The Therapeutic Reasoning of Physicians

Why are psychotropic drugs, such as antidepressant, psychostimulant, anxiolytic, and antipsychotic agents, increasingly prescribed in North America? Drawing a parallel between the dilemmas facing medicine in the 19th century and those that currently exist in the field of mental health, Johanne Collin, a professor at the Université de Montréal's Faculty of Pharmacy, believes this increase in prescriptions is partly explained by the therapeutic reasoning of physicians.

For much of the 19th century, physicians based their diagnostic and therapeutic approach on the specificity of patients, and not diseases; they considered patients unique and, as such, their treatments were “tailor-made.”

Regarding the treatment of depression today, approximately 80% of antidepressant agents are prescribed by family physicians, whose process of reasoning is similar to how their counterparts approached patients in the 19th century, in that they mostly take into account the situation of their patients, their difficulties, and their specificity.

Psychiatrists manage more complex disorders, such as autism. Although prescription practices in this case are based on complex clinical reasoning, the therapeutic strategies of psychiatrists are directed against specific symptoms and not against mental illnesses as separate entities.

In relation, the Diagnostic and Statistical Manual of Mental Disorders (DSM) represents a nomenclature of mental health that establishes criteria for diagnosing mental health problems. However, successive editions of the DSM have taken less and less account of the patient experience in diagnoses and have lowered the criteria and thresholds for considering that an individual has a mental health problem.


Using Psychedelic Drugs for Suicide Protection

Classic psychedelic agents (e.g., LSD, psilocybin mushrooms, mescaline) have previously been shown to produce lasting improvements in mental health. But researchers wanted to advance the existing research and determine whether classic psychedelic agents are protective regarding suicidal thoughts.

Using data from more than 190,000 respondents of the National Survey on Drug Use and Health from 2008-2012, researchers found that those who reported having used a classic psychedelic drug had a decreased likelihood of psychological distress in the past month and decreased suicidal thinking, planning, and attempts in the past year.

Classic psychedelic agents may hold great promise in the prevention of suicide, and evaluating the therapeutic effectiveness of classic psychedelic agents should be a priority for future research.


Linking Post-Traumatic Stress Disorder to Genes

Scientists from the University of California, Los Angeles (UCLA) have linked two gene variants to post-traumatic stress disorder (PTSD), suggesting that heredity influences an individual’s risk of developing PTSD. Published in the Journal of Affective Disorders, the findings could provide a biological basis for diagnosing and treating PTSD more effectively.

In 1988, an Armenian American raced to Spitak, Armenia, after a 6.8 magnitude earthquake devastated the country. With support from the Armenian Relief Society, he and his colleagues established a pair of psychiatric clinics that treated earthquake survivors for 21 years. A dozen multigenerational families in northern Armenia agreed to allow their blood samples to be sent to UCLA, where the DNA of 200 individuals was combed for genetic clues to psychiatric vulnerability.

In 2012, the team discovered that PTSD was more common in survivors who carried two gene variants associated with depression: COMT and TPH-2, which play important roles in brain function. COMT is an enzyme that degrades dopamine, a neurotransmitter that controls the brain’s reward and pleasure centers. TPH-2 controls the production of serotonin, a brain hormone that regulates mood, sleep, and alertness.

The team used the most recent PTSD criteria from the American Psychiatric Association’s diagnostic
Transgender Children Feel Clearly About Their Identity

A visible and growing number of transgender children in North America live in alignment with their gender identity rather than their natal sex, yet scientific research has largely ignored them. An Assistant Professor of Psychology at Stony Brook University and his colleagues at the TransYouth Project have started the first large-scale, national study of socially supported transgender kids. Their first findings, scheduled for publication in Psychological Science, are groundbreaking.

The study indicates that transgender children are reporting authentic, deep-rooted gender variance and are experiencing a gender identity similar to that of their peers (i.e., they do not seem to be pretending or confused and they seem to have a clear understanding of what that gender identity means).

The study investigated 32 transgender children who are living as their gender identity, 18 of their siblings, and 32 matched-controls (i.e., gender-typical children)—all ages between 5 and 12. The researchers administered the same set of tasks to all participants. Some tasks were easily controlled in terms of responses (e.g., answering what gender they felt like on the inside). Others were harder to control, based on things such as reaction time to computerized tasks, which psychologists believe help clarify an individual’s attitudes and beliefs without his or her responses being potentially contaminated by social desirability biases, the urge to please parents, and more.

The researchers plan to follow these children (and others) longitudinally. The goal is to better understand the experience of transgender children as they age into adolescence and adulthood, monitoring the challenges they face as well as sources of their resilience.


Can Medical Marijuana Help Children With Developmental Problems?

As medical marijuana becomes increasingly accepted, there is growing interest in its use for children and ado-

Psychopathic Offenders Do Not Understand Punishment

Psychopathic violent offenders have abnormalities in the parts of the brain related to learning from punishment, according to a magnetic resonance imaging study. To develop programs that prevent offending and rehabilitation programs that reduce re-offending, it is essential to identify the neural mechanisms underlying psychopaths’ persistent violent behavior.

Twelve violent offenders with antisocial personality disorder and psychopathy; 20 violent offenders with antisocial personality disorder, but not psychopathy; and 18 healthy non-offenders participated in the study. The offenders had been convicted of murder, rape, attempted murder, and grievous bodily harm, and were recruited from Britain’s probation service. While inside a brain scanner, the violent offenders and non-offenders completed a task that assessed their ability to adjust their behavior when consequences of their responses changed from positive to negative. The task was an image matching game—sometimes points were awarded for correctly pairing images and sometimes they were not. Researchers found that the violent offenders did not learn from punishment. The researchers also examined activity across the brain during the completion of the task.

Deciding on what to do involves generating a list of possible actions, weighing the negative and positive consequences of each, and choosing the behavior most likely to lead to a positive outcome. Conduct problems and the antecedents of psychopathy emerge early in life when learning-based interventions have the potential to alter brain structure and functioning. This information is critical to the development of programs to prevent violent criminality.


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Adolescents with developmental and behavioral problems (e.g., autism spectrum disorder [ASD] and attention-deficit/hyperactivity disorder [ADHD]), according to a review in the *Journal of Developmental & Behavioral Pediatrics*. The review was prompted by rapid changes in U.S. marijuana policy, with marijuana being permitted for medical use in many jurisdictions and legalized in others.

Doctors from Boston Children’s Hospital reviewed the important pharmacological properties of cannabis and related compounds, along with data on marijuana use in the population. Adolescents with developmental and behavioral disorders, especially ADHD, may be predisposed to early and heavier substance use. Over time, regular cannabis use by adolescents has been linked to persistent declines in intelligence quotient and increased risk of addiction, major depression, anxiety disorders, and psychotic thinking. The adolescent brain may be uniquely susceptible to the harmful effects of marijuana, reflecting the role of the cannabinoid receptors in normal neurodevelopment. Brain abnormalities in adults who are heavy marijuana users may have their origin in neurodevelopmental changes starting in adolescence.

A number of online groups are advocating the use of “medical marijuana” for children with ASD, ADHD, and other developmental and behavioral conditions. These groups often cite evidence from animal research or a small number of clinical reports to claim beneficial effects of cannabis in children. Those beneficial effects are likely from cannabidiols, which benefit children with uncommon forms of epilepsy and have limited euphoric effects, rather than tetrahydrocannabinol, with its strong euphoric and neurotoxic effects.

If and when studies of cannabis for developmental and behavioral conditions are performed, they will likely use extract formulations of known dosage rather than plant forms of medical marijuana, which vary widely in strength and effects.