this is the first time the UP manual has been delivered in a group format and the first time it is used on patients with depression. Hence the results are expected to add substantially to the evidence base for rational group psychotherapy in MHS.

## Erin Hawkins - A cross-diagnostic approach to understand the relationship between language problems and ADHD behaviours in childhood

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Co-occurring difficulties across disorders can provide a valuable window onto areas for intervention. A key case of this in development is language difficulties and behavioural symptoms of inattention and hyperactivity, which frequently co-occur across children with and without diagnoses. These overlapping symptom profiles may reflect dimensions of behavioural and language difficulties that cut across traditional diagnostic categories, including attention deficit hyperactivity disorder, autism spectrum disorder, specific language impairment, and dyslexia. To test this we used a data-driven approach to explore the specificity and strength of the association between language and behavioural problems in a heterogeneous sample of 254 children aged 5 to 15 years. These children were identified by education and health professionals as having problems with attention, learning, and/or memory, and included children with and without diagnosed developmental disorders. Children completed standardised assessments of reading, spelling, vocabulary and phonological awareness, and parents/carers completed questionnaires of children's communication skills and behaviour. We found that a single dimension of behavioural difficulties captured behavioural problems, including both inattention and hyperactivity. This was strongly associated with children's pragmatic (social) communication skills, whereby children with more severe behaviour problems had poorer pragmatic communication skills. However, behavioural problems were less closely tied to children's use of language structure: behaviour was weakly linked to structural communication skills, and there was no relationship between behaviour and the direct measures of literacy. Our results suggested that the phenotype of children with problems in attention, learning or memory was characterised by a broad dimension of behavioural difficulties which was strongly associated with pragmatic language difficulties, but less strongly tied to the use of language structure. From a practical perspective, behavioural and pragmatic language difficulties may reflect a cluster of developmental problems requiring different interventions from problems with language structure. Such a cross-diagnostic approach to understanding common features of impairment across disorders may thus provide a powerful tool for identifying important levers for intervention.



## Posters – Tuesday 18th September

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**Colleen Rollins** - A systematic review and meta-analysis of transdiagnostic and transmodal structural MRI studies investigating neural correlates of hallucination status

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Hallucinations are a transmodal and transdiagnostic phenomenon, occurring across sensory modalities and presenting in a range of psychiatric, neurodegenerative, neurological, and non-clinical populations. Despite phenomenological findings suggesting that no one type of hallucination is pathognomonic to any one diagnosis, there is little empirical work directly comparing the neural correlates of hallucinations between different groups. We performed the first whole-brain voxel-wise meta-analysis of hallucination presence/absence across diagnoses and modalities using anisotropic effect-size Seed-based d Mapping and conducted a comprehensive systematic review on all other structural correlates, including cortical thickness and gyrification. 16 studies met inclusion criteria for the meta-analysis and 26 for the literature review. Though limited by the number of modalities and diagnoses represented in the literature, we found that patients with a psychotic disorder who experienced hallucinations showed gray matter (GM) reductions in the left insula and increases within the bilateral fusiform gyrus, while patients with Parkinson's disease (PD) with hallucinations showed widespread GM decreases in the medial cingulate region, corpus callosum, left optic radiations, middle occipital gyrus, and left fusiform gyrus. Increased severity of hallucinations in schizophrenia correlated with GM atrophy within the left superior temporal gyrus, bilateral angular gyrus, and right supramarginal gyrus. The most consistent findings associated with hallucination status from the qualitative synthesis were a reduction in cortical thickness in the temporal gyrus in schizophrenia and an implication of hippocampal volume in PD and dementia. However, there was heterogeneity in the regions of interest explored, highlighting a need for replication. Our findings show distinct neuroanatomical patterns characterizing hallucination presence in patients with a psychotic disorder compared to those with PD, suggesting no common anatomical signature of hallucination occurrence. We situate our findings within prominent theoretical frameworks for hallucinations, observing a need to disambiguate the hypotheses predicted by competing theories.

**Fergus Gracey** - Transcutaneous Vagal Nerve Stimulation (tVNS) for episodic aggression in people with neurodevelopmental conditions or acquired brain injury

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**Background and Aims:** Episodic aggressive behaviours are common across a range of neurodevelopmental conditions, such as intellectual (learning) disabilities and/or autism, or acquired brain injury (ABI). One possibility is that reduced high-frequency heart-rate variability (HF-HRV), reflecting lower vagal tone, predisposes individuals to the development of such behaviour. We aimed to evaluate the feasibility and potential effectiveness of a novel application of transcutaneous vagal nerve stimulation (tVNS) device to reduce episodic aggression among adults with neurodevelopmental conditions or ABI.

**Methods:** A single-case ABCA design (A baseline, B sham intervention, C active tVNS stimulation) was used, with randomisation of onset of intervention phase. Primary outcomes were the frequency and severity of aggressive incidents self-recorded by participant daily diary and independently by a family or paid care-giver.

**Results:** Our results so far are based on a single individual with moderate-severe ABI. Participant feedback indicated problems in fitting the device but other study procedures were acceptable, Visual

inspection of graphed diary data and statistical analysis indicated that aggressive incidents were both less frequent and less severe during the active tVNS phase when compared with baseline (Kruskal-Wallis, aggression frequency and severity,  $p < 0.01$ ).

**Conclusion:** We present a very preliminary indication of the potential of tVNS for the reduction of episodic aggression. In order to replicate and extend this finding, we are recruiting participants from in-patient services, including adults in medium secure facilities. In addition, we are considering the use of alternative tVNS devices that are easier to use.

## Gabriella Tyson - A new transdiagnostic intervention to improve resilience to mental ill health: A pilot randomised controlled trial with emergency workers

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### Background

Overthinking in the forms of worry and rumination are transdiagnostic processes that span psychological disorders. A prospective study of newly recruited ambulance workers (Wild et al., 2016) established that pre-trauma rumination was a predictor of PTSD. We developed a mixed format intervention to target transdiagnostic processes linked to mental ill health in emergency workers. The intervention consisted of 4 online modules and 4 linked group sessions designed to modify these predictors. We then evaluated this intervention in a pilot randomised control trial.

### Methods

180 emergency workers were randomly allocated on a 1:1:1 basis to the mixed format intervention, an alternative digital intervention or a four month wait period. Participants completed measures at three assessment points: baseline, post-intervention and three-month follow up. Resilience, wellbeing, psychological distress, coping and social capital were assessed.

### Results

Participants receiving the resilience intervention showed significant improvements over time in resilience, wellbeing, social capital and psychological distress that were not seen in the alternative intervention or wait conditions. The modules associated with the greatest reductions in psychological distress at post-intervention and at follow-up targeted rumination and worry.

### Conclusions

The success of this intervention is promising and may be associated with changes in transdiagnostic processes, particularly in over-thinking. Future research could evaluate the intervention with a much larger sample and investigate mediators of outcome.

## Emily Vanderbleek - The Initial Development and Validation of a Measure of Overcontrol

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Researchers and clinicians are now recognizing self-control, or the ability to inhibit competing urges and desires, as a transdiagnostic and multi-faceted construct that underlies many forms of psychopathology. Though studies have shown that a greater capacity for self-control is generally adaptive, recent research has indicated that very low *and* very high self-control are associated with dysfunction. Overcontrol, characterized by the containment of impulse, excessive delay of gratification, and an overall tendency towards inhibition and constraint, is associated with numerous mental health problems, including anorexia nervosa, treatment-resistant depression, and anxiety disorders. To date, a comprehensive

measure of overcontrol has not been validated, leading to frequent misdiagnosis of overcontrolled individuals and preventing them from receiving appropriate psychological care. This project seeks to develop a measure of overcontrol that can be used in research and clinical settings.

The initial item pool for the current study was developed based on Lynch's (2018) model of overcontrol, in which overcontrol is characterized by four core deficits: low receptivity and openness, low flexible-control, inhibited emotional expression, and low social connectedness. The items were generated in collaboration with a panel of expert clinicians and scholars, and were based on clinical observations and a thorough review of the relevant literature. In addition to these items, various measures of personality and functioning were included for validation purposes. Data collection is ongoing. Initial findings will be presented, including descriptive statistics, factor structure, and validity of this measure.

## Ava Schulz - One size fits all? Transdiagnostic therapies for emotional disorders. A systematic review

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Transdiagnostic (TD) therapies have the potential to facilitate access to effective treatment for a large number of patients across emotional disorders, including the application in different face-to-face or web-based settings. Recent studies and meta-analyses revealed promising results, but did not include all available treatment formats.

This systematic review investigates the short- and long-term efficacy of current transdiagnostic protocols for emotional disorders, provided in individual, group and web-based formats (with or without clinician guidance).

A literature search identified 107 potentially relevant publications, 22 of which were included for analysis. Results indicate that TD protocols are associated with symptom improvement in anxiety and depression, fared better than waitlist control groups and showed equivalent efficacy when directly compared to disorder-specific treatments. Unguided web-based and group formats appear to be feasible and cost-effective options of treatment delivery. Limitations of the current state of evidence as well as directions for future research will be discussed.

## Alberto Gonzalez-Robles Effectiveness of a transdiagnostic Internet-based protocol for emotional disorders vs. treatment as usual in specialized care: a randomized controlled trial

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**Introduction:** Traditional CBT transdiagnostic treatment protocols for emotional disorders (ED) (depression and anxiety disorders) have proven their efficacy in the previous literature. However, there are still some barriers regarding dissemination that make difficult for patients to receive CBT, especially in public services where resources are limited. Internet-based treatment protocols have emerged as a promising evidence-based treatment strategy to improve CBT dissemination. In this study, a two-armed randomized controlled trial was conducted to test the effectiveness of a transdiagnostic Internet protocol for ED in comparison to treatment as usual as provided in Spanish public specialized mental health care.

**Method:** Participants were randomly assigned to one of two treatment conditions: a) transdiagnostic Internet-based protocol, or b) treatment as usual. Data about depression, anxiety, and quality of life at pre- and post-treatment will be analyzed and compared between both groups based on the intention-to-treat principle. To be eligible for the study, participants had to meet DSM-IV diagnostic criteria for at least one of the following ED: major depressive disorder, dysthymia, generalized anxiety disorder, panic

disorder, agoraphobia, social phobia, obsessive-compulsive disorder, anxiety disorder not otherwise specified, or mood disorder not otherwise specified.

**Results:** The study is in progress.

**Discussion:** Although the effectiveness of face-to-face transdiagnostic protocols has been investigated in previous studies, the number of published transdiagnostic Internet-based programs is still quite low. To our knowledge, this is the first randomized controlled trial to study the effectiveness of a transdiagnostic Internet-based treatment for nine emotional disorders in public specialized care. Combining both a transdiagnostic approach with an online therapy format may help to decrease the burden of mental disorders, reducing the difficulties associated with disorder-specific treatments and facilitating access to people in need of treatment.

### **Amanda Díaz-García** The positive affect regulation in an online transdiagnostic protocol for emotional disorders: a randomized controlled trial

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**Introduction:** Transdiagnostic treatment protocols for emotional disorders (ED) have been developed in the past few years. Most of these interventions focus primarily on down-regulating negative affectivity, and less attention has been paid to the strengths and the up-regulation of positive affectivity (PA), despite its importance for well-being and mental health. Furthermore, the literature suggests that not all people suffering from ED receive the appropriate treatment and that these interventions do not reach all people in need. It is therefore essential to implement innovative solutions to achieve a successful dissemination of transdiagnostic treatment protocols and, in this sense, the use of Information and Communication Technologies, like the Internet, can be very useful.

**Objective:** The aims of the current study were (1) to describe a transdiagnostic Internet-based treatment for ED which includes traditional cognitive-behavioral therapy components, as well as a specific component to address PA, and (2) to present data of the differential effect of this specific component.

**Method:** Participants were randomly assigned to a) Transdiagnostic Internet-based protocol (TIBP), b) Transdiagnostic Internet-based protocol + positive affect component (TIBP + PA), or c) a Waiting List control group (WL). Data on positive and negative affectivity, depression and anxiety before and after treatment were analyzed.

**Results:** in progress.

**Discussion:** To the best of our knowledge, this is the first study of a transdiagnostic Internet-based treatment for ED with a specific component to up-regulate PA. The results could contribute to determine the importance of including PA components in current transdiagnostic treatment protocols for ED, and to promote the dissemination of these protocols.

### **Debra Russo** - The Tailoring Psychological Therapies in Wellbeing Services (TYPPEX) programme: Managing complexity as indexed by psychotic experiences in Improving Access to Psychological Therapies (IAPT) services

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Many people who have common mental disorders, such as depression and anxiety, also have some psychotic experiences such as attenuated paranoia or voice hallucinations. These experiences may be useful markers of severity in common mental disorders, and are associated with greater clinical

complexity, poor treatment response, and negative clinical and functional outcomes. Psychotic experiences are prevalent in people receiving treatment in Improving Access to Psychological Therapies (IAPT) services: pilot work has shown that approximately 30% of higher-tier IAPT users have psychotic experiences along with their depression and/or anxiety. Recovery rates are lower among this group as compared with the general IAPT population.

Tailoring Psychological Therapies in Wellbeing Services (TYPPEX) is an NIHR-funded programme aimed at improving recovery rates for IAPT users with psychotic experiences by designing and implementing a new talking therapy. The programme shifts the emphasis from using psychotic experiences as predictors of transition to psychotic disorder, to viewing them as markers of severity on a continuum of general psychopathology. As such, the TYPPEX therapy will take a transdiagnostic approach to reducing common mental distress by focusing on the holistic treatment of presenting symptoms for people with a common mental disorder and psychotic experiences.

In this poster, we present the following: (1) A brief explanation of the rationale and aims of the TYPPEX programme; (2) Results from a psychological network analysis used to identify potential intervention targets for the TYPPEX therapy by elucidating the relationship between anxiety, depression, and psychotic experiences, and highlighting which symptoms are most influential in reducing overall psychopathology; and (3) An outline of the content and delivery of the novel TYPPEX therapy, which has been informed by a systematic review of the literature, discussion with experts in psychological therapy, patient and public involvement (PPI), and statistical analysis of data collected from IAPT services.

### **Carmen Schaeuffele** - Transdiagnostic guided iCBT for emotional disorders: Study protocol and preliminary results

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Applying a transdiagnostic approach online can help to meet treatment needs for co-occurring psychological disorders. We developed a 10-week internet-delivered therapist-guided intervention based on the Unified Protocol (UP). This pilot study explores how the UP can be adapted to an internet-based guided self-help format and how efficacious this treatment is for patients with anxiety, depressive, and/or somatic symptom disorders. Further, the pilot study investigates the role of underlying mechanisms such as mindfulness, cognitive flexibility, and emotional avoidance in reducing symptoms of different disorder domains

#### **Methods**

60 participants are recruited from online mental health forums and randomly allocated to either treatment or waitlist-control condition. Participants are included if they have a primary diagnosis of Generalized Anxiety Disorder, Social Anxiety Disorder, Agoraphobia, Panic Disorder, Depression, Somatic Symptom Disorder and/or Illness Anxiety Disorder, diagnosed with the SCID via telephone. Outcomes are assessed at pre-, mid- and post-treatment and at 1-, 3-, and 12-months follow-up. The primary outcome measure is the BSI-18, a short version of the Symptom Checklist-90-R. Secondary outcome measures include disorder-specific measures. Mindfulness is assessed with the Southampton Mindfulness Questionnaire, cognitive flexibility with the Emotion Regulation Questionnaire, and emotional avoidance with the Brief Experiential Avoidance Questionnaire as well as the Behavioral Activation for Depression Scale

#### **Results and Discussion**

The pilot study is currently ongoing and the poster will present the process of adapting the UP to the online context, the study protocol, and preliminary results regarding early change and adherence