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**Are social networking
sites contributing
to depression and
anxiety symptoms in
young people?**

Plus

Research
digests from
JCPP and
CAMH



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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.





Are social networking sites contributing to depression and anxiety symptoms in young people?

By Dr. Jessica K Edwards

Earlier this year, Elena Marie Piteo and Kelly Ward conducted a systematic review to examine the relationship between social networking site (SNS) use and depression and anxiety symptoms in young people. Piteo and Ward searched four databases and retrieved peer-reviewed articles examining SNS use in young people (aged between 5 and 18 years) and mental health outcomes published between 2005 and 2019. After initially identifying 1,025 articles, they refined the list to 19 studies for further analysis. From these, they found some evidence for an association between more time spent using SNSs and higher levels of depressive and anxiety symptoms. However, the researchers urge caution as the effect size was small and they deemed many of the studies to be of poor quality due to methodological issues. Additionally, cause and effect cannot be inferred as most studies were cross-sectional. The researchers explain that well-designed, longitudinal studies are now needed to understand the mechanisms by which SNS might affect emotional regulation in young people.

Referring to:

Piteo, E.M. & Ward, K. (2020), *Review: Social networking sites and associations with depressive and anxiety symptoms in children and adolescents – a systematic review*. *Child Adolesc. Ment. Health*. doi: 10.1111/camh.12373.



Can boosting physical activity improve ADHD symptoms in preschoolers?

By Dr. Jessica Edwards

New data suggest that more moderate-to-vigorous physical activity (MVPA) is associated with improvements in inattention (IA), hyperactivity/impulsivity (HI) and peer functioning in preschool children with lower cognitive processing speed (PS). The study researchers, based at the University of Vermont, collected information on MVPA (averaged over one school year), baseline PS, and changes in teacher-rated IA, HI, oppositional behaviours, moodiness and peer functioning in a community sample of 85 preschoolers with high levels of socioeconomic disadvantage. They then performed regression analyses to determine whether MVPA was associated with ADHD symptom and behavioural changes, and whether associations varied by baseline PS.



“Our study findings highlight the possibility that MVPA might be a tool that can be used to reduce preschoolers’ ADHD behaviours and associated impairments, especially for young children at risk for ADHD”, explains lead author, Betsy Hoza. “In addition to addressing problematic behaviours, MVPA is a viable, low-cost means for promoting early childhood health across a variety of domains”

Based on the findings thus far, the researchers consider that randomized controlled trials that explore the impact of different levels of MVPA on ADHD symptoms in preschoolers are now warranted. In addition, parent reports could also be helpful in determining whether similar changes in behaviour also manifest in the home environment. “There are numerous benefits for including structured MVPA in preschool classrooms for all children, but especially for those at risk for ADHD”, says Hoza. “We urge policy-makers and early childhood educators to consider the possibility that structured MVPA might be a low-cost, easily accessible method for reducing ADHD levels and related behaviours in preschool classrooms”.

Referring to:

Hoza, B., Shoulberg, E.K., Tompkins, C.L., Martin, C.P., Krasner, A., Dennis, M., Meyer, L.E. & Cook, H. (2020), *Moderate-to-vigorous physical activity and processing speed: predicting adaptive change in ADHD levels and related impairments in preschoolers*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13227.

“We urge policy-makers and early childhood educators to consider the possibility that structured MVPA might be a low-cost, easily accessible method for reducing ADHD levels and related behaviours in preschool classrooms”





Creating a “SafeSpot” for mental health education in schools

By Dr. Jessica K Edwards

SafeSpot is a digital educational programme that aims to raise awareness of mental health problems and develop helpful coping strategies to improve mental health in young people.¹ The SafeSpot programme combines classroom tutorials delivered by teachers, with a website and a mobile phone app used by pupils, and peer support. Researchers have trialled SafeSpot with 2,320 pupils aged 11-14 years and 90 teachers from six secondary schools in Scotland. Now, Mallika Punukollu and colleagues have conducted qualitative focus groups with 31 of these pupils and 30 of these teachers to investigate their perceptions of SafeSpot.

“The SafeSpot mental health app and website is regularly used with young people in CAMHS in Glasgow, and is very positively received”, explains Punukollu. “In this study, teachers and students also gave positive feedback about the SafeSpot educational mental health curriculum: it normalised the conversation about mental health in school settings and made it easier to access relevant resources and request assistance when needed”. Despite these positive findings, participants thought that certain changes could improve the SafeSpot programme. For example, teachers reported mixed levels of pupil engagement with the SafeSpot resources and proposed that time should be designated to using the app in the classroom setting to improve engagement.

Further work is now needed to evaluate the cost-effectiveness of SafeSpot on the mental health of pupils over a longer period of time and to determine which elements of SafeSpot in particular are most effective. “It is clear that mental health education training should be provided in all schools”, says Dr. Punukollu. “Based on our findings thus far, and in line with the government recommendations for all schools to have mental health education in the curriculum, SafeSpot could be suitable to roll out to schools”.

Referring to:

Punukollu, M., Leighton, E.L., Brooks, A.F., Heron, S., Mitchell, F., Regener, P., Karagiorgou, O., Bell, C., Gilmour, M., Moya, N., Sharpe, H. & Minnis, H. (2020), SafeSpot: an innovative app and mental health support package for Scottish schools – a qualitative analysis as part of a mixed methods study. Child Adolesc. Ment. Health. doi: 10.1111/camh.12375.

References:

¹ *Punukollu, M. et al. (2019), Effectiveness of a pilot school-based intervention on improving Scottish students’ mental health: a mixed methods evaluation. Int. J. Adolesc. Youth. 25:505–518. doi: 10.1080/02673843.2019.1674167.*

See also:

<https://safespot.org.uk>

Do the same mechanisms drive social anxiety in autistic and neurotypical adolescents?

By Dr. Jessica K Edwards

Researchers at King's College London have recently published data on how cognitive, emotional and sensory factors are associated with social anxiety in adolescents with autism. Hannah Pickard and colleagues studied 61 autistic adolescents and 62 neurotypical adolescents who had similarly high levels of anxiety. They collected information on mental health symptoms and several cognitive, emotional and sensory factors using child-reported and parent-reported questionnaires. They also gathered experimental data about interoceptive accuracy – the ability to identify one's own internal body states – using a heartbeat tracking task. Pickard et al. found that in both autistic and neurotypical adolescents, elevated social anxiety was associated with increased intolerance of uncertainty (IU), alexithymia, maladaptive emotion regulation strategies, sensory hypersensitivity and interoceptive sensibility (but not accuracy). They also found that in all adolescents, IU, alexithymia and sensory hypersensitivity mediated the relationship between autistic traits and social anxiety symptoms.

“With regards to the clinical implications, our findings suggest that interventions that focus on targeting specific mechanisms, for example intolerance of uncertainty or sensory difficulties, may be beneficial for alleviating social anxiety in autistic adolescents”, explains Pickard. “Furthermore, given that few differences emerged in the correlates associated with social anxiety in both groups, we suggest that adapting existing effective interventions used in neurotypical adolescents might be fruitful for alleviating social anxiety symptoms in autistic adolescents”. Further research is now needed to better understand the causal mechanisms that contribute towards social anxiety in autism — an area of research that to date, has unfortunately been neglected.

Referring to:

Pickard, H., Hirsch, C., Simonoff, E. & Happé, F. (2020), *Exploring the cognitive, emotional and sensory correlates of social anxiety in autistic and neurotypical adolescents*. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13214.

Glossary:

Alexithymia: difficulty identifying and describing one's own emotions.

Interoceptive sensibility: subjective awareness of one's own internal body states.

Intolerance of uncertainty (IU): negative perception, interpretation, or experience of uncertainty.





Lost sleep contributes to mood disturbances in teens with ADHD

By Dr. Jessica Edwards

Adolescents with attention-deficit/hyperactivity disorder (ADHD) often experience sleep problems¹ and emotional disturbances,² but the causal link between these symptoms has not been tested. Now, Stephen Becker and colleagues at Cincinnati Children's Hospital Medical Center show for the first time that in fact short sleep duration is a causal contributor to affect and mood disturbances in teenagers with ADHD.

The researchers studied 48 adolescents aged 14-17 years with ADHD who had completed a 3-week sleep protocol. During this protocol, the adolescents had a phase stabilization week followed, in a randomized counterbalanced order, by a week of sleep restriction (6.5 hr in bed) and a week of sleep extension (9.5 hr in bed). The participants were monitored during their sleep by objective actigraphy, which confirmed that all participants extended their sleep by at least 1 hr during the extension period compared to restriction. The participants and their parents gave weekly ratings of the participants' anxiety and depressive symptoms and emotion regulation, and daily ratings of the participants' positive and negative affect during the sleep extension and restriction conditions. Becker et al. found that both parents and adolescents reported greater depressive symptoms and lower positive affect during sleep restriction compared to extension; parents also reported greater negative affect and emotion dysregulation during this period.

These study findings indicate that shortened sleep might cause poorer emotional functioning in adolescents with ADHD. "It is clear that youth with ADHD have poorer emotion regulation and more internalizing problems than their peers without ADHD,

and our findings suggest that inadequate sleep might be an important contributor", explains Becker. "As researchers and clinicians work to better understand – and treat – emotional difficulties in youth with ADHD, it will be important to simultaneously consider sleep functioning".

Referring to:

Becker, S.P., Tamm, L., Epstein, J.N. & Beebe, D.W. (2020), Impact of sleep restriction on affective functioning in adolescents with attention-deficit/hyperactivity disorder. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13235.

References:

- ¹Becker, S.P. (2019). The triple threat of sleep, adolescence, and ADHD. In H. Hiscock & E. Sciberras (Eds.), *Sleep and ADHD: An evidence-based guide to assessment and treatment* (pp. 257–294). San Diego, CA: Elsevier/Academic Press.
- ²Becker, S.P., & Fogleman, N.D. (2020). Psychiatric co-occurrence (comorbidity) in adolescents with ADHD. In S.P. Becker (Ed.), *ADHD in adolescents: Development, assessment, and treatment* (pp. 170–203). New York: Guilford.

Glossary:

Actigraphy: the continuous measurement of movement to identify periods of sleep, using a non-invasive, wearable device known as an actigraph.



Occasional cry-it-out has no adverse effects on infant–mother attachment or behavioural development

By Dr. Jessica Edwards

The debate over letting an infant ‘cry-it-out’ or responding immediately has been ongoing for decades. Now, researchers at the University of Warwick have provided important evidence to inform this debate. Ayten Bilgin and Dieter Wolke conducted a longitudinal study involving 178 infants and their mothers. They examined the associations between the frequency of parents leaving their infant to cry-it-out at term, 3 months and 6 months of age and cry duration and frequency at 3, 6, and 18 months. They also investigated the association between the frequency of an infant being left to cry-it-out during the first 6 months of life and attachment type and behavioural outcomes at 18 months. What will likely come as a relief to many parents is that Bilgin and Wolke found no adverse impact of leaving an infant to cry-it-out in early infancy on infant–mother attachment or behavioural development at 18 months. However, they did find that leaving infants to cry-it-out a few times at term was associated with shorter cry durations at 18 months-of-age. The researchers conclude that if used in a safe environment with a parent present, the cry-it-out technique does not seem to have a harmful impact on infants.

Referring to:

Bilgin, A. & Wolke, D. (2020), Parental use of ‘cry it out’ in infants: no adverse effects on attachment and behavioural development at 18 months. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13223.



Shared genetic risk underlies the co-occurrence of ADHD and other psychiatric symptoms

By Dr. Jessica Edwards

Data from twin studies suggest that the co-occurrence of ADHD with other psychiatric disorders is due, in part, to shared genetic risks.¹ Now researchers from Sweden, the USA and the UK have compiled a systematic review and meta-analysis for the *Journal of Child Psychology and Psychiatry* on the strength of this genetic risk. Anneli Andersson and colleagues identified 31 twin studies in the published literature from which they extracted information on the genetic correlations between ADHD and externalizing, internalizing and neurodevelopmental symptoms. The pooled genetic correlations suggested a moderate level of genetic overlap between ADHD and other psychiatric symptoms. Furthermore, these pooled estimates were similar in magnitude across different types of psychiatric symptoms, age groups and methods of assessment. Going forward, Andersson et al. explain that further twin studies investigating similar phenotypes using the same methodology are needed to address the heterogeneity found between individual

studies in this meta-analysis. They also posit that large studies harnessing molecular data will improve our understanding of the shared and specific genetic effects related to ADHD and other psychopathologies.

Referring to:

Anderson, A., Tuvblad, C., Chen, Q., Du Rietz, E., Cortese, S., Kuja-Halkola, R. & Larsson, H. (2020), Research Review: The strength of the genetic overlap between ADHD and other psychiatric symptoms – a systematic review and meta-analysis. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13233.

References:

¹Faraone, S.V. et al. (2019), Genetics of attention deficit hyperactivity disorder. *Mol. Psychiatry.* 24: 562-575. doi: 10.1038/s41380-018-0070-0.

Suicidal ideation in children: is it written all over their face?

By Dr. Jessica Edwards

Over the past 2 decades, the rate of suicide among children aged 10-14 years in the USA has rapidly increased. Now, suicide is the second leading cause of death in this age group in the USA.¹ A study recently published in the *Journal of Child Psychology and Psychiatry*, has investigated how suicidal thoughts might develop in childhood, focusing on the parent-child relationship. Kiera James and colleagues enrolled 353 mother-child pairs to their study, of which 44 pairs included a child with a history of suicidal ideation. They then recorded the facial expressions made by the mother and child during positive and negative discussions, using facial electromyography.

James et al. found that families in which the child had a history of suicidal ideation displayed a reduced synchrony of positive facial affect during positive interactions compared to families without this history. "This finding suggests that the sharing of positive facial affect during what is positive interactions may be a core deficit in families in which the child has experienced suicidal ideation", explains James. "For these families, clinical interventions focused on improving the exchange of positive affect, particularly during positive interactions, might help to reduce future risk". These cross-sectional findings now warrant further investigation and extension in a longitudinal study that comprehensively assesses suicidal thoughts and behaviours in children.

Referring to:

James, K.M., Kudinova, A.Y., Woody, M.L., Feurer, C., Foster, C.E. & Gibb, B.E. (2020), Children's history of suicidal ideation and synchrony of facial displays of affect during mother-child interactions. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13231.

References:

¹Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. (2017). Web-based injury statistics query and reporting system.





Which young people are at greatest risk of repeat admission to psychiatric care?

By Dr. Jessica Edwards

Researchers in Canada have published their latest data on the demographic, socioeconomic and clinical predictors of youth re-admission to inpatient psychiatric services in New Brunswick, Canada. Recently featured in the journal of *Child and Adolescent Mental Health*, David Miller and colleagues compiled a cohort of nearly 4,000 children and adolescents aged 3-19 years from the New Brunswick Discharge Abstract Database, who were admitted to psychiatric hospitals between April 2003 and March 2014. Within the 10-year study period, 27.8% of the cohort were re-admitted at least once; 57.3% of those were re-admitted within 90 days following discharge. Characteristics associated with an increased risk of re-admission included age 11-15 years, male sex, higher socioeconomic status, referral for admission by a medical practitioner, discharge to another health facility, psychosis, and previous psychiatric admission.

“Our findings suggest that youth are at greatest risk of being re-admitted up to and including 90 days post-discharge, and that support structure factors account for a significant amount of variability in readmission likelihood”, describes Miller. “Both of these findings suggest that policy surrounding stabilization and discharge practices, along with community support availability, referrals, and follow-up, likely have an integral role in mitigating the need for youth to return to inpatient care for further psychiatric treatment”.

A key strength of this study is its use of population-scale, longitudinal administrative data. However, a few limitations should be noted: (1) it is unclear whether the index admissions and following re-admissions were related, (2) re-admissions to hospitals outside of the province were not taken into account, (3) not all potential predictors were available from the database, and (4) the study was restricted to New Brunswick, so the findings might not generalize to other areas. “Further study is now needed to better understand the nuanced relationship between key sociodemographic factors (e.g., socioeconomic status, community size) and the likelihood of readmission”, explains Miller. “A more thorough understanding of the ways in which these factors influence youth care-seeking and use could allow for targeting of specific risk factors to provide the most appropriate and timely interventions”.

Referring to:

Miller, D.A.A., Ronis, S.T., Slaunwhite, A.K., Audas, R., Richard, J., Tilleczek, K. & Zhang, M. (2020), Longitudinal examination of youth readmission to mental health inpatient units. *Child Adolesc. Ment. Health*. doi: 10.1111/camh.12371.