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for Child and Adolescent  
Mental Health

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September 2020

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## Dr Stephanie Lewis

*The Bridge Editor*

Welcome to the September issue of *The Bridge*. The month of September is a challenging time for young people, as they start a new school year. September 2020 will be particularly difficult for many, as they must also deal with the stresses of the coronavirus pandemic and social distancing, as well as the effects of increasing financial pressures on families. Yet returning to school will provide most young people with important opportunities for development – including educational, social, and emotional development – and promote the health and protection of many vulnerable children. So now more than ever it is crucial that government, education, health, and social care professionals work with families to prioritise reducing harmful risks and increasing beneficial support that improves the health and wellbeing of young people.

The current crisis therefore highlights the importance of understanding and addressing environmental influences on young people's mental health, which is a common theme in this issue of *The Bridge*. For example, we discuss Lea Perret and colleagues' work investigating the links between cybervictimization and suicidal ideation and attempts in adolescents. We also consider Adam Bryant Miller and colleagues' research on pathways linking different forms of maltreatment and psychopathology, suggesting that language ability may be an important therapeutic target in neglected children. What's more, we discuss Yusuke Takahashi and colleagues' elegant study showing the dynamic effects of genetic and environmental influences on callous-unemotional traits throughout childhood and adolescence, indicating the need to address changing influences to prevent and treat these problems.

Please read on to learn more about these and several other interesting studies, contributing to the latest evidence on child and adolescent mental health, which is so important to inform healthcare for young people.

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## 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.





# A history of abuse increases the risk of suicide attempts in youth

By Dr. Jessica Edwards

Researchers in Belgium and the USA have conducted one of the first investigations into whether a history of various forms of abuse and the presence of mood disorders and psychotic symptoms can predict suicide attempts in psychiatrically hospitalized children.

In their retrospective approach, Baptiste Barbot and co-workers analyzed archival inpatient chart data from 101 hospitalized children and adolescents predominantly with bipolar disorder and other mood disorders with and without psychotic symptoms. They found that a history of sexual abuse associated with bipolar disorder, was indirectly related to a history of suicide attempts. A history of emotional abuse was also indirectly related to suicide attempts in boys (mediated by mood disorders) and in girls (mediated by psychotic symptoms). “Put simply, a history of abuse increases the odds of suicide attempts in youth”, explains Barbot. “However, abuse history often has an indirect influence through the increased psychopathology commonly associated with abuse.”

Barbot points out that uniquely, the data used in this study were retrieved and analyzed in the format that they were originally recorded in, in the hospital setting (i.e., not directly designed for research). As such, “real life” data might be valuable for similar research purposes.

Overall, these study findings point to the importance of abuse and sexual harassment prevention programs in schools and the critical need for family support and intervention programs for at-risk, vulnerable children and families. The researchers hope that having access to empirically based studies on suicide risk, as well as detailed patient medical, developmental, biological family and trauma histories will help identify those at risk of engaging in suicidal behaviours and guide subsequent treatment planning.

## Referring to:

Barbot, B., Eff, H., Weiss, S.R. & McCarthy, J.B. (2020), *The role of psychopathology in the relationship between history of maltreatment and suicide attempts among children and adolescent inpatients*. *Child Adolesc. Ment. Health*. doi: 10.1111/camh.12393.



# **BRAVE-ONLINE elicits a strong reduction in anxiety for most young people, irrespective of age, sex, type and severity of anxiety and parent mental health**

*By Dr. Jessica K Edwards*

In the wake of the current coronavirus pandemic, more practitioners are turning to online service delivery for children and adolescents in need of mental health support. The recent JCPP publication from Susan Spence and colleagues on internet-delivered cognitive behaviour therapy (iCBT) for anxious children is thus particularly timely.

Spence et al. invited 175 children (aged 7-18 years) with an anxiety disorder and one of their parents to complete an iCBT intervention known as BRAVE-ONLINE.<sup>1</sup> The children received brief, online therapist support. The researchers collected child- and parent-reported anxiety scores at baseline and at various time points up to 1 year after completing. They found that most young people responded well to iCBT: most completed the program, and showed a strong and significant reduction in anxiety symptoms.

Interestingly, variation in the level of change in anxiety symptoms warranted an examination of predictors of outcome. They thus examined whether they could predict an improvement in anxiety symptoms during and after treatment from a range of child and family characteristics. While the improvements seen in anxiety symptoms occurred irrespective of most of the demographic, clinical and family factors examined, they could predict a slightly poorer response to iCBT if the child lived in a family where the parents experienced a poor relationship quality, or the mother was older rather than younger.

“There are now several controlled research trials showing that iCBT with minimal therapist support, can produce significant improvements in anxiety for children and adolescents presenting with anxiety disorders”, says Spence. “However, we cannot assume that iCBT is suitable for all clinically anxious children and it is important that we identify the characteristics of children who respond well versus those who do not”. Indeed, there are likely to be other factors not investigated in this study that might affect the response to iCBT. For example, the amount of help provided by parents to the child in completing the program, or the presence of conduct or attention deficit disorders, was not assessed at this time. Spence et al. propose that future research might examine whether these factors are potential predictors of the iCBT response for child anxiety.

“Certainly for now, delivering cognitive behaviour therapy using the internet rather than face-to-face offers a way of increasing access to treatment for many young people with mental health problems who would otherwise not receive the help they need”, says Spence. “With the COVID-19 virus not only impacting upon the mental wellbeing of young people, but also restricting the opportunities for receiving clinic-based treatment, the option of effective iCBT for youth mental health is more important than ever.”

#### Referring to:

Spence, S.H., Prosser, S.J., March, S. & Donovan, C.L. (2020), *Internet-delivered cognitive behavior therapy with minimal therapist support for anxious children and adolescents: predictors of response*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13257.

#### References:

<sup>1</sup>Spence, S.H. et al. (2008). *Online CBT in the treatment of child and adolescent anxiety disorders: Issues in the development of BRAVE-ONLINE and two case illustrations*. *Behav. Cogn. Psychother.* 36:411– 430. doi: 10.1017/S135246580800444X.

***“There are now several controlled research trials showing that iCBT with minimal therapist support, can produce significant improvements in anxiety for children and adolescents presenting with anxiety disorders.”***

# Do cybervictimization and face-to-face victimization affect suicide ideation risk in the same way?

By Dr. Jessica Edwards

Data from a new study published in the *Journal of Child Psychiatry and Psychology* suggest that cybervictimization is an important risk factor for concurrent, serious suicidal ideation/attempt throughout adolescence. This risk seems to be independent of prior mental health symptoms, family hardship and face-to-face victimization.

These new findings come from a prospective birth cohort study of >2,000 individuals conducted by Lea Perret and colleagues. The researchers followed these individuals from birth up to 17 years-of-age and collected information on self-reported cybervictimization and face-to-face victimization at ages 12, 13, 15 and 17 years. Sadly, as many as 7-16% of adolescents reported being victimized by their peers via online platforms. This cybervictimization conferred a 2-4 times higher risk of concurrent suicidal ideation/attempt compared to those who had not been victimized online, even after adjusting for face-to-face victimization and other key confounders.

The data from this analysis exposed two interesting paradigms. First, that the risk of concurrent suicidal ideation/attempt was higher in those who experienced cybervictimization than those who were victimized face-to-face. Second, that face-to-face victimization was associated with suicidal ideation/attempt 2 years later. Such an association was not found for cybervictimization.

“This study offers a valuable insight into the short-term effects of being peer victimized in secondary school on suicidal ideation in adolescence”, explains Perret. “Both face-to-face and cybervictimization were independently associated with suicidal ideation throughout adolescence suggesting that both types need to be considered as risk factors for suicidal ideation”. The researchers thus explain that clinicians should systematically ask adolescents whether they have been recently cybervictimized, and whether they have had thoughts of suicide and offer appropriate interventions.

“Anti-victimization prevention efforts at the school level can potentially have an impact in reducing suicidal ideation if this relationship is causal”, proposes Perret. “Some intervention strategies to reduce cybervictimization can be effective by focusing on the victims or the perpetrators, however more research is needed to determine what the best approaches are”.

## Referring to:

Perret, L.C., Orri, M., Boivin, M., Ouellet-Morin, I., Denault, A-S., Côté, S.M., Tremblay, R.E., Renaud, J., Turecki, G. & Geoffroy, M-C. (2020), *Cybervictimization in adolescence and its association with subsequent suicidal ideation/attempt beyond face-to-face victimization: a longitudinal population-based study*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13158.

## Glossary:

**Cybervictimization:** A form of bullying that is expressed through electronic forms of communication such as emails, texts or social media.



# Genetic and environmental influences on callous-unemotional traits vary with age

By Dr. Jessica Edwards

Callous-unemotional (CU) traits – including a diminished ability to feel guilt and reduced concern for other people’s feelings – are often associated with severe and persistent antisocial behaviour. Past research has shown that genetic influences are important in explaining the risk of developing CU traits,<sup>1</sup> but that warm and consistent parenting can buffer the genetic risk.<sup>2</sup> The relative importance of genetic versus environmental influences on the initial risk and trajectory of CU traits, however, is unclear.

This month, Essi Viding and colleagues published their findings from an investigation into the roles of genetic and environmental factors in the development of CU traits from childhood to adolescence. They harnessed data from >8,000 twin pairs from the Twins Early Development Study<sup>3</sup> and assessed CU traits at ages 7, 9, 12 and 16 years reported by mothers.

“We found that genetic factors did not just influence stability, but were also important for developmental change in CU traits”, explains Viding. “Furthermore, we showed that the genes that were important for CU traits in childhood were different from the genes that influenced later development of CU traits”. They also found that child-specific (nonshared) environmental influences were important for shaping how CU traits developed. Again, there was clear evidence for different environmental influences being important at different points in development.

“New genetic and environmental influences with age suggest that repeated, age-tailored interventions may be required throughout development to make a lasting difference in the presentation of CU traits and associated outcomes”, says Viding. “Instead of just focusing on early intervention (which we can think of as inoculation), we may need to target the most vulnerable children with repeated, age appropriate preventative interventions (we can think of these as booster shots), to counter any age specific ‘snares.’”

Going forward, the researchers conclude that additional studies that systematically define age-specific risk factors and identify suitable preventative interventions are required. Such interventions might include parenting programmes for younger children and peer interventions for adolescents.

## Referring to:

Takahashi, Y., Pease, C.R., Pingault, J-B. & Viding, E. (2020), *Genetic and environmental influences on the developmental trajectory of callous-unemotional traits from childhood to adolescence*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13259.

## References:

<sup>1</sup> Viding, E. et al. (2012), *Genetic and neurocognitive contributions to the development of psychopathy*. *Dev. Psychopathol.* 24, 969–983. doi: 10.1017/S095457941200048X

<sup>2</sup> Waller, R. et al. (2018) *Parenting is an environmental predictor of callous-unemotional traits and aggression: A monozygotic twin differences study*. *J. Am. Acad. Child Adolesc. Psychiatry.* 57, 955–963. doi: 10.1016/j.jaac.2018.07.882.

<sup>3</sup> Haworth, C.M.A. et al. (2013). *Twins Early Development Study (TEDS): A genetically sensitive investigation of cognitive and behavioral development from childhood to young adulthood*. *Twin Res. Hum. Genet.* 16, 117–125. doi: 10.1017/thg.2012.91.

## Glossary:

**Callus unemotional traits:** a dimension of psychopathy in which an affected individual displays low empathy, low guilt and no remorse.





# How do early adverse experiences increase the risk for mental health problems?

By Dr. Jessica Edwards

Early adverse experiences can predict a variety of mental health problems later in life, from anxiety to rule breaking behaviour and impulsivity.<sup>1</sup> However, the underlying pathways by which different types of early adverse experiences, increase the risk for mental health problems, are less clear.

One model — the Dimensional Model of Adversity and Psychopathology (DMAP) — hypothesizes that deprivation and threat, impact on psychopathology, through distinct pathways.<sup>2</sup> Indeed, initial tests of this model showed that early childhood deprivation, but not threat, was associated with late adolescent psychopathology, via language ability in early adolescence.<sup>3</sup> It is, however, still unknown whether language ability may link deprivation with psychopathology risk at earlier stages of development.

To address this knowledge gap, Adam Bryant Miller, Laura Machlin and colleagues in the US evaluated a theoretical model that linked early deprivation exposure with psychopathology via language ability. To do so, they analysed data from >2,000 youths enrolled in the Fragile Families and Child Wellbeing Study. They collected data on deprivation and threat (using various indicators) at ages 1 and 3 years and assessed language abilities at age 5 years. Finally, they collected and examined indicators for psychopathology at ages 5, 9 and 15 years. Consistent with the DMAP model, Miller et al. found that the impact of deprivation (from birth to age 3 years), but not threat, on psychopathology, from early childhood to adolescence can be explained, in part, by early childhood language ability.

“These findings highlight language as a potentially unique pathway for deprivation exposure and mental health problems”, says Miller. “Specifically, children who have had high levels of deprivation, such as neglected children or children of parents who don’t have the time and resources to invest in their development at home, may benefit from educational interventions to prevent onset of mental health problems across childhood”. Additional studies that include a more diverse sample and that harness more robust measures of cognitive ability and test for other potential confounders (such as stress exposure) are now warranted.

## Referring to:

Miller, A.B., Machlin, L., McLaughlin, K.A. & Sheridan, M.A. (2020), *Deprivation and psychopathology in the Fragile Families Study: A 15-year longitudinal investigation*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13260.

## See also:

<https://fragilefamilies.princeton.edu/>

## References:

- <sup>1</sup> Keyes, K.M. et al. (2012). *Childhood maltreatment and the structure of common psychiatric disorders*. *Br. J. Psychiatry*. 200, 107–115. doi: 10.1192/bjp.bp.111.093062.
- <sup>2</sup> Sheridan, M.A. et al. (2014). *Dimensions of early experience and neural development: Deprivation and threat*. *Trends Cogn. Sci.* 18, 580–585. doi: 10.1016/j.tics.2014.09.001.
- <sup>3</sup> Miller, A.B. et al. (2018). *Dimensions of deprivation and threat, psychopathology, and potential mediators: A multi-year longitudinal analysis*. *J. Abnorm. Psychol.* 127, 160–170. doi: 10.1037/abn0000331



# How do the ICD-11, ICD-10 and DSM-5 diagnostic classifications of youth irritability and oppositionality compare?

*By Dr. Jessica Edwards*

Earlier this month, Spencer Evans and colleagues published data from their field study comparing the ICD-11 with ICD-10 and DSM-5 in terms of their classifications of irritability and oppositionality in youth. In this study, 196 clinicians from 48 countries were randomly assigned to review one of the three diagnostic systems and to use it to assess validated vignettes describing youths referred for clinical services. Then, the study authors evaluated how well the clinicians identified chronic irritability versus non-irritable oppositionality, episodic bipolar disorder, dysthymic depression and normative irritability, according to their assigned diagnostic system. We asked Dr. Evans, the study's lead author, to explain and provide his opinion on the study findings:

“This study was not about understanding the true nature of psychopathology or evaluating how well a diagnostic system corresponds to that nature. Instead, our focus was on clinical utility”, he says. “We found that, compared to ICD-10 and DSM-5, the ICD-11’s approach to classifying youth oppositionality and irritability may lead to overall more accurate diagnosis of disruptive mood and behaviour problems in youth.” He went on to explain that clinicians who were randomly assigned to use DSM-5 generally did not apply the Disruptive Mood Dysregulation Disorder (DMDD) diagnosis when it was appropriate, and they tended to over-assign mental disorder diagnoses to a case with developmentally normative irritability.

“In terms of implications, I think these findings lend support for the clinical utility of the ICD-11 formulation of irritability and oppositionality, as described in its section on Disruptive Behaviour and Dissocial Disorders”, proposes Evans. “Our results also suggest that mental health professionals may tend to conceptualize Oppositional Defiant Disorder as such, whether it is accompanied by chronic irritability or not, and irrespective of the diagnostic system being used”.

Going forward, the researchers consider that data generated using various different methodologies, such as epidemiological, clinical, behavioural, neuroscientific, and genetic approaches, are now required to better understand and evaluate the ICD-11 formulations of oppositionality and irritability compared to alternatives.

### Referring to:

Evans, S.C., Roberts, M.C., Keeley, J.W., Rebello, T.J., de la Peña, F., Lochman, J.E., Burke, J.D., Fite, P.J., Ezepeleta, L., Matthys, W., Youngstrom, E.A., Matsumoto, C., Andrews, H.F., Medina-Mora, M.E., Ayuso-Mateos, J.L., Khoury, B., Kulygina, M., Robles, R., Sharan, P., Zhao, M. & Reed, G.M. (2020), *Diagnostic classification of irritability and oppositionality in youth: a global field study comparing ICD-11 with ICD-10 and DSM-5*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13244.

### See also:

American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders (5th edn)*. Arlington, VA: Author.

Evans, S. C., Burke, J. D., Roberts, M. C., Fite, P. J., Lochman, J. E., de la Peña, F. R., & Reed, G. M. (2017). *Irritability in child and adolescent psychopathology: An integrative review for ICD-11*. *Clinical Psychology Review*, 53, 29-45. <http://dx.doi.org/10.1016/j.cpr.2017.01.004>

World Health Organization (1992). *The ICD-10 classification of mental and behavioural disorders: Clinical descriptions and diagnostic guidelines*. Available from: <https://www.who.int/classifications/icd/en/bluebook.pdf>

World Health Organization (2020). *International classification of diseases (10th and 11th revisions)*. Available from: <https://www.who.int/classifications/icd/en/>

*Disruptive Mood Dysregulation Disorder (DMDD): The Basics*. From the National Institute of Mental Health. NIH Publication No. 20-MH-8119. Available from: [https://www.nimh.nih.gov/health/publications/disruptive-mood-dysregulation-disorder/20-mh-8119-dmdd\\_160161.pdf](https://www.nimh.nih.gov/health/publications/disruptive-mood-dysregulation-disorder/20-mh-8119-dmdd_160161.pdf)

### Glossary:

**Disruptive Mood Dysregulation Disorder (DMDD):** According to the National Institute of Mental Health, DMDD presents as a childhood condition of extreme irritability, anger, and frequent, intense temper outbursts. Children with DMDD experience severe impairment that requires clinical attention.

**Oppositional Defiant Disorder (ODD):** A childhood disorder characterised by a pattern of hostile, disobedient, and defiant behaviours directed at adults or other authority figures. Many children might display angry and irritable moods, and are often argumentative and engage in vindictive behaviours.



# Mental disorders are under researched yet prevalent in children under 7 years

By Dr. Jessica Edwards

Mira Vasileva and colleagues in Germany and Australia recently compiled a Research Review for the *Journal of Child Psychology and Psychiatry* on the prevalence of mental disorders in children <7 years old. The researchers identified 10, relevant epidemiological studies reporting data on >18,000 children (aged 12-83 months) from 2006 to 2020. These studies captured data from eight different countries. The pooled prevalence of mental disorders in this cohort was 20.1%. Most of these disorders were: anxiety disorders (8.5%), oppositional defiant disorder (4.9%) and attention-deficit hyperactivity disorder (4.3%). Depressive disorders were less common (1.1%). Finally, they estimated that comorbidity was ~6.4%. Overall, Vasileva et al. found that the epidemiology of mental disorders in children <7 years was a neglected area of research. Yet worryingly, a significant number of children in this age group suffer from a mental disorder that requires age-adapted treatment.

## Referring to:

Vasileva, M., Graf, R.K., Reinelt, T., Petermann, U. & Petermann, F. (2020), *Research review: A meta-analysis of the international prevalence and comorbidity of mental disorders in children between 1 and 7 years*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13261.

## Glossary:

### **Oppositional defiant disorder (ODD):**

ODD is a less severe form of conduct disorder characterised by a pattern of negativistic, hostile and defiant behaviour. The disturbance in behaviour causes clinically significant impairment in social, academic or occupational functioning and the behaviours do not occur exclusively during the course of a psychotic episode or mood disorder.



# Poor sleep quality in adolescence might contribute to poor psychological functioning

*By Dr. Jessica Edwards*

Sleep problems affect up to 25% adolescents<sup>1</sup> and have frequently been associated with psychopathology<sup>2</sup>. While these findings suggest that sleep parameters might be targets for intervention,<sup>3</sup> the reported associations are not necessarily causal. Now, Marije Vermeulen and colleagues have investigated whether short and/or problematic sleep truly contributes to psychological functioning.

The researchers asked >12,800 monozygotic twins aged 13-20 years old to complete questionnaires on sleep and psychological functioning. They completed these questionnaires repeatedly, over a 2-year period. Based on their answers, the researchers could divide the cohort into two groups: twin pairs who were concordant or discordant for sleep duration and trouble sleeping. By harnessing this discordant monozygotic co-twin design, the researchers could rule out genetic and shared environmental influences in their analyses. Rather, they could focus solely on whether duration and/or quality of sleep contributed to internalizing problems, externalizing problems and subjective well-being in their cohort.

In cross-sectional analyses, Vermeulen et al. found associations between worse psychological functioning and both short sleep and problematic sleep. These associations seemed to be bi-directional. In longitudinal analyses, they found that an increase in sleep problems experienced by one individual of a twin pair was accompanied by an increase in internalizing and externalizing problem scores by 52% and 25%, respectively. These differences were significantly different from the within-subject changes observed in co-twins with unchanged sleep quality. Interestingly, psychological functioning did not worsen with low sleep duration.

The researchers conclude that problematic sleep might causally contribute to emotional and behavioural problems in adolescence. They propose that sleep quality, not sleep duration, should be the primary target for prevention and intervention on psychological functioning in adolescents.

### Referring to:

Vermeulen, M.C.M., van der Heijden, K.B., Kocavska, D., Treur, J.L., Huppertz, C., van Beijsterveldt, C.E.M., Boomsma, D.I., Swaab, H., Van Someren, E.J.W. & Bartels, M. (2020), Associations of sleep with psychological problems and well-being in adolescence: causality or common genetic predispositions?. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13238.

### References:

- <sup>1</sup> Ohayon, M.M. et al. (2000), Prevalence and patterns of problematic sleep among older adolescents. *J. Am. Acad. Child Adolesc. Psychiatry.* 39, 1549–1556. doi: 10.1097/00004583-200012000-00019.
- <sup>2</sup> Gregory, A.M. et al. (2016). Annual Research Review: Sleep problems in childhood psychiatric disorders – A review of the latest science. *J. Child Psychol. Psychiatr.* 57, 296–317. doi: 10.1111/jcpp.12469
- <sup>3</sup> Winkelman, J.W. (2020). How to identify and fix sleep problems: Better sleep, better mental health. *JAMA Psychiatry.* 77, 99–100. doi: 10.1001/jamapsychiatry.2019.3832.

### Glossary:

**Internalizing problems:** individuals with internalizing problems typically attempt to conceal their maladaptive emotions and cognitions. This internalizing approach can manifest as depression, withdrawal, low self-esteem, anxiety and/or loneliness. Some affected individuals might also exhibit suicidal behaviours.

**Externalizing problems:** individuals with externalizing problems exhibit their maladaptive thoughts and emotions externally. Characteristic behaviours include impulsivity, and antisocial or aggressive behaviours. Adult manifestations of externalizing problems can include alcohol-related or substance-related disorders.



# Should we pay more attention to self-esteem in young people?

By Dr. Jessica Edwards

Researchers in Bordeaux, France have investigated the association between self-esteem (assessed in adolescence or adulthood), with adult academic and psychosocial outcomes. Julie Arsandaux and colleagues recruited 131 high-school students (mean age 11.4 years) who had experienced a mixed level of academic success. After 10 years, the researchers obtained information on academic, socio-professional and health-related outcomes from 100 of the original students. They then used the data to estimate the association between self-esteem at baseline and follow-up, and change in self-esteem (i.e. high vs. low) on all outcomes.

They found that ~38% of the participants experienced a change in their self-esteem over the 10-year period: either a decrease or an increase compared to baseline. A high level of self-esteem in adolescence predicted meeting long-term personal goals, better self-rated physical health and fewer depressive symptoms. A high level of self-esteem in young adults predicted better life satisfaction, less treatment seeking for physical or mental disorders and better self-rated mental health (including fewer depressive or anxiety symptoms).

The effects of self-esteem on negative outcomes depended on how the self-esteem experience changed, as well as the period of life in which the self-esteem difficulties were considered. Notably, self-esteem difficulties in young adults were most highly associated with negative outcomes (such as life satisfaction, alcohol, and health outcomes) in the same period of life. The researchers thus recommend that self-esteem interventions should be implemented across the life span, but most especially focused during young adulthood.

## Referring to:

Arsandaux, J., Galéra, C. & Salamon, R. (2020), *The association of self-esteem and psychosocial outcomes in young adults: a 10-year prospective study*. *Child Adolesc. Ment. Health*. doi: 10.1111/camh.12392.

## Glossary:

**Self-esteem:** In 1965, Rosenberg defined self-esteem as the overall aggregated opinion of oneself at a given time.



# Conflicts of interest are under-reported in autism early intervention research

By Dr. Jessica Edwards

Researchers in the USA have studied, for the first time, the types, prevalence and effects of conflicts of interest (COI) in autism early intervention research. Kristen Bottema-Beutel and colleagues performed a secondary analysis of a meta-analysis of all group-design, non-pharmacological early intervention autism research conducted over a period of nearly 50 years. They analyzed 150 reports for the presence of a COI statement and for eight types of COI. They found that while 70% of reports seemed to have at least one COI, only 6% of reports provided a full COI statement that fully accounted for all potential conflicts. These findings suggest that although COIs are prevalent in autism early intervention research, they are heavily under-reported. However, the researchers found no significant effect of COIs on inflating effect sizes. Going forward, researchers should be aware of and accurately report all COIs that might influence research findings.

## Referring to:

Bottema-Beutel, K., Crowley, S., Sandbank, M. & Woynaroski, T.G. (2020), *Research Review: Conflicts of Interest (COIs) in autism early intervention research – a meta-analysis of COI influences on intervention effects*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13249.



## Depressed young people have lower vitamin B12 and vitamin D levels than their peers

By Dr. Jessica Edwards

Researchers in Turkey have studied serum folate, vitamin B12, homocysteine and 25-OH vitamin D levels in young people with and without depression. Erman Esnafoglu and Deniz Deniz Ozturan recruited 89 children with depression and 43 children without any DSM-5 disorder. They found no difference between the groups in terms of folate levels. However, vitamin B12 and vitamin D levels were significantly lower in those with depression compared to controls, while homocysteine levels were significantly higher.

Based on these results, the researchers considered that vitamin B12 and vitamin D insufficiencies, and raised homocysteine levels, might be involved in the pathogenesis of depression in children and adolescents. Although this possibility is interesting and would have important implications, a cause and effect relationship cannot be confidently concluded from these cross-sectional results alone. Going forward, further research is needed, including longitudinal studies and randomized controlled trials, to better understand these relationships, and to inform whether routine testing or vitamin replacement may be beneficial for young people with depression.

### Referring to:

*Esnafoglu, E. & Ozturan, D.D. (2020), The relationship of severity of depression with homocysteine, folate, vitamin B12, and vitamin D levels in children and adolescents. Child Adolesc. Ment. Health. doi: 10.1111/camh.12387.*



# The costs of childhood ADHD extend into early adulthood

By Dr. Jessica Edwards

Earlier this year, Ebba Du Rietz and colleagues reported their findings from a large-scale, register-based study of the impact of childhood ADHD on healthcare use and costs in early adulthood. The researchers prospectively followed a large cohort of >400,000 young adults from 18 to 26 years-of-age. They obtained data on healthcare use from Swedish national patient and medication registers and then compared the annual costs per capita from multi-morbidity in those with and without a childhood diagnosis of ADHD. They found that a childhood diagnosis of ADHD was associated with greater long-term healthcare use for psychiatric and somatic disorders. This greater healthcare use conferred larger financial costs, with an average annual cost per capita of €890 for those with versus €304 for those without childhood ADHD. Interestingly, even those who no longer used healthcare services for ADHD in early adulthood (remitters) exhibited greater healthcare use and costs due to multi-morbidity than those without childhood ADHD. However, those who continued to have ADHD contact with healthcare services (persisters) had the greatest healthcare use and costs. Du Rietz et al. explain that prevention of multi-morbidity in people with childhood ADHD is needed both to benefit affected individuals and to alleviate the financial burden on society.

## Referring to:

Du Rietz, E., Jangmo, A., Kuja-Halkola, R., Chang, X., D'Onofrio, B.M., Ahnemark, E., Werner-Kiechle, T. & Larsson, H. (2020), *Trajectories of healthcare utilization and costs of psychiatric and somatic multimorbidity in adults with childhood ADHD: a prospective register-based study*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13206.