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Dr Stephanie Lewis

The Bridge Editor

Welcome to the October 2020 issue of *The Bridge*. Here in the UK, October is Black History Month, a time for celebration of the achievements and contributions of Black people to British society, as well as continued learning about Black history. I hope that you will be able to join local events celebrating the outstanding work of Black mental health professionals, as well as national events, such as the inaugural meeting of the Association of Black Psychiatrists in the UK.¹

Black History Month is particularly poignant this year, following the unprecedented global protests against racism in the wake of the brutal killing of George Floyd, and the disproportionately high COVID-19 morbidity and mortality in BAME people. Since these events there's been an increased focus on racial inequality in many aspects of life, including our field of mental health, highlighting stark injustices.² For example, because of racism and multiple socioeconomic disadvantages, Black people are more likely to develop mental health disorders, but half as likely to get treatment for these conditions, and four times as likely to be detained under the Mental Health Act for acute crises, compared to white people.^{3,4} There have been many calls and suggestions for action to address these inequalities at societal, institutional, and individual levels.^{5,6} Research has a crucial role in this process because research evidence influences clinical knowledge, practice, and policy. Yet bias is also seen in research, with the overwhelming majority of academic leaders and published study participants being white North Americans or Europeans. Therefore, it is crucial to test whether findings from these studies generalise to BAME people in these areas, as well as undertaking more research in other parts of the world, led by scientists from these communities. For example, in this issue of *The Bridge* we discuss research by Quanfa He and James Li who investigated whether the structure of psychopathology differs by racial-ethnic background in American young people. Additionally, we discuss research by Tochukwu Nweze and colleagues who studied working memory in Nigerian young people not living with their parents. In future, it's vital that research continues to diversify and improve representation, which is essential to reduce bias in mental health care.⁷⁻⁹

In addition to these important studies, this issue of *The Bridge* also brings you a thought-provoking discussion about developments in eating disorders research by Dr Dasha Nicholls, as well as several other interesting articles about the latest research in child and adolescent mental health. I hope you enjoy reading this issue of *The Bridge*.

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Developments in Eating Disorders Research

By Dr Dasha Nicholls



Do sex differences affect ASD symptom severity scores?



Gender identity is not as simple as ABC(D)



How accurate are teachers' assessments of children's mental health?



Interventions for reducing loneliness seem effective in young people



Is brain circuitry linked with early symptoms of autism spectrum disorder?



Is formal processing through the juvenile justice system linked with an increased risk of reoffending?



Nigerian young people from parentally deprived backgrounds show enhanced working memory capacity



Online self-harm content might provide peer support to young people



PCIT-ED seems to improve parenting behaviour and affect towards children with depression



What mechanisms underlie reduced social attention in people with ASD?



Young people's 'neural fingerprints' might permit a precision-medicine approach to depression



Is race linked to the structure of psychopathology in young people?



Dr Jessica K. Edwards

Research highlights in this edition are prepared by Dr Jessica K. Edwards. Jessica is a freelance editor and science writer, and started writing for 'The Bridge' in December 2017.





Developments in Eating Disorders Research

By Dr Dasha Nicholls

It is an honour to contribute to The Bridge with an update on eating disorders research. As everyone's thoughts are dominated by the impact of COVID-19 on mental health and wellbeing, it seems pertinent to start by thinking how people with or at risk of eating disorders may have been affected. Research suggests that the impacts differ according to the type of eating disorder concerns and behaviours. For example, people with anorexia nervosa report increased dietary restriction and fears about not being able to find their preferred foods, while those with bulimia nervosa and binge-eating disorder report increases in binge-eating episodes and urges to binge. On the whole, patients are more concerned about the impact of COVID-19 on their mental health than physical health. Ability to access and engage with treatment has additionally been of concern to many. Encouragingly, there have also been positive effects in terms of greater connection with family, more time for self-care, and greater motivation to recover^{1,2}. Fernando Fernandez-Aranda and colleagues have nicely summarized these and other potential effects of COVID-19 on this patient population in their European Eating Disorders Review editorial³.



Dr. Dasha Nicholls

Dasha is a Reader in Child Psychiatry at Imperial College London and Honorary Consultant Child and Adolescent Psychiatrist at Central and North West London NHS Trust and East London NHS Trust. Her research and clinical work is concerned with feeding and eating disorders in children and adolescents, including early onset eating disorders, avoidant restrictive food intake disorders, and child and adolescent obesity. Until moving to Imperial in 2018 she was Joint Head of the Feeding and Eating Disorders service at Great Ormond Street Hospital, where she led the national eating disorders team, and Honorary Senior Lecturer at the UCL Great Ormond Street Institute of Child Health. (Bio via NHS Foundation Trust)

It is not only those with eating disorders who have found their eating has changed during this time. We know that eating is one of the behaviours that can change in all of us under stress, with roughly a third of us eating more and a third eating less. A number of factors may have come into play, including increases in stress and anxiety as a direct result of the virus and its effects, and the impact of social isolation and loneliness. Also, factors important in the early days of lockdown included the lack of food availability and, at the other end of the spectrum, overbuying of some food items such that the shelves dedicated to biscuits and crisps seemed to be the most empty, along with flour and eggs as everyone was baking. Whilst preparing nice meals and gaining new cooking skills is an enjoyable, family friendly hobby to while away the time and provide some pleasure and comfort, for some people it may have been associated with negative feelings, such as loneliness, anxiety or boredom, and that can lead to emotional over or undereating. In order to better understand the impact of COVID-19 on young people's eating behaviour we developed and have ethics approval to undertake a UK survey for parents of school age children (age 4-17 years), and if their children are age 11-17 by self-report too. We aim to understand how COVID-19 has influenced young people's eating behavior, and whether it has caused anxiety or distress about eating, weight, or shape, particularly in those with a history of eating disorders. We also hope to compare our findings with a sample from Spain where lockdown was more extreme and people were not able to leave the house for many weeks. Please follow us on twitter ([@Imperial_CAMH](#)) to take part, promote, and find out about the results of our study.

With prevention and school-based interventions high on the policy agenda at the moment, it seems timely to review implementation and effectiveness of eating disorders prevention. Schools have mandated duties around child measurement, and also around delivery of an emotional wellbeing curriculum as of September 2020. A challenge we face, however, is that there is not always synergy between the prevention agenda for obesity and that for eating disorders and other mental health problems. At times it could even be considered they are working against each other. For example, promoting positive body image is a primary objective of eating disorders prevention, and this can be perceived as at odds with efforts to identify (and label) people as overweight or obese. Eating disorders clinics are seeing more and more young people who have started their eating disorders journey as a result of being weighed in school and told they are overweight or obese, or being exposed to nutritional information that has been taken somewhat literally. For some time, eating disorders professionals have called for a joint approach to obesity

and eating disorders prevention⁴. We are a bit behind in the UK in this endeavour, and it is surprisingly hard, given the prevalence of both obesity and eating disorders, to get the issue taken seriously in terms of research. In the meantime, I have worked together with BEAT to develop a statement about the impact of anti-obesity strategies on the eating disorders population⁵, and with Professor Philippa Diedrichs on an edition of Nine Truths about Eating Disorders specifically about weight and weight stigma for the Academy of Eating Disorders⁶.

We anticipate a new wave of anti-obesity drives as a result of the association between COVID-19 and metabolic risk. One of the imperatives is to increase dialogue between the obesity and the eating disorders field, and I am delighted we seem to have found some common ground around the issue of weight stigma⁷. Weight stigma is common across the population, including among children and health professionals. Stigma is thought to underlie weight related teasing, often a factor in eating disorder onset, and is one facet of the thin ideal thought to contribute to both the onset and maintenance of eating disorders by promoting primacy of weight and shape in self-evaluation. As training across professions about eating disorders is set to improve as a result of the recommendations of the Parliamentary Health Services Ombudsman's report 'Ignoring the Alarms; How NHS eating disorder services are failing patients'⁸, it is a priority that health professionals are trained how to talk routinely about weight and eating with young people in an informed and sensitive way. At the moment, eating difficulties tend to remain hidden because of feelings of shame and concerns about stigma.

Of course, not everyone will respond negatively to well-intentioned public health recommendations; for some they may be highly motivational. Nonetheless, it is important that people with eating disorders are not collateral damage in the rising tide of weight concern. Like others, we are investigating some of the factors that might put an individual at increased risk, as we move increasingly towards more personalised approaches to recognition and intervention. We are currently developing studies looking at how specific genetic and environmental risk factors might pinpoint vulnerability and identify therapeutic targets. As the knowledge base around neurodevelopmental risk factors for eating disorders grows, we are also interested in identifying how and when social communication difficulties in the context of eating disorders become clinically significant and the degree to which they might be modifiable if identified early enough.

Early identification is a cornerstone of successful early intervention. A particular challenge for the eating disorders field is that we are all exposed to the same environmental cues, and eating behaviour is so variable within and between individuals, and over the course of a lifetime, that it can be difficult to identify with sufficient specificity who will and will not go on to develop significant eating pathology. We have been trying to identify early signs that will tell us how to recognise eating disorders early by looking at the first things parents noticed in a cohort of young people presenting with eating disorders, and also at the sorts of trigger events families report that they associate with onset of the eating disorder, expecting these will be multiple and varied. We are also interested in which patients respond quickly to a brief early intervention approach (a six session parents' group) and who needs more intensive treatment.

Last but not least, we are trying to understand the incidence of young people who present with Avoidant Restrictive Food Intake Disorder (ARFID) to secondary care, using surveillance methodology where paediatricians and child psychiatrists report all the cases they see over the course of a year. ARFID is an umbrella term for presentations where food is restricted in terms of amount and/or range for reasons that are not associated with weight and shape concerns. For example, fear of choking may lead to avoidance of solid food, or range of food may be restricted because of sensory aspects of food such as smell or texture. We hope that the results will also shed more light on the full range of presentations and clinical characteristics for this patient population, so that services can be planned accordingly. At the moment patients with ARFID are falling through the net in some areas.

This is just a snapshot of what is happening in the eating disorders space with children and young people. If you work in the NHS or academia and want to know more, consider joining the British Eating Disorders Society (breds.org.uk) where the conversation continues.

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Do sex differences affect ASD symptom severity scores?

By Dr. Jessica Edwards

Researchers in the USA have investigated whether standard diagnostic assessments for autism spectrum disorder (ASD) are biased against girls. Aaron Kaat and colleagues compiled the largest sample of girls with clinical ASD diagnoses to date, obtaining data from 27 different sites, including nearly 9,000 children, 16% of whom were female. After accounting for age, IQ and language level, they found that indeed, girls received less severe scores than boys on clinician-observed and parent-reported measures of restrictive and repetitive behaviours (ADOS and ADI-R). By contrast, girls received more severe scores than boys on a parent-report questionnaire of restrictive and repetitive behaviours and social communication difficulties (SRS). However, the effect sizes for these differences were small and thus unlikely to have clinical significance.

Although these findings do not readily support the need for sex-specific scoring of these instruments among children already diagnosed with ASD, the researchers explain that it is still possible that some girls will exhibit different ASD-related difficulties to boys. They thus propose that future work should examine the content validity of diagnostic instruments that potentially lack sensitivity to detect certain ASD symptoms.

Referring to:

Kaat, A.J., Shui, A.M., Ghods, S.S., Farmer, C.A., Esler, A.N., Thurm, A., Georgiades, S., Kanne, S.M., Lord, C., Shin Kim, Y. & Bishop, S.L. (2020), *Sex differences in scores on standardized measures of autism symptoms: a multisite integrative data analysis*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13242.

Glossary:

Restrictive and repetitive behaviours: children with ASD often exhibit restricted behaviours that are expressed through repeated movements, thought processes, or preferences. For example, some children might repeatedly flap their hands or utter the same phrase, and some may show an intense interest in a certain subject. Restriction is evidenced by apparent inflexibility with regards to such repetitive behaviours, including being averse to changing routines.

Social communication difficulties: children with ASD often exhibit communication difficulties when engaging with others in social situations. For example, some children find it hard to use and understand non-verbal communication such as eye contact and facial expressions, while others might show a tendency towards speaking excessively about their interests without adhering to social rules like taking turns in conversations.



Gender identity is not as simple as ABC(D)

By Dr. Jessica K Edwards

Alexandra Potter and colleagues in the USA have used data collected as part of the longitudinal Adolescent Brain Cognitive Development (ABCD) US cohort study to examine associations between diverse gender experiences and mental health. They first determined the prevalence of transgender-identified participants in the study cohort of nearly 12,000 children aged 9-10 years old. Here, they found that 0.5% youth (n=58) responded “yes” or “maybe” when asked if they are transgender. Recurrent thoughts of death were significantly more prevalent in these 58 children compared to the rest of the cohort.

After 1-year follow-up, the children (now aged 10-11 years) completed a multi-dimensional gender survey that assessed felt-gender, gender noncontentedness and gender nonconformity on a 5-point scale. Of the ~5,000 children that completed this survey, around one third provided responses that did not exclusively align with one gender. Notably, the researchers found associations between mental health symptoms and all of the measured gender dimensions.

Potter *et al.* conclude that the association between mental health and gender diversity extends beyond youth with a transgender identity. The percentage of children at risk of mental health problems associated with gender diversity might, therefore, be greater than originally thought. Importantly, more than one third of children in this study did not understand the term “transgender”. Thus, asking children about their “felt-gender” might constitute a more developmentally appropriate way to evaluate gender diversity in this age group.

Referring to:

Potter, A., Dube, S., Allgaier, N., Loso, H., Ivanova, M., Barrios, L.C., Bookheimer, S., Chaarani, B., Dumas, J., Feldstein-Ewing, S., Freedman, E.G., Garavan, H., Hoffman, E., McGlade, E., Robin, L. & Johns, M.M. (2020), *Early adolescent gender diversity and mental health in the Adolescent Brain Cognitive Development study*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13248.

See also:

<https://abcdstudy.org/>

How accurate are teachers' assessments of children's mental health?

By Dr. Jessica Edwards

Frances Mathews, Tamsin Ford and colleagues have performed a secondary analysis of the 2004 British Child and Adolescent Mental Health Survey, to understand how accurately teacher concern predicts the presence of a mental disorder in school children. They found that teacher concern was only moderately predictive and sensitive, but a lack of teacher concern was highly predictive and specific. Even though teacher concern did identify children with poorer mental health, it did not accurately differentiate between those with a clinically impairing disorder and those with subclinical levels of mental health difficulties.

“Teachers seem to accurately identify children who are mentally healthy, but they can also correctly identify children whose mental health is poorer than average”, explains Ford. “Their concerns, however, identify a broader spectrum of children than those with impairing mental health conditions”. Therefore, teacher concern alone identifies children whose needs do not meet the threshold for CAMHS, as well as those who do. However, if both teacher and parents were concerned, the child was much more likely to have a disorder, suggesting that corroboration of teacher concerns may help to identify those most in need of CAMHS support.

As children spend a great deal of their time within school, checking how a child's attainment, behaviour and peer relationships compare to others constitutes a vital part of a mental health assessment. “This information can tell you a lot about how a child is functioning”, says Ford. “If a teacher is not concerned, then our data suggest that it is very unlikely that a child has a significant problem”.

The researchers welcome the current emphasis of policy on a closer collaboration between schools and mental health services. However, they explain that this emphasis will only extend to a third of the country in the next few years. Going forward, we need to understand how best to support teachers and school mental health practitioners such that affected children receive the appropriate level of support that they need. Longitudinal research is also warranted to determine how teacher-identified children with poor mental health fare over time. Ford *et al.* explain that if these children continue to struggle or even deteriorate, then this might suggest the potential gains of early intervention.

Referring to:

Mathews, F., Newlove-Delgado, T., Finning, K., Boyle, C., Hayes, R., Johnston, P. & Ford, T. (2020), *Teachers' concerns about pupils' mental health in a cross-sectional survey of a population sample of British school children.* *Child Adolesc. Ment. Health.* doi: 10.1111/camh.12390.

See also:

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Interventions for reducing loneliness seem effective in young people

By Dr. Jessica Edwards

Meta-analyses of interventions aimed at reducing loneliness among young people are distinctly lacking in the field. Now, Alice Eccles and Pamela Qualter have addressed this gap by compiling a review for *Child and Adolescent Mental Health* on interventions to reduce loneliness in young people. This review is particularly timely, given the current situation of self-isolation and social distancing due to the current Covid-19 pandemic.

Eccles and Qualter conducted a meta-analysis of single group and randomised controlled trials of studies published between 1980 and 2019 that measured loneliness as an outcome in youth ≤ 25 years-of-age. They ultimately analysed 39 studies, and found evidence that youth loneliness could be reduced by intervention. This reduction was moderated by the intervention characteristics, study quality and the sample demographics. Interestingly, most of the interventions targeted youths who were considered being at risk of loneliness (usually due to other health concerns); very few interventions actually targeted those who reported loneliness. Furthermore, most studies did not report whether youth experienced chronic or transient loneliness. These interventions ranged from targeting social skills, social interactions and emotional skills and were delivered in either group or individual settings, and with or without the use of technology.

The researchers hope that policymakers and practitioners will recognise that interventions can have a positive effect in reducing loneliness in young people. However, they do acknowledge the large amount of between-study variance that could not be accounted for by the moderators examined in the current study. Going forward, they explain that high-quality interventions specifically aimed at reducing loneliness (not as a secondary outcome) are warranted.

Referring to:

Eccles, A.M. & Qualter, P. (2020), Review: Alleviating loneliness in young people – a meta-analysis of interventions. *Child Adolesc. Ment. Health*. doi: 10.1111/camh.12389.



Is brain circuitry linked with early symptoms of autism spectrum disorder?

By Dr. Jessica Edwards

Researchers in San Diego, USA, have studied the relationship between brain network connectivity and emerging autism spectrum disorder (ASD) symptoms in toddlers aged 17-45 months with (n=24) or without (n=23) ASD. Bosi Chen and colleagues collected functional MRI data from children during their sleep, and investigated intrinsic functional connectivity both within and between the resting-state functional networks. They found greater between-network functional connectivity involving visual and sensorimotor circuits in those with ASD compared to typically developing toddlers. This increase in visual-sensorimotor connectivity was associated with more autism symptoms.

“Our finding of greater connectivity between visual and sensorimotor networks may be related to the sensory processing abnormalities experienced by a large proportion of young children with ASD”, explains Chen. “Early difficulties with sensory processing can also have a downstream effect on later problems with language and social skills.”

This study is limited by its small sample size and the lack of appropriate measures of sensory processing abnormalities in ASD. The researchers also did not study whether there were any differences in sleep stage between the two groups when collecting the fMRI data. Nevertheless, this study constitutes the first characterization of large-scale resting-state functional networks in children of this age group with ASD.

“Our identification of differences in network connectivity in toddlers with ASD highlights the impact of dysfunctional connectivity within primary sensory circuits on autism symptomatology”, says Chen. “These findings might potentially guide the development of interventions targeting these brain networks early in life, such as by using non-invasive neurostimulation techniques.”

Referring to:

Chen, B., Linke, A., Olson, L., Ibarra, C., Reynolds, S., Müller, R-A., Kinnear, M. & Fishman, I. (2020), *Greater functional connectivity between sensory networks is related to symptom severity in toddlers with autism spectrum disorder*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13268.

Glossary:

Functional MRI: This technique measures metabolic activity in the brain by detecting changes in blood flow. This approach is possible because when an area of the brain is in use, the blood flow to that region increases.

Functional connectivity: The amount by which brain areas are thought to be connected, based on the fact they are active at the same time.



Is formal processing through the juvenile justice system linked with an increased risk of reoffending?

By Dr. Jessica Edwards

Data from a new study published in the *Journal of Child Psychology and Psychiatry* support that formally processing adolescents through the juvenile justice system after their first arrest for a mild-to-moderate crime is linked with an increased risk of reoffending. Strikingly, callous-unemotional (CU) traits might moderate this effect.

To generate these data, Emily Robertson and colleagues recruited >1,200 first-time male offenders (mean age 15.12 years) from three regions across the USA who had committed a mild-to-moderate crime. They then recorded whether these offenders exhibited antisocial behaviours at 6 weeks after their arrest, and then at 6-month intervals for 3 years. To do so, they collected self-report data on offending and official records of juvenile and adult arrests.

“For first-time juvenile offenders who have not committed a serious violent crime, our results suggest that diverting them from or minimizing their contact with the juvenile justice system can greatly improve their outcomes, including by making them less likely to commit future crimes and to be re-arrested”, says Robertson. “What’s more, our study provides a number of improvements over past research. For example, we followed youth after their first arrest for an extended period of time, and we controlled for numerous potential confounds, such as the severity of the offence for which they were arrested and a number of pre-existing vulnerabilities (such as their intelligence, the quality of parenting they experienced, the quality of their neighbourhood).”

Next, Robertson *et al.* tested whether CU traits moderated this relationship between the processing decision and future antisocial behaviours. Here, they found that those with elevated CU traits at baseline showed higher rates of antisocial behaviour over the study period, regardless of how the juvenile justice system processed their case. Importantly, formal processing through the juvenile justice system was more strongly linked with later antisocial behaviour in those with lower baseline levels of CU traits.

“Previous studies that looked at the harmful effects of juvenile justice system involvement did not consider whether or not the adolescent was elevated on CU traits,” explains Robertson. “As a result, the harmful effects of processing kids through the system and the beneficial effects of diverting them away from the system might have been underestimated for the vast majority of youths who do not show elevations on these traits”.

The researchers hypothesize that interventions to reduce severe behaviour problems that are effective for adolescents with normative CU traits might not work as well for those with high levels of CU traits. As such, explorations into potential novel interventions for youth with elevated CU traits in the justice system should continue.

Referring to:

Robertson, E.L., Frick, P.J., Ray, J.V., Thornton, L.C., Myers, T.D.W., Steinberg, L. & Cauffman, E. (2020), Do callous–unemotional traits moderate the effects of the juvenile justice system on later offending behavior? *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13266.

Glossary:

Callous-unemotional (CU) traits: includes limited guilt and empathy, constricted displays of emotion, and reduced concern over performance in important activities.

“For first-time juvenile offenders who have not committed a serious violent crime, our results suggest that diverting them from or minimizing their contact with the juvenile justice system can greatly improve their outcomes, including by making them less likely to commit future crimes and to be re-arrested”



Nigerian young people from parentally deprived backgrounds show enhanced working memory capacity

By Dr. Jessica Edwards

Early adverse rearing can impair cognitive functions in all domains.¹ However, those who take an evolutionary–developmental stance propose that there could be adaptive benefits associated with early adverse rearing.^{2,3} One example might be that being raised in an abusive or violent environment might improve threat detection.⁴ To probe this important paradigm further, Tochukwu Nweze and colleagues studied the executive functioning of 53 parentally deprived young people in Nigeria who lived in institutions (12 participants) or in foster care (41 participants).

To assess domain-specific alterations in executive functioning, the researchers used a battery of executive function tasks that measured set-shifting, inhibition, and working memory. They compared their findings to 51 non-deprived young people who lived with their biological parents. “We found that non-deprived children did not perform significantly better than deprived children in terms of set-shifting or inhibition”, says Nweze. “On the contrary, deprived children in our sample performed significantly better than non-deprived children in the digit span task that assesses working memory capacity: here, the effect sizes were greater than 1”.

Nweze *et al.* believe that their findings support an adaptation model that assumes that early deprivation might not generally impair cognitive functions but can even enhance it under some conditions in some domains.² “We interpret the enhanced working memory ability of the deprived group as a correlate of its ecological relevance”, explains Nweze. “In Nigeria, underprivileged children may need to rely to a larger extent on working memory ability to attain success through academic work. Given the relatively fewer opportunities for social mobility in Nigeria, guardians and teachers constantly remind children from deprived backgrounds that academic hard work could provide them with an escape route from poverty — it is likely that this message resonated with the deprived children in our sample.” However, the researchers also accept that any benefits are likely to be subtle in comparison to the considerable costs of parental deprivation.

A limitation of this study is that adversity was not measured but was assumed based on living in foster care or institutions rather than with parents. Further research which accurately measures adversity is now needed to investigate whether these findings replicate. Going forward, Nweze *et al.* propose that researchers and clinicians rethink their approach to intervention following adversity. “The damage control approach that has been advanced over the decades, has dismissed enhanced performance in deprived groups as a compensatory mechanism”, describes Nweze. “Rather, we believe that emphasis should be placed on maximizing the strengths and talents of children from deprived backgrounds”.

Referring to:

Nweze, T., Nwoke, M.B., Nwufo, J.L., Aniekwu, R.I. & Lange, F. (2020), *Working for the future: parentally deprived Nigerian Children have enhanced working memory ability*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13241.

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²Ellis, B.J. *et al.* (2017), *Beyond risk and protective factors: An adaptation based approach to resilience*. *Perspect. Psychol. Sci.* 12: 561-587. doi: 10.1177/1745691617693054.

³Frankenhuis, W. E., & De Weerth, C. (2013). *Does Early-Life Exposure to Stress Shape or Impair Cognition?* *Current Directions in Psychological Science*, 22(5), 407-412. doi:10.1177/0963721413484324

⁴Mittal, C. *et al.* (2015), *Cognitive adaptations to stressful environments: When childhood adversity enhances adult executive function*. *J. Pers. Soc. Psychol.* 109: 604-621. doi: 10.1037/pspi000028.

Glossary:

Executive function: a set of complex cognitive processes – including working memory, inhibition, and set shifting – that are necessary for adaptive, goal-directed behaviour.

Working memory: the process of holding information in mind and mentally working with it.

Inhibition: the process of suppressing impulses or habits.

Set shifting: the process of switching between perspectives or tasks.



Online self-harm content might provide peer support to young people

By Dr. Jessica Edwards

Youth today find themselves living in an era of social media, with easy access to a wide range of social networking sites. Unfortunately, emerging evidence suggests that some social technologies might cause more harm than good to some young people's mental health.^{1,2} Specifically, concern about online self-harm content and its influence on young people is growing, with calls for influential online platforms to tackle this problem by removing self-harm posts.³

Now, Anna Lavis and Rachel Winter have published their findings from an ethnographic study that aimed to understand why young people might view online self-harm content and *how* they engage with it. The researchers collected and analyzed >10,000 posts and >36,000 comments on social media between 2018 and 2019. They also conducted semi-structured interviews with 10 young people who have engaged with self-harm content online.

Lavis *et al.* made a striking finding: many young people engage with online self-harm content to better understand their actions, find peer support and seek help. Indeed, many young people who are accessing online content regarding self-harm are already self-harming and are looking for support and understanding that avoids the stigma found offline both in services and society more widely.

“These findings demonstrate the need for a franker consideration of how we respond to self-harm, both in services and as a society”, explains Lavis. “Rather than focusing on the impact of social media on young people, there is a need to listen to their reasons for turning to social media for support with their self-harm. It is against a background of offline stigma and support gaps that online peer support takes on importance; this is crucial for understanding the positive impact that online content, even that habitually framed as ‘graphic’ and thus ‘harmful’, may have on a young person”.

Based on their findings, the researchers believe that we should move beyond a model of contagion, which assumes that online self-harm content encourages or causes acts of self-harm. Instead, we should consider the potential benefits as well as other negative consequences of online self-harm content. “Moves to eradicate self-harm content risk being harmful”, says Lavis. “As such, any approaches must be underpinned by evidence that places the priorities of young people themselves at its heart”.

“Rather than focusing on the impact of social media on young people, there is a need to listen to their reasons for turning to social media for support with their self-harm.”

Referring to:

Lavis, A. & Winter, R. (2020), #Online harms or benefits? An ethnographic analysis of the positives and negatives of peer-support around self-harm on social media. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13245.

References:

- ¹ Kelly, Y. *et al.* (2019), *Social media use and adolescent mental health: Findings from the UK Millennium Cohort Study.* *EClinicalMedicine.* 4, 59–68. doi: 10.1016/j.eclinm.2018.12.005
- ² Field, T. (2018). *Cyberbullying: A narrative review.* *J. Addict. Ther. Res.* 2, 010–027. doi: 10.29328/journal.jatr.1001007.
- ³ Lumley, S. (2019, 26th January) *Matt Hancock tells social media giants to remove suicide and self-harm material.* *The Telegraph*, Available from: <https://www.telegraph.co.uk/news/2019/01/26/matt-hancock-tells-social-media-giantsremove-suicide-self-harm/>

Glossary:

Ethnography: the systematic study of individual cultures in terms of their customs, habits, and mutual differences.



PCIT-ED seems to improve parenting behaviour and affect towards children with depression

By Dr. Jessica Edwards

Data from a new study show that parenting behaviour and affect improved after completing a dyadic parent-child treatment for depression in young children (aged 3-6 years). The treatment, known as Parent-Child Interaction Therapy Emotion Development (PCIT-ED), comprises three main elements: (1) child-directed interaction (CDI), in which parents learn to interact positively with their child without criticizing or responding negatively; (2) a parent-directed interaction (PDI) that teaches parents how to use nurturing but firm, limit-setting techniques; and (3) emotion development (ED), in which parents learn to enhance their child's emotional competence and regulation. PCIT-ED usually comprises six sessions of CDI, six sessions of PDI, and then eight sessions of ED.

In their latest analysis published in the *Journal of Child Psychology and Psychiatry*, Diana Whalen and colleagues harnessed data from a previous randomized controlled trial (RCT) of PCIT-ED (Luby 2018). Here, they evaluated self-reported and observed parenting in 114 parent-child dyads after treatment and compared the findings to outcomes in 115 waitlist control dyads. Parents who received the PCIT-ED intervention showed greater reductions in self-reported negative parenting behaviours and observed negative affect, and greater increases in self-reported positive parenting behaviours and observed positive affect, compared to the waitlist control group. Interestingly, the level of coherence between self-reported and observed parenting was greater in the treatment group.

When interpreting these findings, we should be mindful of a few study limitations. First, the RCT used a waitlist control rather than an active control treatment, so placebo effects cannot be ruled out. Second, the study sample was predominantly white and of a relatively high socioeconomic status, so findings may not generalise to other populations. Third, child and dyadic interactions were not considered, and these may be equally important. However, a great strength is the combination of both self-report and observational assessments, which helped to ensure that the analyzed data were robust and valid.

Whalen *et al.* conclude that based on both self-report and observed interactions, PCIT-ED is effective in improving parent interactions with young children who have depression. They hope that future studies will now focus on investigating which aspects of parenting might be most relevant to improving depressive symptoms in children.

Referring to:

Whalen, D., Gilbert, K.E. & Luby, J.L. (2020), *Changes in self-reported and observed parenting following a randomized control trial of parent-child interaction therapy for the treatment of preschool depression. J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13263.

References:

¹Luby, J.L. *et al.* (2018), *A Randomized Controlled Trial of parent-child psychotherapy targeting emotion development for early childhood depression. Am. J. Psychiatry.* 175, 1102-1110. doi: 10.1176/appi.ajp.2018.18030321

Glossary:

Randomized controlled trial: an experimental setup whereby participants are randomly allocated to an intervention/treatment group or a control/placebo group; randomization of participants occurs after assessments for eligibility, and is used to minimize selection bias.



What mechanisms underlie reduced social attention in people with ASD?

By Dr. Jessica Edwards

A key predictor of an autism spectrum disorder (ASD) diagnosis is attenuated attention to social stimuli.¹ Thus far, the reasons underlying this abnormality are unknown: some have hypothesized reduced social motivation² while others have suggested aberrant oculomotor function in affected individuals.³ With regards to the latter, most researchers have studied oculomotor function during restricted viewing tasks (i.e. experimentally manipulated gaze behaviour). Unfortunately, the data obtained from such studies might not translate to natural visual explorations.

To address this problem, Nico Bast and colleagues studied oculomotor function by remote eye tracking, as individuals with (n=142) or without (n=142) ASD watched naturalistic videos. The researchers compared parameters including saccade (rapid eye movement between fixed points), fixation, and pupil dilation between the two participant groups. Then, they correlated their findings with clinical measures of ASD. They found that individuals with ASD exhibited reduced saccade duration and amplitude, regardless of whether there was human content in the videos. These differences in saccade features correlated with measures of restricted and repetitive behaviours. Conversely, there were no differences in terms of fixation or pupil dilation between the two groups.

“For 20 years, eye-tracking research has investigated the *HOW* of social attention in autism, and we now know that people with autism tend to spend less time looking at social stimuli during visual exploration”, explains Bast. “Here, we shifted our attention to the *WHY* of social attention and concluded that reduced social attention is not the result of attenuated social motivation, but rather due to differences in sensory processing of and attention to the environment.”

Future studies that investigate the causes of this different perception that underlies autism symptoms are now warranted. For now, Bast *et al.* hypothesize that altered pontocerebellar motor modulation might underlie erratic oculomotor execution and attenuated visual exploration in people with ASD.

Referring to:

Bast, N., Mason, L., Freitag, C.M., Smith, T., Portugal, A.M., Poustka, L., Banaschewski, T., Johnson, M. & The EU-AIMS LEAP Group. (2020), *Saccade dysmetria indicates attenuated visual exploration in autism spectrum disorder*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13267.

References:

¹Jones, E.J. *et al.* (2016). *Reduced engagement with social stimuli in 6-month-old infants with later autism spectrum disorder: A longitudinal prospective study of infants at high familial risk*. *J. Neurodev. Disord.* 8, 7. doi: 10.1186/s11689-016-9139-8.

²Chevallier, C. *et al.* (2012). *The social motivation theory of autism*. *Trends Cogn. Sci.* 16, 231–239. doi: 10.1016/j.tics.2012.02.007.

³Johnson, B.P. *et al.* (2016). *Ocular motor disturbances in autism spectrum disorders: Systematic review and comprehensive metaanalysis*. *Neurosci. Biobehav. Rev.* 69, 260–279. doi: 10.1016/j.neubiorev.2016.08.007.

Young people's 'neural fingerprints' might permit a precision-medicine approach to depression

By Dr. Jessica Edwards

Precision medicine has been discussed in medical research since the late 1990's. Only recently, however, has this concept aroused interest and inspired relevant research in psychiatry, particularly in adolescents. Earlier this month, the *Journal of Child Psychology and Psychiatry* published a Research Review compiled by researchers at Stanford University and the University of California Davis, highlighting how and why a precision-medicine approach using measures of brain connectivity might be relevant in treating adolescents with depression.

"The brain changes profoundly during adolescence, including in its networks, or collections of regions that activate together and are involved in similar functions", explains the study's lead author, Rajpreet Chahal. "Interestingly, findings from both adults and adolescents demonstrate that differences in the levels of coordinated activity within or between these networks simply while at rest are unique to each adolescent, like a neural fingerprint. We reviewed studies that tested the hypothesis that these resting-state functional connectivity brain networks are related to the severity and types of depression symptoms individuals exhibit prior to treatment, as well as to changes in their symptoms following intervention".

The available data reviewed by Chahal and colleagues indicate that these brain-based network fingerprints might indeed provide important clues about which adolescents will benefit from specific types of treatment, such as psychotherapy, antidepressants, or combinations of different treatments. For example, they propose that cognitive behavioural therapy might benefit depressed adolescents with a certain pattern of connectivity in the cognitive control network more than it does adolescents with alterations in the reward network.

"More research is now needed to test whether these emerging patterns of findings can be replicated in larger samples, with different types of interventions, and for different developmental stages", says Chahal. "For now, we believe that measuring individual differences in brain networks is important for identifying sub-categories of adolescent depression, developing targeted treatments, and even classifying biomarkers of risk for the development of depression in adolescence".

Given that adolescence is the period of development with the highest incidence of depression, Chahal *et al.* hope that a person-centred approach to identifying, preventing, and treating this psychopathology will ultimately improve the efficacy of interventions. Advances in this area are particularly urgent given that traditional 'one-size-fits-all' treatment approaches do not sufficiently alleviate depression symptoms for some affected adolescents.

Referring to:

Chahal, R., Gotlib, I.H. & Guyer, A.E. (2020), *Research Review: Brain network connectivity and the heterogeneity of depression in adolescence – a precision mental health perspective*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13250.

Glossary:

Precision medicine: the concept of customized healthcare based on an individual's characteristics, such as specific symptoms or underlying biology.





Is race linked to the structure of psychopathology in young people?

By Dr. Jessica Edwards

Researchers at the University of Wisconsin-Madison have found no significant difference in the hierarchical structure of psychopathology between African American and European American youths.

The rationale for Quanfa He and James J. Li's study came from two key issues in the field. First, that mental disorders tend to co-occur,¹ suggesting that mental disorders may not be adequately described by our traditional diagnostic categories but instead may be better conceptualized in a hierarchical framework that transcends these diagnostic boundaries.² Second, that there seem to be racial-ethnic differences in the prevalence of mental disorders in the USA.³ He and Li thus aimed to clarify the structure of mental disorders across racial-ethnic lines.

The researchers studied >8,000 youths aged 8–21 from the Philadelphia Neurodevelopmental Cohort, who were interviewed to assess for 15 DSM diagnoses. They found that a hierarchical factor structure of mental disorders did not vary between African Americans (AA) and European Americans (EA) in this cohort, using multigroup confirmatory factor analyses. This suggests that mental disorders, or at least the way they covary in the population, are perhaps more *similar* between racial-ethnic subgroups than they are *different*.

The researchers note that additional studies are warranted to extend these findings to other populations. However, they believe that their finding reinforces the importance of prioritizing mental health research with diverse samples, to test whether any findings generated for one group generalize to at least one or more other subgroups. "Our demonstration of racial-ethnic 'invariance' might imply that some of our best evidence-based treatments can be effective for all, and not just for certain populations", proposes Li. "This hypothesis now needs to be tested".

Referring to:

He, Q., & Li, J.J. (2020), *Factorial invariance in hierarchical factor models of mental disorders in African American and European American youths*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13243.

References:

¹ Kessler, R.C. et al. (2005), *Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication*. *Arch. Gen. Psychiatry*. 62: 617–627. doi: 10.1001/archpsyc.62.6.617.

² Caspi, A. et al. (2014), *The p factor: one general psychopathology factor in the structure of psychiatric disorders?* *Clinical Psychological Science*, 2, 119–137.

³ Anderson, E.R. et al. (2010), *Race/ethnicity and internalizing disorders in youth: A review*. *Clin. Psychol. Rev.* 30: 338–348. doi: 10.1016/j.cpr.2009.12.008.