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Editorial

## Taking Stock of the Downstream Effects of COVID-19 on Youth Substance Use Risk



Two and a half years into the COVID-19 pandemic, we now have a more solid research base upon which to assess its effects on young people. Early predictions of some protective benefits of the lockdown with regard to substance use risk for the broad population of youth [1] have largely been supported [2]. Indeed, a silver lining of the restrictions was that it highlighted and reinforced certain principles that prevention scientists have long known, for example, that more time spent with family is generally protective while more unsupervised time with peers is generally risky when it comes to youth substance use.

We also know that the pandemic exposed significant vulnerabilities in our social safety net. Opioid overdose rates skyrocketed as vulnerable people were cut off from their limited but necessary healthcare and personal supports [3]. The policies aimed at protecting the population from illness put significant strain on young people's mental and emotional health, social ties, and academic progress [4].

Findings from studies conducted early in the pandemic were mostly broad-based and captured moments in time. As the pandemic progresses, newer studies are exploring its more nuanced and evolving effects with regard to youth substance use.

The new study by Gohari et al. [5] included in this issue makes a significant contribution to our ongoing efforts to understand risk trajectories for youth substance use over the course of the ongoing COVID-19 pandemic. Its longitudinal analysis of alcohol use behaviors among Canadian youth, spanning the prepandemic years and two phases of the pandemic, shows a decline in youth drinking during the initial phase, when stay-at-home mandates were prevalent, with an uptick in the second pandemic year once such restrictions loosened.

This study begins to take the research on the effects of the pandemic to the next level, going beyond general prevalence findings and exploring more granular behavior patterns that shed light on how the pandemic affected and continues to affect youth substance use. For example, Gohari et al. found that the early-stage decrease in drinking escalation was more prominent among less frequent drinkers, supporting the notion that the pandemic-related restrictions may have been most protective for

less vulnerable youth and perhaps not quite as protective for those at a higher risk for alcohol use. Similar patterns have emerged in recent studies of youth cannabis use [6].

Understanding changing patterns in youth substance use over time and across phases of the pandemic is important. As young people continue to contend with its effects on their schooling, social relationships, and mental health, it is also important to systematically explore its more subtle effects related to individual vulnerabilities. At the start of the pandemic, it seemed intuitive to assume that the negative effects on young people would be relatively universal because the worlds of all children were upended. It also made sense that the social distancing restrictions would intensify known risk factors associated with youth substance use, such as for children from socioeconomically disadvantaged or underserved backgrounds who were cut off from critical supportive resources or those living in homes with challenging family dynamics.

Slowly, it became apparent, at least anecdotally, that certain counterintuitive patterns were emerging. Some children who struggled within the normal confines of their structured academic and social systems actually felt freed up by the dramatic changes to everyday life, which allowed them to conduct themselves in a way that was more conducive to their unique individual needs. Others, who tended to function well within the traditional systems, struggled to adjust. Typical classifications for determining who would adapt well versus less well, such as those based on socioeconomic status, were not adequate for accounting for those children who felt less anxious once the structural routines were removed or those who had extra difficulty with the lack of predictability and control that the ever-shifting rules imposed on their social and academic lives.

The usual demographic variables that are included in studies of youth substance use - such as gender, age, race/ethnicity, and socioeconomic status - continue to be important to explore, as evidenced by Gohari et al.'s finding of important gender-based and age-based differences in alcohol use risk over the course of the pandemic. But those differences only scratch the surface of the strengths and vulnerabilities exposed by the circumstances

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See Related Article on p.665

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surrounding the pandemic that likely have considerable sway over young people's substance use behaviors.

To build on the few studies that have explored the influence of a broader range of variables on youth substance use risk in the context of the pandemic [7], a number of variables seem especially worthy of examination, as they may have practical implications for early intervention. At the same time, measurement of other variables might be informative in making predictions about future risk versus protection for the cohort of youth that withstood the most profound pandemic-related disruptions to their social and academic lives.

To better understand the varied effects of the pandemic on the potential for heightened risk of youth substance use, and respond effectively, some key variables to consider examining in future research include:

### Family Dynamics

Being mostly restricted to the home can pose a significant hardship for children living in a family environment characterized by a lack of warmth or support, where there is exposure to adult substance misuse or where a supervising parent or other guardian is absent for extended parts of the day. Likewise, a parent's financial strain or poor health—more common among socioeconomically disadvantaged families during the pandemic—can also result in a stressful home environment that may increase substance use risk for youth.

### Adult modeling of substance use

Living in a home where adults smoke, drink, or use drugs to relieve stress, anxiety, or boredom exposes children to adult modeling of substance use behaviors, especially as a coping mechanism, which increases risk for youth substance use.

### Social isolation

Social distancing can lead to feelings of isolation and loneliness and a lack of healthy social outlets; broken ties to academic, emotional, and mental health supports; and restrictions on the much-needed freedom among youth to express independence and take healthy risks. Although reduced interaction with peers tends to be protective when it comes to youth substance use, for those who experienced intense loneliness or isolation, the risk for substance use may have been elevated.

Conversely, to better understand the nuanced effects of the pandemic on potential protection of youth from substance use, some possible variables to consider examining in future research include:

### Time spent with parents

Decades of research have shown that when it comes to substance use risk, young people generally benefit from more time spent with parents, whether by having meals together, having frequent and open conversations, or having greater parental involvement in their lives. For many families, the pandemic increased the amount of time children spent with parents (and decreased the time spent with peers), potentially offering longer-term protection from substance use for those with generally positive family dynamics.

### School stress

Reduced connection to school is an unintended and negative consequence of remote or hybrid learning among young people, but so is reduced stress among those for whom school presents academic and social challenges that can leave them feeling overwhelmed and anxious. For children whose home is a safe environment, remote learning has partially relieved the stress associated with school and social interactions—a potentially protective effect when it comes to substance use risk.

### Sleep

Learning from home may have alleviated the persistent state of youth sleep deprivation, driven by early school start times and long commutes to and from school, which undermines adolescents' natural circadian rhythms. Abundant evidence associates inadequate sleep among young people to poor mental health outcomes and to an increased risk of substance use [8].

### Reduced access to substances

Reduced access to nicotine, alcohol, and drugs likely resulted from social distancing measures that interfered with in-person shopping, receiving illicit online orders in the mail without parents' knowledge, and being exposed to peers who use, share, or sell substances. The extent to which the effects of these access barriers persist as restrictions loosen might play a significant role in future risk of youth substance use.

### Age of initiation

Because of limitations on substance use access and potentially more oversight by parents during the pandemic, initiation of substance use might have been delayed for a segment of the cohort of youth who typically represent the average age of substance use initiation (about age 14). Such delayed initiation may have beneficial longer-term effects in terms of lower rates of future problem substance use in this cohort because early age of initiation is one of the strongest predictors of such risk over time [9].

Taken together, the work of Gohari et al. and that of others who are pursuing research on the effects of the pandemic on youth substance use is critical for understanding the complex consequences of this unprecedented historical event in the lives of young people. In addition to documenting and understanding its effects, we should seize this opportunity to learn from this natural experiment and be bold enough to apply the lessons learned to improving our approach to substance use prevention.

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