

Likelihood of Illegal Cannabis Sales to Underage Buyers in Minnesota

Eileen Delehanty, MPH, Traci Toomey, PhD
Cannabis Research Center, University of Minnesota

INTRODUCTION

Although there is still much research to be done on the effects of using cannabis, concerns about youth use have been raised. In Minnesota, as in all U.S. states where cannabis is legal for adult use, it is illegal for individuals under age 21 to purchase and use cannabis and for retailers to sell cannabis to those under 21.

For youth, using cannabis may interfere with brain development, potentially increasing the risk of issues such as developing cannabis use disorder, psychosis and memory problems (NIDA 2024). While research continues to explore these risks, it is important to exercise caution and prioritize the safety of youth. Reducing the availability of cannabis, including preventing illegal sales to underage persons, is one way to reduce the number of youth using cannabis.

BACKGROUND

The 2018 Federal Farm Bill

The 2018 Federal Farm Bill defined hemp as cannabis containing no more than 0.3% delta-9 tetrahydrocannabinol (THC), the active compound that produces a "high." After the bill's passage, manufacturers began concentrating the THC in hemp and infusing it into consumable products—such as edibles and beverages—creating an intoxicating effect similar to that of non-hemp cannabis.

The Availability of Hemp-Derived THC Products in Minnesota

In 2022, the Minnesota Legislature introduced restrictions on hemp-derived THC products, including limits on the amount of THC per package (50mg), the amount per unit (5mg) and a minimum purchase age of 21. This legislation codified the legality of hemp-derived THC products in the state. What was once a niche product found in specialty stores quickly became widely available in retail locations across Minnesota, with no licensing or registration system in place to track or monitor these retailers.

In 2023, Minnesota legalized non-medical, adult-use cannabis. Beginning in October 2023, as part of this new law, the state required all retailers selling hemp-derived THC products to register. Unlike other adult-use products like alcohol and tobacco, no restrictions were imposed to limit the types of stores that can register to sell hemp-derived THC products. As a result, hemp-derived THC products became and also remain widely available in a variety of retail settings across the state. This results in the situation where hemp-derived THC products, which can be as intoxicating as other types of cannabis, is less regulated and more available than traditional cannabis products.

METHODS

This study was conducted in one large city in Minnesota from February to October 2023, before the stores selling hemp-derived THC products were required to register. Because there was not an available list of stores selling hemp-derived THC products, our first step was to identify stores that sold these products. We contacted or visited all stores with an alcohol, tobacco, or food license as well as hemp THC dispensaries (stores that primarily sell hemp-derived THC products), vitamin stores and cannabidiol (CBD) stores to determine if they sold hemp-derived THC products.

At stores that reported or were observed to sell hemp-derived THC products, we conducted pseudo-underage purchase attempts. In these attempts, trained research staff who were age 21 or older but appeared under 21 (as determined by a panel) attempted to purchase hemp-derived THC products without showing age identification.

In addition, we assessed if the availability of hemp-derived THC products and likelihood of sales to underage people varied by whether they primarily sold age-restricted products (such as liquor stores, tobacco shops and hemp THC dispensaries) or did not (such as convenience stores, grocery stores, gas stations, CBD stores and vitamin stores).

RESULTS

We contacted or visited 452 stores to determine if they sold hemp-derived THC products. Of these, 149 (33%) reported or were observed to have hemp-derived THC products for sale. Among stores that primarily sold age-restricted products (liquor stores, tobacco shops and hemp THC dispensaries), 69% had hemp-derived THC products for sale. In contrast, 20% of stores that primarily sold non-age-restricted products (convenience stores, grocery stores, gas stations, CBD stores, vitamin stores, and other types of stores) had hemp-derived THC products for sale.

Of the 149 stores that were identified to sell hemp-derived THC products, we were unable to conduct purchase attempts at 24 stores because they either no longer sold hemp-derived THC products (16), were permanently closed (6), had no public access (1) or had changed their name or address (1).

We conducted pseudo-underage purchase attempts at 125 stores. **Of these, 56% sold hemp-derived THC products to our pseudo-underage staff.**

Among the stores that primarily sold age-restricted products (hemp THC dispensaries, tobacco shops and liquor stores), 57% sold hemp-derived THC to a pseudo-underage person. Among stores that did not primarily sell age-restricted products (convenience stores, grocery stores, gas stations, CBD stores, vitamin stores and other types of stores), 54% sold to the pseudo-underage person. Table 1 shows the sales rates by store type.

Table 1: Sales of Hemp-Derived THC Products to Pseudo-Underage Staff by Store Type

Store type	Number of stores	Percentage that sold to pseudo-underage staff
Hemp THC Dispensary	13	77%
Tobacco Shop	41	61%
Liquor Store	21	38%
Convenience Store	18	61%
Grocery Store	18	56%
Gas Station	9	44%
CBD/Vitamin/Other Stores	5	40%

HOW DO THESE FINDINGS COMPARE TO OTHER CANNABIS UNDERAGE PURCHASE ATTEMPTS?

This is the first study to examine the likelihood of sales of **hemp-derived THC products** to underage individuals. There have been a few other studies conducted in other states that had legalized non-medical, adult-use cannabis that examined the likelihood of sales of **non-hemp cannabis products**. Unlike our study, these previous studies focused on the likelihood that youth could purchase cannabis at licensed dispensaries—businesses that exclusively sell cannabis products.

In 2020, researchers found that all of the 50 observed cannabis dispensaries in California refused entry to young-appearing individuals without age identification (Fell et al., 2022). In 2015, 95% of dispensaries in Colorado prevented young-appearing individuals from entering without showing ID (Buller et al., 2016). Under state law, dispensaries in both California and Colorado are required to follow strict regulations to prevent underage purchases, including having security personnel at the entrance to check age identification.

HOW LIKELY IS IT THAT AN UNDERAGE PERSON CAN PURCHASE ALCOHOL?

The likelihood of illegal alcohol sales to underage youth was first assessed in Minnesota in the early 1990s. At that time, the sales rate to pseudo-underage buyers was about 50% (Forster et al., 1995). Throughout the 1990s, communities in Minnesota implemented various efforts to train retailers and implement monitoring programs to prevent sales to underage persons and as of 1998, about a quarter of the retailers (26%) sold alcohol to young-appearing persons (Britt et al., 2006).

A small study conducted in Minnesota in 2022 found that 17 out of 57 businesses (30%) sold alcohol to a pseudo-underage person. This indicates that over the last 25 years, alcohol sales to pseudo-underage buyers have remained relatively constant. While there is still work to do to reduce illegal alcohol sales to underage youth, this study suggests that the likelihood of illegal sales of hemp-derived THC products to youth is much higher.

PUBLIC HEALTH RECOMMENDATIONS

Compliance Checks and Their Effectiveness in Preventing Illegal Sales

Compliance checks are an effective tool for preventing illegal alcohol sales to underage youth. These checks are typically conducted by undercover law enforcement or licensing agents who accompany underage individuals as they attempt to purchase alcohol. If an illegal sale occurs, the server or clerk, and/or the business license holder, may face penalties. It is recommended that license holders, not just their staff, are held accountable for illegal alcohol sales. Research indicates that regular compliance checks—more than once per year—are necessary to maintain their effectiveness over time.

Although the effectiveness of compliance checks has not been evaluated at preventing illegal cannabis sales, it is probable that they would be similarly effective in reducing illegal underage sales at cannabis dispensaries and businesses selling hemp-derived THC products. The Minnesota state legislature has mandated one compliance check per year for all businesses licensed or registered to sell cannabis products (see: [Minnesota Statute 342.22](#)). Communities can choose to implement additional checks as needed, and a toolkit is available to guide this process (see: [Minnesota Cannabis and Lower-Potency Hemp Edible Policy Toolkit | Public Health Law Center](#)). It is essential that compliance checks are conducted systematically to ensure equal probability of all businesses being monitored/checked.

Training and Education for Clerks/Servers

Another common strategy to reduce illegal alcohol sales is training staff and managers in responsible sales practices at alcohol businesses. While training alone has not been shown to be effective in sustained reductions in illegal sales of alcohol (Linde et al., 2016), it is essential that all employees who sell cannabis products are familiar with the law and equipped with the skills to refuse sales to underage individuals. The goal is to ensure that businesses are well-prepared to pass compliance checks and prevent illegal sales.

CONCLUSIONS

This is the first study to conduct pseudo-underage purchase attempts for hemp-derived THC products, and we found a high likelihood of sales of these products to underage individuals. In contrast, previous studies in other states have shown a much lower likelihood of underage sales of non-hemp cannabis at licensed dispensaries. Responsible sales and enforcement practices may help prevent the sales of all cannabis products to underage youth.

REFERENCES

- Britt, H., Toomey, T. L., Dunsmuir, W., & Wagenaar, A. C. (2006). Alcohol sales to underage youth: propensity for and correlates of alcohol sales to underage youth. *Journal of Alcohol and Drug Education*, 25-42.
- Buller DB, Woodall WG, Saltz R, Starling R. Pseudo-Underage Assessment of Compliance With Identification Regulations at Retail Marijuana Outlets in Colorado. *J Stud Alcohol Drugs*. 2016;77(6):868-872. doi:10.15288/jsad.2016.77.868
- Fell JC, Toomey T, Eichelberger AH, Kubelka J, Schriemer D, Erickson D. What is the likelihood that underage youth can obtain marijuana from licensed recreational marijuana outlets in California, a state where recreational marijuana is legal? *Journal of Safety Research*. 2022;82:102-111. doi:10.1016/j.jsr.2022.05.002
- Forster, J. L., Murray, D. M., Wolfson, M., & Wagenaar, A. C. (1995). Commercial availability of alcohol to young people: Results of alcohol purchase attempts. *Preventive medicine*, 24(4), 342-347.
- Linde, A. C., Toomey, T. L., Wolfson, J., Lenk, K. M., Jones-Webb, R., & Erickson, D. J. (2016). Associations between responsible beverage service laws and binge drinking and alcohol-impaired driving. *Journal of alcohol and drug education*, 60(2), 35.
- National Institute on Drug Abuse (NIDA). Cannabis (Marijuana). September 2024. <https://nida.nih.gov/research-topics/cannabis-marijuana>
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The CRC is not advocating for any position and created this summary to be a guide for discussions related to cannabis legalization, regulation, and enforcement. If you have questions about this report, please contact the CRC by emailing cannabisrc@umn.edu.

CONTACT INFORMATION

Cannabis Research Center
Email: cannabisrc@umn.edu
Web: z.umn.edu/CannabisResearchCenter