EDITORS' NOTE

Editors' Best of 2023

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In our inaugural year as *JAACAP Open*, we are proud to support the dissemination of some of the highest quality research being conducted in our field. Choosing the "best" among stars is a tall order and most certainly misses the many ways articles make an impact: is the "best" the most interesting, most surprising, most educational, most important, most provocative, or most enjoyable? How to decide? This time around, we made some picks based on those that were methodologically rigorous and clinically salient. It is our pleasure to give a special "hats off" to the 2023 articles that we think deserve your attention or at least a second read!

Do Children With Attention-Deficit/Hyperactivity Disorder Symptoms Become Socially Isolated? Longitudinal Within-Person Associations in a Nationally Representative Cohort, Thompson *et al.*

There are times when papers come through the *Journal* that ask what seems like a simple question. But, it requires a complex solution to get to the answer. In the clinic, we often encounter youth with attention-deficit/hyperactivity disorder (ADHD) where the youth or their parent worries that the downstream effect of their symptoms will be to push friends away. When youth with ADHD become socially isolated, their symptoms can then worsen—amplifying the social isolation and the downstream effects of ADHD. Nevertheless, one may ask, is this an effect of the ADHD symptoms, or are there other commonly co-occurring symptoms that account for the social isolation? And, if social isolation is the outcome of ADHD, which symptoms are to blame? Thompson *et al.*[1] sought to understand these associations with as much detail as possible using elegant statistical modeling and a well-described longitudinal cohort from the Environmental Risk Longitudinal Twin Study (E-Risk). Using items extracted from the Child Behavior Checklist, Teacher Report Form, and the revised Rutter parent questionnaire, they examined social isolation, ADHD symptoms, and both prosocial and antisocial behavior in 2,232 British children at ages 5, 7, 10, and 12 while controlling for informant, sex assigned at birth, and socioeconomic status. They found that, indeed, ADHD symptoms were associated with later social isolation and that social isolation was associated with later ADHD symptoms, albeit less so. These effects were most profound for hyperactive-impulsive symptoms and did not appear to be mediated by either prosocial or antisocial behavior as measured. These effects were most profound when examining teacher reports. By using individual stable traits in the models, the investigators were able to carefully dissect which parts of these overall associations were related to baseline characteristics and which emerged over time specific to ADHD (primarily hyperactive) symptoms. These kinds of carefully constructed models with a well-characterized sample represent the best that the field has to offer. Because the traits that we study and treat are so entangled with the lives that children live and their intersection with the environment, we rely on researchers to design studies that allow these effects to be studied. Thompson *et al.* take this approach to inform us about risks in ADHD and allow us to talk with youth and families about this risk while in the clinic. Complicated research that is directly applicable to the clinic: That's what makes this kind of longitudinal research the "Best of" *JAACAP Open.*

Robert R. Althoff, MD, PhD

Substance Use Disorders and Psychiatric Illness Among Transitional Age Youth Experiencing Homelessness, Burke *et al.*

An estimated 3.5 million youth in the United States experience homelessness annually.[2] Youth experiencing homelessness are defined as adolescents and young adults 13 to 25 years of age who live independently of parents/

guardians, yet do not have financial or functional independence to acquire and maintain fixed, consistent, and safe housing.[3,4] Unhoused transitional age youth are a particularly vulnerable population[4] and a population hard to capture given unstable housing/lack of permanent address, potential disruptions in cell phone service, and/or lack of stable caregivers to provide an anchor for youth or point of contact.[3] Compounding these vulnerabilities, unhoused youth are more likely to belong to minoritized communities[2,4,5] with fewer resources[3,6] including poorer access to care such that these youth have accelerated substance use trajectories, greater difficulties accessing and maintaining engagement in mental health treatment,[7–9] and disproportionately high rates of related negative outcomes.[10,11]

Early regular substance use is associated with psychosocial consequences that increase burden of illness and decrease functional outcome, including increased likelihood of other illicit drug use, poorer academic outcomes, justice and medical system involvement, psychiatric comorbidity, and unemployment.[12–15] This is especially true for the 60% to 88% of adolescents with a substance use disorder (SUD) who have a comorbid psychiatric illness.[16] Of concern, rates of comorbidity are highest among adolescents.[16] These youth with dual diagnoses are at even greater risk of substance dependence and poor health and psychosocial outcomes related to substance use.[16]

Burke *et al.*[17] examined prevalence of, and associations between, comorbid SUD and psychiatric illness among 140 primarily minoritized youth aged 16 to 25 years experiencing homelessness. The authors found high rates of cannabis use disorder (CUD) (45%), alcohol use disorder (20%, mood disorders (50%), suicidality (35%), and attention-deficit/hyperactivity disorder (25%). CUD and AUD had high rates of co-occurrence with antisocial personality disorder (85%), attention-deficit/hyperactivity disorder (67%), anxiety disorders and suicidality (65%, respectively) and mood disorders (65%), and severity of CUD and AUD was up to 3 times higher among youth with these psychiatric disorders. While it is not unsurprising that unhoused youth experience higher rates of SUDs and externalizing and internalizing disorders than the general transitional age youth population and that comorbidity is associated with greater severity of CUD and AUD, the >3-fold higher rate of CUD is especially alarming, particularly with the disproportionate rise in ease of access to cannabis and the decline in youth-oriented SUD treatment programs.

The authors note that the cross-sectional nature of this study is a limitation, and indeed homelessness is typically a transient state. The authors also state that the study site, a social service agency, is a limitation due to bias toward help-seeking youth. However, the population captured in this study were 88% minoritized. Minoritized youth are typically underrepresented in studies of this nature despite being overrepresented in vulnerable populations that are least likely to have access to care. It is important to measure risk and resilience factors in minoritized populations to develop targeted interventions and examine implementation strategies for delivery of care.

The research done by Burke *et al.* highlights the importance of working with community partners to capture and engage vulnerable populations in research. These partnerships facilitate access to hard-to-reach populations and establish trust among vulnerable and minoritized populations whose historical trauma with systems may influence willingness to engage with systems of care. We may use these methods as a model for retaining such populations in treatment to reduce disparate outcomes from SUDs and comorbid psychiatric illness. This research further highlights the need to work with communities to understand temporal interactions between mental health, social determinants of health, and mobility to examine how dynamic real-time risk factors and static historical factors differentially contribute to mechanisms of disease and develop and implement psychosocial interventions in complex real-world settings.

Kara S. Bagot, MD

A Randomized Clinical Trial of Technology-Enhanced Family-Focused Therapy for Youth in the Early Stages of Mood Disorders, Miklowitz*et al.*

While the COVID-19 global pandemic caused unparalleled morbidity, mortality, and stress affecting children and families differently across time and intersectional aspects of their identity, a good outcome was the recognition that access to mental health care was important for everyone's whole-person health. Practitioners of all disciplines around the world adapted to the changing environment to embrace the use of telehealth and technology, and insurance covered these services equitably. Now, as we are 6 months beyond the end of the COVID-19 public health emergency, and insurance companies are already backsliding, reducing reimbursement including facility fees that may jeopardize one of the few good things to come from the pandemic, it is important to recognize new research that tested the feasibility and efficacy of the use of telehealth and other wearable technologies to improve access and scalability of child and adolescent mental health care as a vital part of their total health.

In this vein, Miklowitz *et al.*[18] built on substantial evidence showing that family-focused therapy (FFT) can be adapted to meet patients where they are—at home—via the combination of telehealth and wearables. Specifically, FFT is a form of family therapy combining psychoeducation about mental health, communication, and problem-solving skills with the goal of helping families support the identified patient in the family while reducing family criticism and conflict. Randomized controlled trials have shown FFT to be substantially effective as part of treatment for adolescents and adults with bipolar disorder, individuals at risk for bipolar disorder due to having major depression plus a family history of bipolar disorder, and individuals with childhood depression.

Miklowitz *et al.* adapted FFT to include 12 FFT sessions via telehealth over 18 weeks coupled with random assignment to either an app that combined mood tracking, reviews of FFT session content, and text reminders to practice FFT skills or a mobile app that had only mood tracking. They found that 65 adolescents (mean age 15.8 $\pm$ 1.6 years) had significant improvement in depression symptoms over 6 months. However, there were no differences in outcome based on which app they were randomly assigned to receive. Importantly, in both groups, more than 90% of randomly assigned patients completed greater than 75% of planned sessions—showing that telehealth FFT is solidly feasible.

Articles such as this remind us not to forget the lessons of the global COVID-19 pandemic so soon—that people are able to adapt to unimaginable challenges—including child mental health clinicians and researchers such as Miklowitz *et al.*, who ran toward the problem of increasing equitable access to child and adolescent mental health care, a long-standing problem geometrically intensified by direct and indirect effects of COVID-19. We can only hope our legislators and health care funders continue to run toward, rather than away from, this challenge for the sake of all children and adolescents.

Daniel P. Dickstein, MD

Neurodevelopmental Profiles of 4-Year-Olds in the Navajo Birth Cohort Study, Rennie *et al.*

There are a disproportionate number of Native American children who face multiple risk factors for poor developmental outcomes. These include poverty, exposure to environmental toxins, and limited or delayed health care services. To advance understanding of these factors, Rennie *et al.*[19] cataloged the developmental and behavioral phenotypes of young Diné (Navajo) children. This population-based, prospective birth cohort study conducted comprehensive neurodevelopmental assessments in 138 Diné children 3 to 5 years old residing on or near the Navajo Nation and found that almost half of youth in this sample met *DSM-5* criteria for a neurodevelopmental disorder with a high percentage having clinically significant developmental delays. The authors reported that on cross-sectional evaluation, many youth presented with patterns of depressed language performance across measures, while other domains of functioning were similar to normative samples. Although the causes of specific developmental delays and outcomes are still being explored, the preliminary findings reported here signal the potential benefit from timely identification, intervention, and education. However, there are limited resources to conduct comprehensive assessments in the absence of more prospective data. The authors concluded with an appeal that research continues to identify best practices in delineating needs and supporting the development of Navajo youth.

This paper illustrates the potential for critical advancements in our field when we conduct research in historically understudied, excluded, and marginalized populations. In keeping with our commitment to diversity, equity, and inclusivity, we are encouraged by community partnerships with researchers that expand evidence generation for the First Nations people. Not only does the science have the potential to help personalize treatments for First Nations communities, but there are also opportunities for new discoveries (eg, identifying genetic variations that might be common or rare). In a previous Editors' Note,[20] we noted the significant effort it takes for communities and researchers to come together to achieve common goals, especially given the often-requisite skill building in culturally and socially responsive practices needed to do the work successfully and in partnership with marginalized communities that may have natural mistrust of research. Rennie *et al.* are to be commended for engaging to build the trust and partnership needed to advance knowledge in health disparities and inequities. We hope that by highlighting this research on an open science platform many more scholars will be encouraged to pursue similar research questions.

Stacy S. Drury, MD, PhD, FAPA

Cannabis Use Is Associated With Depression Severity and Suicidality in the National Comorbidity Survey-Adolescent Supplement, Hinckley *et al.*

Over the last several years, the legal status of cannabis has changed in many parts of the United States. In some places, cannabis use has been approved for use for medicinal purposes. In other areas, cannabis use has either been decriminalized or legalized. As a result of these changes in

legal status and policy, it is likely that adolescents will be able to access cannabis more readily than previously. For these reasons, characterizing the risks that cannabis use might pose to teenagers is more salient now than in the past. To advance knowledge about this very timely topic, methodologically rigorous studies that contribute to what is known about the risks of cannabis use in teenagers are vital. Hinckley *et al.*[21] provide clinically salient and scientifically relevant information on this topic.

In this paper, the authors evaluated data from the National Comorbidity Survey-Adolescent Supplement. That database contained information on more than 10,000 youths between the ages of 13 and 18 years. Based on the results of their analyses, the authors concluded that adolescents with cannabis use were at greater risk of experiencing major depressive disorder in general as well as severe major depressive disorder in particular. The authors also found that cannabis use and depression were each independently associated with greater risk for suicide attempt.

Besides the timeliness of this study, there are several key strengths to this work. The population was representative of 13- to 18-year-olds in the United States. In addition, the cohort included more than 10,000 youths. Particularly interesting was the fact that the authors specifically assessed whether or not cannabis use was independently related to the odds of a suicide attempt. No study is perfect, and this study does have some limitations. The ability to optimally characterize whether or not cannabis use caused subsequent major depressive disorder (or vice versa) requires a longitudinal assessment. Causal relations could not be evaluated in this work as this study used a cross-sectional study methodology.

All in all, I believe this paper not only provides new scientific information about the potential risks of cannabis use during adolescence, but also reminds the *Journal*'s readership that there is still important clinically relevant knowledge to be learned about cannabis use in teenagers.

Robert L. Findling, MD, MBA

Metformin for Overweight and Obese Children With Bipolar Spectrum Disorders Treated With Second-Generation Antipsychotics (MOBILITY): Protocol and Methodological Considerations for a Large Pragmatic Randomized Clinical Trial, Welge *et al.*

Proven to be highly effective for the management of bipolar spectrum (mania and depressive) disorders, second-generation antipsychotic (SGAs) medications are widely used among youth in America. Parallel to their efficacy is a growing concern about their association with treatment-emergent unhealthy weight gain and adverse metabolic effects. The Metformin for Overweight and Obese Children and Adolescents with Bipolar Spectrum Disorders Treated with Second Generation Antipsychotics (MOBILITY) trial aimed to evaluate the long-term efficacy, safety, and acceptability of metformin as an intervention to mitigate this weight gain.

In this first *JAACAP Open* Study Protocol and Methods Advancement article by Welge *et al.*,[22] the research design and analytic plan is described for the largest clinical trial (up to 1,637 patients were followed for up to 2 years at 64 community and academic mental health treatment facilities) conducted to date in child and adolescent psychiatry. Patients in MOBILITY were randomly assigned to either metformin plus brief healthy diet and exercise education (MET+LIFE) or to healthy lifestyle instruction alone (LIFE) alone, and, taking a pragmatic approach, patients were allowed to switch between treatment arms during follow-up. Pragmatic trials are innovative in that they place few burdens and constraints on participating patients, families, and clinicians, enabling collection of long-term follow-up data in a large and diverse sample. However, the flexibility of the approach generates some important analytic challenges that are addressed in this paper. For example, some patients randomly assigned to LIFE will fail to lose weight, or medication adherence to SGAs may vary, confounding the effect of metformin, or a perceived protective effect of metformin could potentially lead to youth to compensate with poorer diet or activity if they receive metformin. Because traditional statistical approaches may not adequately address these and other issues, the authors describe targeted learning as a novel methodology to address these limitations.

When novel methods are being developed, we want everyone to know how an innovative approach can make an impact. We want to know how these innovations are going to change the way we evaluate and treat youth for the better. Given the thoughtful and innovative approach taken by the entire MOBILITY team, the results of this trial are highly anticipated and will no doubt influence prescribing patterns for strategies to mitigate weight gain and metabolic side effects associated with SGAs.

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