

New Intoxicating Cannabis Products: Marketing and Public Health Concerns

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Conflict of Interest

• None



Where can you buy THC?

- Assuming you don't have a medical cannabis card...
 - In how many states can you buy intoxicating cannabis products (that can get you "high")?





intoxicating cannabis products sold In all <u>50 States</u> D.C. Puerto Rico

Where can kids buy THC?

Hemp Gummies Are Sending Hundreds of Kids to Hospitals

Surge of THC products, vapes has states struggling to regulate the booming market



Products advertised as containing Dinte-8 THC are sold at a smoke anop. GENE JOHNSON/ASSOC/ATED PHESS

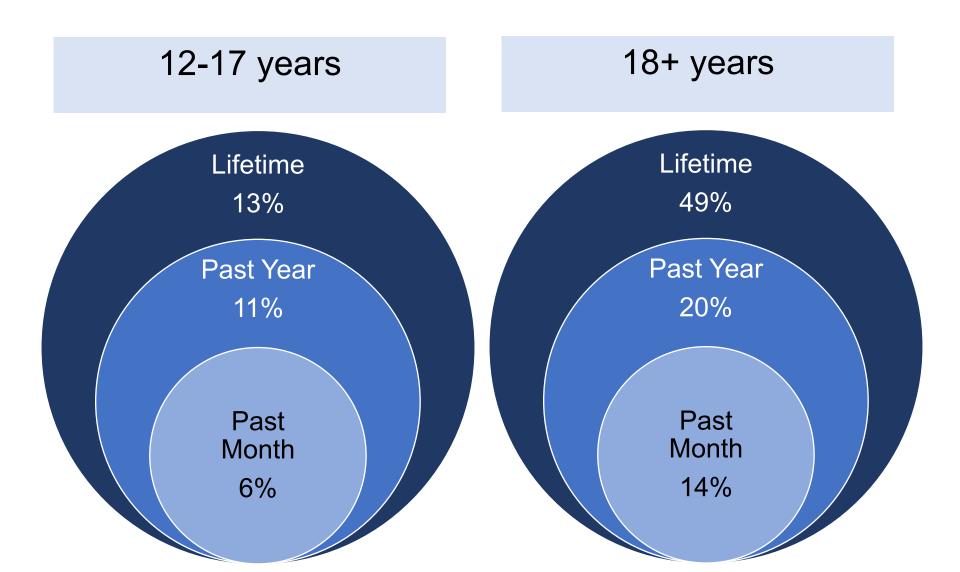
By Let Easley White Follow Duc. 10, 2023 5:30, on ET

FP SHARE NA TEXT

ARR RESPONSES 🛄

Jessica Harris's 15-year-old daughter was walking to her school bus in London, Ky., last

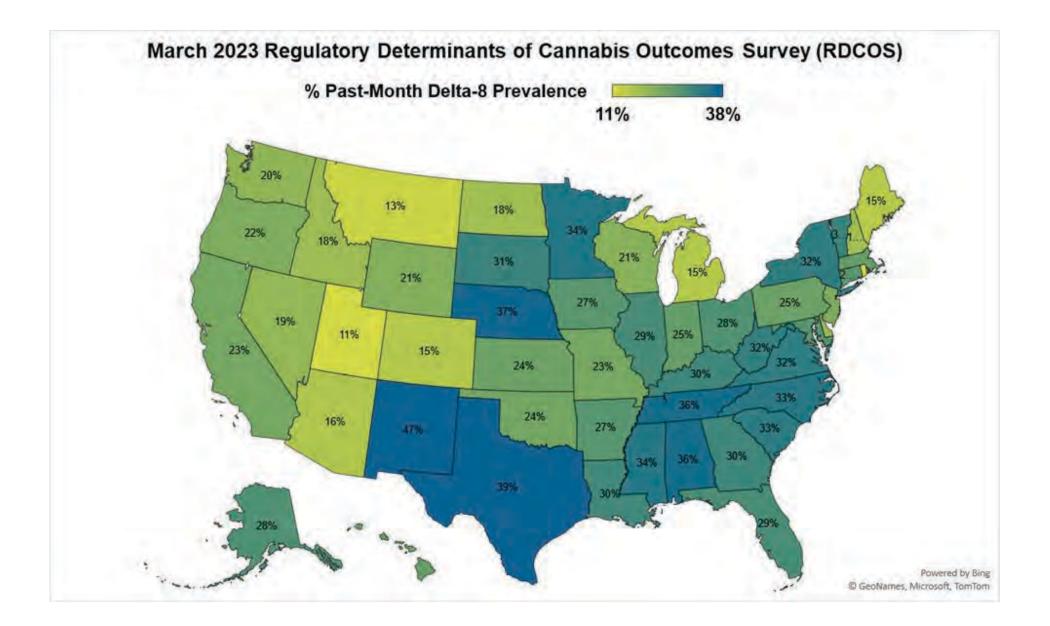
Cannabis Use Prevalence: 2021 NSDUH data



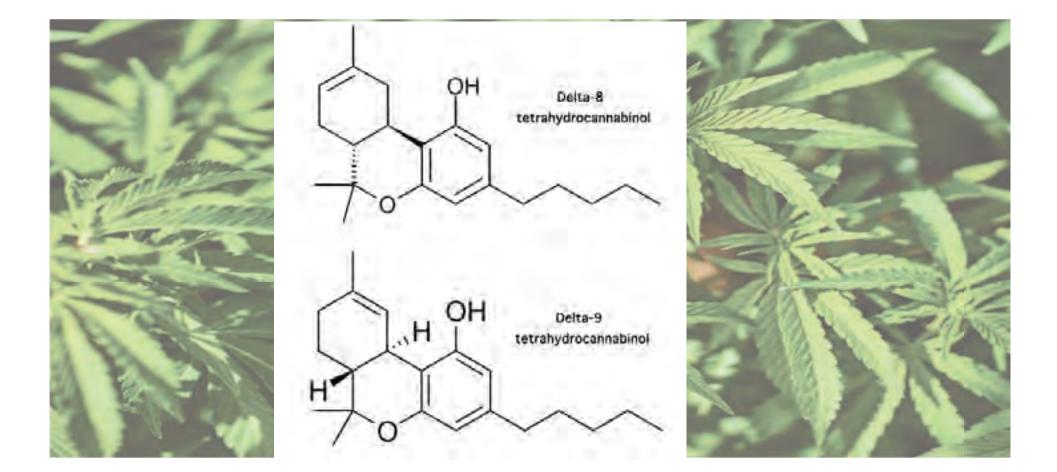
Cannabis Use

Known and Unknown risks





Delta-8 THC vs. Delta-9 THC



Delta-8 THC: Public Health Concerns

- Anecdotally, Delta-8 THC less potent than Delta-9 THC
- Scoping review (103 documents)
 - Most research largely anecdotal, not peer-reviewed and does not involve human subjects
 - No federal regulations on synthesis (resulting in products being contaminated and/or yielding inconsistent effects)
 - No federal age restriction for purchase/possession

Safety standards/quality control, dose, marketing, minimum age

[•] LoParco, C.R., Rossheim, M.E., Walters, S. T., Zhou, Z., Olsson, S., & Sussman, S. (2023). Delta-8 tetrahydrocannabinol: a scoping review and commentary. *Addiction*, 118(6):1011–28. doi: 10.1111/add.16142

Delta-8 THC: Public Health Concerns

Jan 1, 2021-Feb 28, 2022

- 2,362 calls to U.S. Poison Control Centers
 - 41% involved pediatric patients younger than 18
- In addition to injuries and poisonings...
 - Delta-8 THC use associated with self-reported:
 - acute psychiatric
 - respiratory, thoracic, mediastinal, and gastrointestinal (lung, heart, and chest) disorders

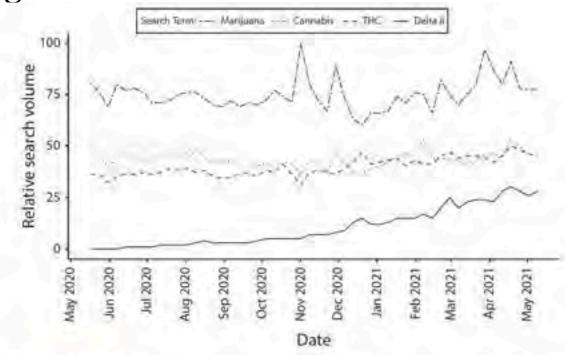
https://www.fda.gov/consumers/consumer-updates/5-things-know-about-delta-8-tetrahydrocannabinol-delta-8-thc

[•] Leas, E.C., Harati, R.M., Satybaldiyeva, N., Morales, N.E., Huffaker, S.L., Mejorado, T., & Grant, I. (2023). Self-reported adverse events associated with ∆8-Tetrahydrocannabinol (Delta-8-THC) Use. Journal of Cannabis Research, 5(15). doi: 10.1186/s42238-023-00191-y

Delta-8 THC: Online Indicators Google

- Before data on use prevalence...
- Google searches as a proxy of interest/potential use
- Interest in Delta-8 THC increased starting June 2020
- By May 2021, for every 3 searches for "marijuana" there was 1 search for Delta-8 THC (35% search volume)
- Greater search volume for Delta-8 THC in states where recreational cannabis was illegal

Livingston, M.D., Walker, A., Cannell, M.B., & Rossheim, M.E. (2022). Popularity of Delta-8 THC on the Internet Across US States, 2021. American Journal of Public Health, 112(2), 296–299. doi: 10.2105/AJPH.2021.306586.



1— The Relative Search Volume of Delta-8 THC Compared With Common Cannabis-Related Search Terms: United States, May 17, 2020-May 9, 2021



Delta-8 THC: Online Indicators



- Global rate of Delta-8 THC searches increased by 257% from 2019 to 2020 and 705.0% from 2020 to 2021
 - In 2021, the rate of Delta-8 THC searches in the U.S. was >10 times higher rates in other countries
- There were 22.3 million Delta-8 THC searches in the U.S. in the first 8 months of 2021 alone
 - Interest in Delta-8-THC greater in US states with stricter cannabis use policies

Delta-8 THC: Online Indicators **Luitter**

Natural language processing on Twitter data (41,828 tweets) Examine discussions using #Delta8 (Jan 1, 2020 to Sept 26, 2021)

- 1- Discussions exhibited a sustained increase in prevalence
 - Original tweets rose from 9 to 149/day
 - This largely followed a high-engagement retailer promotion in June 2021
- 2- Communication about Delta-8 THC was mostly positive
 - Sentiment classification support mostly positive communication: more "positive" (31%) and "trust" (14%) categorization, than "negative" classification (8%)
- 3- Online retailers playing a dominant role
 - Appears to be a growing presence of retailer marketing and sales on social media

Delta-8 THC: Online Indicators SouTube

Qualitative analysis 47 YouTube videos

- 3 had age restrictions; 23 promoted use, 20 discouraged use
- Some mentioned products may be mislabeled
- Some recommended not buying from gas stations and not driving after using
- Reasons given for using Delta-8 THC included legality, to help with anxiety or pain, and provide a milder high:
 - "[Delta-8] brought in a whole new wave of stoners who couldn't smoke because Delta-9 just did too much for them"
 - Effects described as psychoactive or euphoric, but without producing anxiety ("work weed")

Online Survey

- Driving under the influence of alcohol, cannabis, and Delta-8 THC
 - Among those with past year use of each, the proportion of those driving under the influence of Delta-8 THC was highest
 - Consistent with marketing as 'diet weed'

Delta-8 THC: Use

- 2021 <u>convenience sample</u> of past 30-day cannabis users (not generalizable to U.S. population)
 - $\approx 17\%$ of past 30-day cannabis users in their sample reported past 30-day use of Delta-8 THC
 - Most common method was <u>vaping</u> concentrated formulations of Delta-8 THC (41%)
 - Primary motivations for use: legal status and perceived therapeutic benefits
 - <u>Males</u> more likely than females to use (aOR = 1.4)
 - <u>State restrictions</u> on Delta-8 sales associated with lower odds of use (aOR = 0.7)

Livne O, Budney A, Borodovsky J, Walsh C, Shmulewitz D, Fink DS, Struble CA, Habib M, Aharonovich E, Hasin DS. (2022). Delta-8 THC use in US adults: Sociodemographic characteristics and correlates. *Addictive Behaviors*, 133:107374. doi: 10.1016/j.addbeh.2022.107374.

Delta-8 THC: Retail Assessment

2021 Retail assessment: contacted 1,223 stores with alcohol, cannabidiol, and/or tobacco licenses in Fort Worth

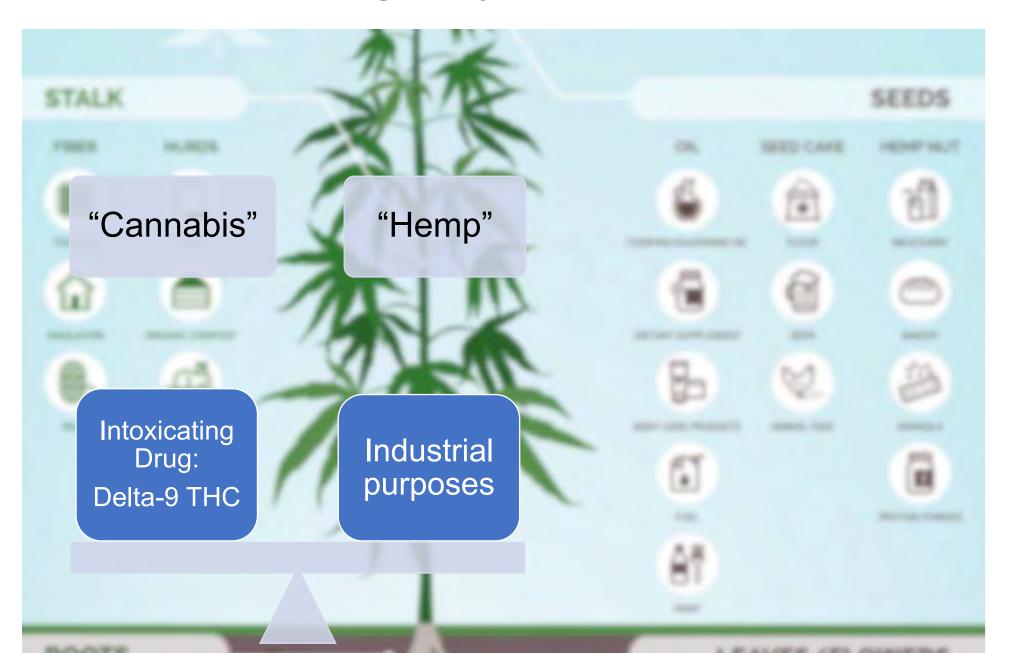
- 131 stores selling Δ8 THC: <u>low retail prices</u>
 - 96% sold vapes and/or "flower" (i.e., hemp leaves coated with Delta-8 THC distillate)
 - 76% sold edibles
- Edibles were available less expensive than flower/vapes
 - least expensive product was \$8.58 less on average
- Outlets that sold Delta-8 THC were located in areas with greater socioeconomic deprivation
- Most reported a minimum purchase age of 21
 - however, 4% reported 18 years or no minimum age

Rossheim, M.E. LoParco, C.R., Walker, A., Livingston, M.D., Trangenstein, P.J., Olsson, S., McDonald, K.K., Yockey, R.A., Luningham, J.M., Kong, A.Y., Henry, D., Walters, S.T., Thombs, D.L., & Jernigan, D.H. (2022). Delta-8 THC Retail Availability, Price, and Minimum Purchase Age. Cannabis and Cannabinoid Research. doi: 10.1089/can.2022.0079

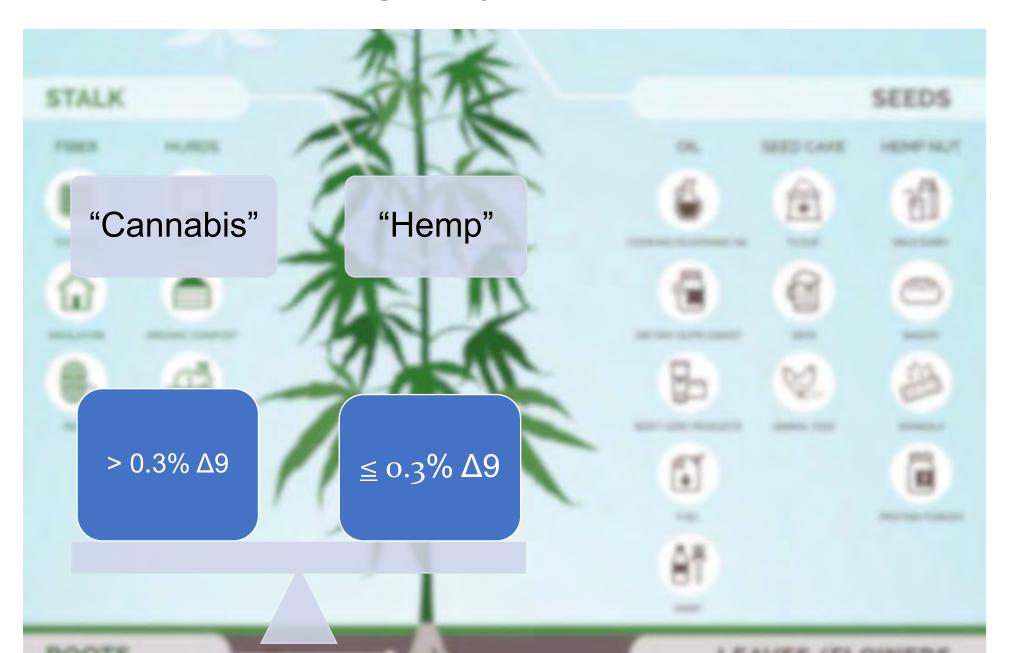
Delta-8 THC: Online/Youth Access

- Online Purchases of Delta-8 THC (n=8)
 - Easily accessible online
 - Age verification methods are <u>self-reported</u> and <u>easily circumvented</u>
 - Contact with the customer was never requested at the point of home delivery
 - Policies and their enforcement are needed to prevent youth access from online sources
- 65 students in one Texas ISD caught with THC vapes 2022-2023 school year:
 - Some used Snapchat & cash apps
 - Egan KL, Villani S, Soule EK. Absence of Age Verification for Online Purchases of Cannabidiol and Delta-8: Implications for Youth Access. J Adolesc Health. 2023 Mar 2:S1054-139X(23)00067-8. doi: 10.1016/j.jadohealth.2023.01.020.
 - https://www.cbs19.tv/article/news/local/65-students-charged-with-felony-for-bringing-thc-vape-tyler-isd-campuses/501-9bfbc945-6150-4f49-ad62-41114cef6db6

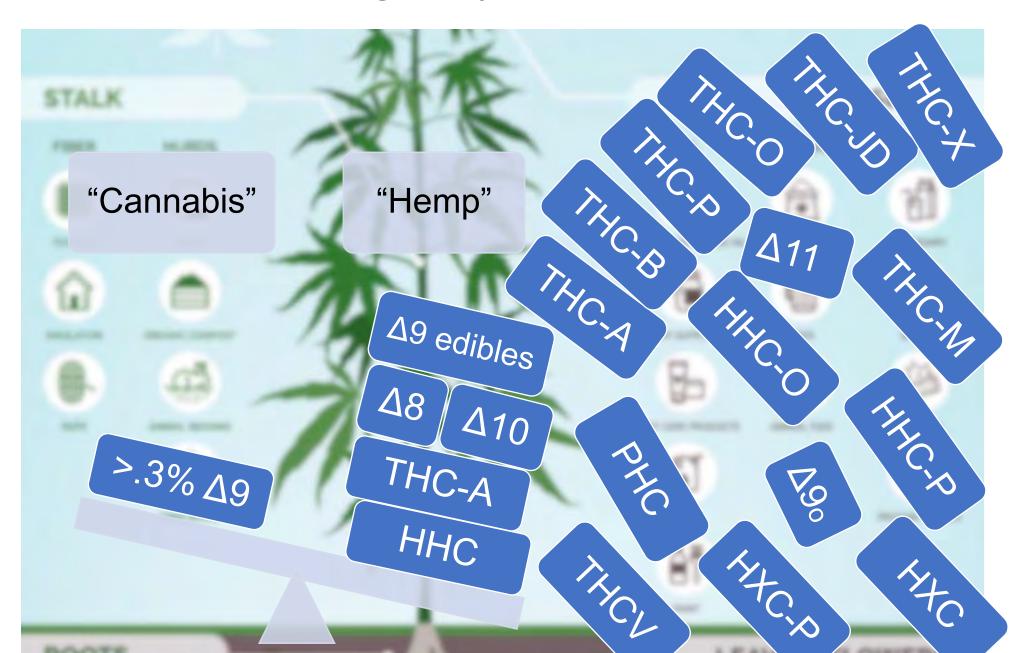
Federal Legality: 2018 Farm Bill



Federal Legality: 2018 Farm Bill



Federal Legality: 2018 Farm Bill



State Laws

Delta-9 THC

🔮 Legalized 🕘 Medical and Decriminalized 💿 Medical 🌕 Decriminalized 👘 CBD with THC Only 😐 Fully Illegal



Last fact-checked on October 37, 2023, by Neil Willner, co-chair of the RCCB law Rinns canneble group. Source: CBD Oracle - Get the data - Embed - Downpart Image - Desteil with Dataerapper

EDITORIAL

Delta-8, Delta-10, HHC, THC-O, THCP, and THCV: What Should We Call These Products?

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^aDepartment of Health Behavior and Health Systems, University of North Texas Health Science Center, Fort Worth, Texas ^bDepartment of Anthropology, College of Liberal Arts & Social Sciences, University of North Texas, Denton, Texas ^cAlcohol Research Group, Public Health Institute, Emeryville, California

ABSTRACT. The 2018 U.S. Federal Agriculture Improvement Act ("Farm Bill") resulted in what some have called a "legal loophole" in cannabis regulation. As different types of cannabis products proliferate, so has the terminology used to attempt to categorize them. This article presents a variety of potential descriptors to encourage dialogue about the language used to classify the multitude of psychoactive cannabinoid products that have grown in popularity since the passage of the 2018 Farm Bill. Our recommended term for these products is *derived psychoactive cannabis products*. The term *derived* helps distinguish these products from naturally grown cannabis products. *Psychoactive* makes

clear that these products can produce psychoactive effects. Finally, canuabis products balances accuracy and understandability regarding the substance while discouraging perpetuation of the word marijaana because of its racist inception. The resulting term, derived psychoactive cannabis products, is broad enough to encapsulate all related products while being specific enough to exclude other substances. Adopting accurate and consistent terminology will reduce confusion and help establish a more cohesive scientific literature base. (J. Stud. Alcohol Drugs, 84, 000–000, 2023)

Derived Psychoactive Cannabis Products (DPCPs)

- **Derived**
- Synthetic Isomer
- Semi-synthetic New
- Chemically *rearranged*
- Manufactured
- *Laboratory* derived

Balances accuracy and understandability

- Cannabis derived
- Hemp Derived

- Psychoactive
 Cannabis

- Novel

- **Product**
- THC
- Cannabinoids
- Marijuana

Derived Psychoactive Cannabis Products

Delta-8 THC

а.

What do they look like?

4

Al generate images: Delta-8 THC



AI: Derived Psychoactive Cannabis Products



Marketed to a younger adult demographic



More flavorful, colorful, cartoon like



What do they actually look like?

• Any issues around product marketing?











Delta-9 THC

PEACH PEAK

400mg

ALL SOTTLE















HHC

HF







Smoke Shop Retailers:

"We basically sell the whole darn alphabet"

"We have more blends than stuff on its own"

Alleged strength compared to Δ -9

<u>Weaker</u>

- Delta-6 THC
- Delta-8 THC
- Delta-10 THC

- <u>Stronger</u>
- PHC
- THC-O
- Delta-11 THC
- THC-H
- THC-JD
- THC-P
- HHC-P

Blends





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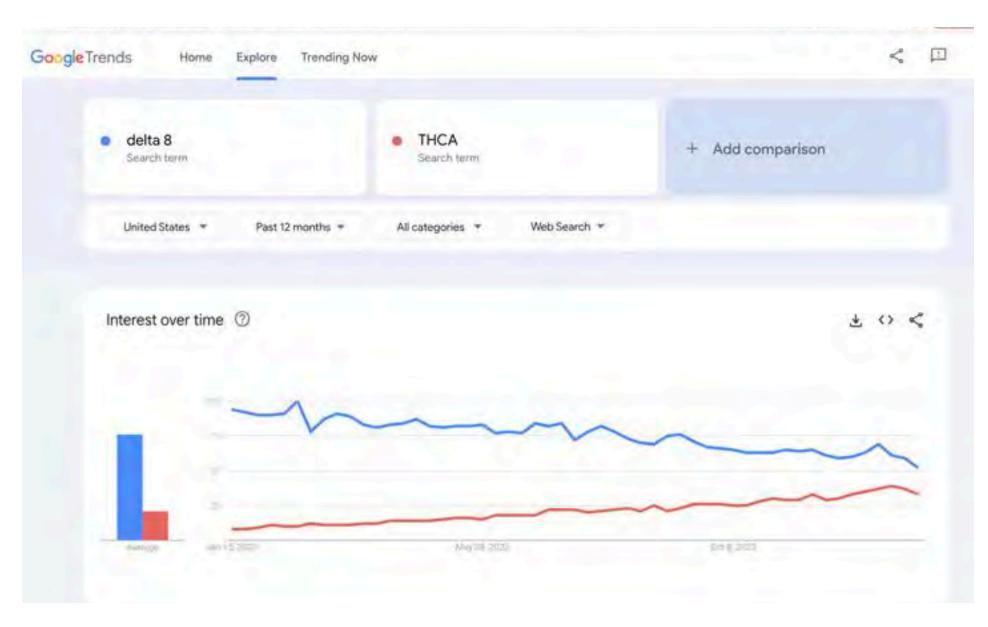


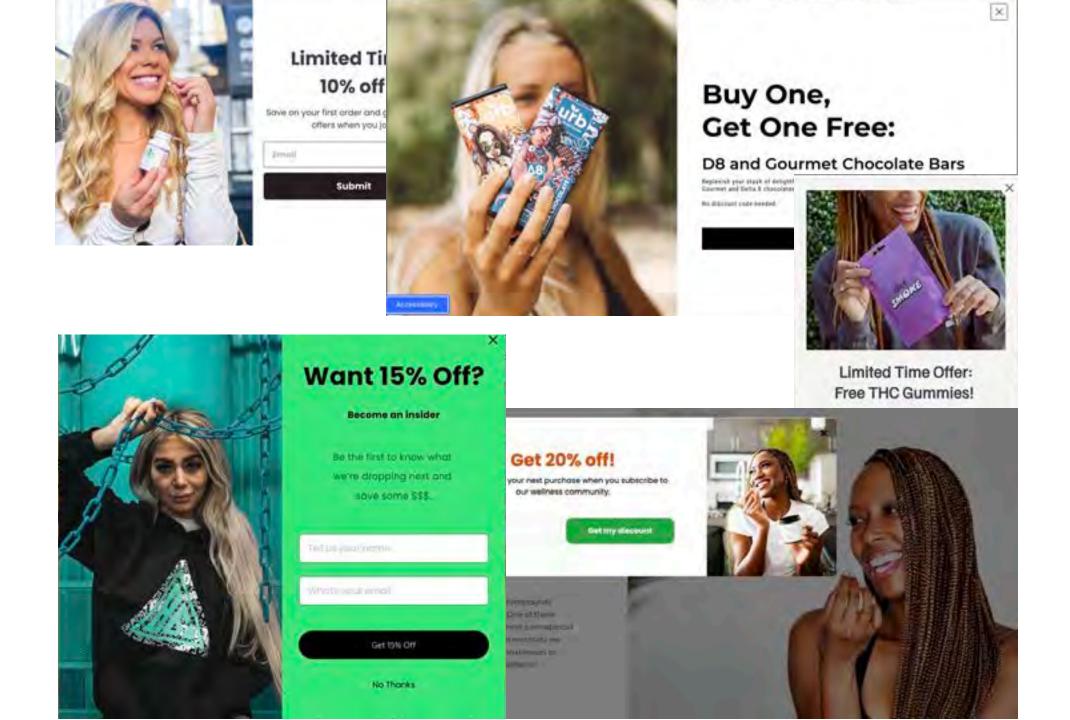


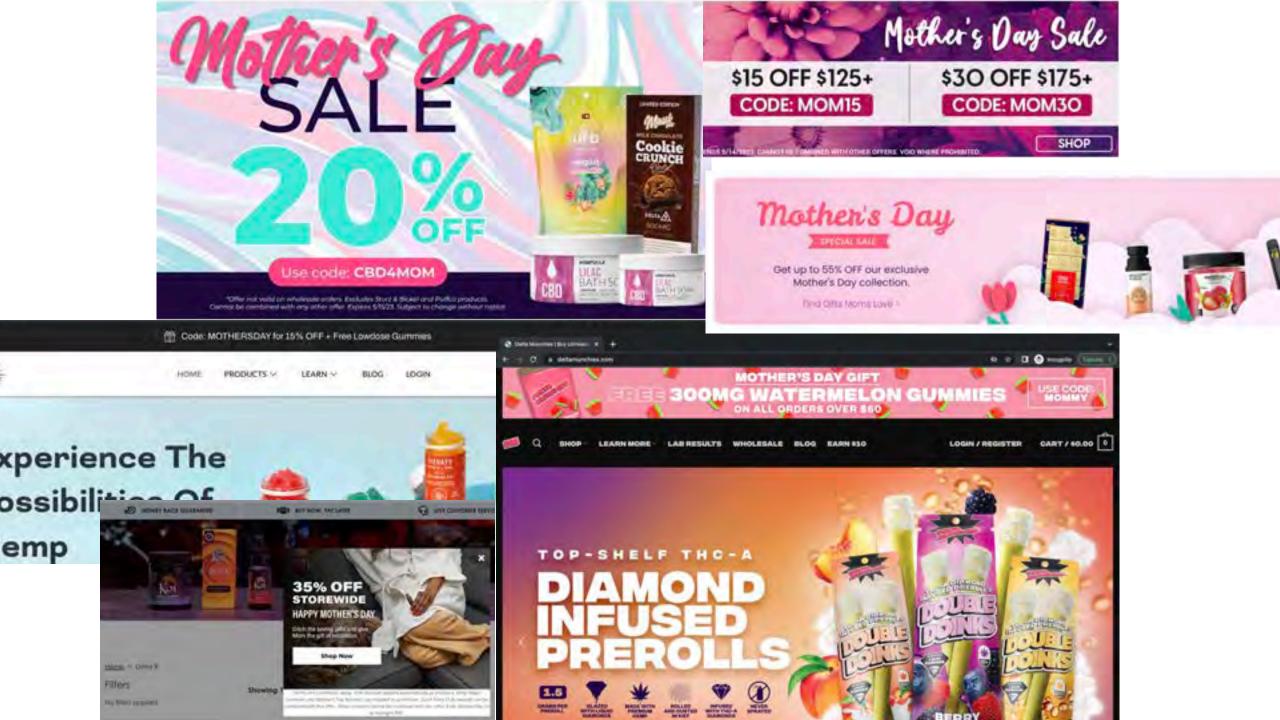




THCA said to be closest to $\Delta 9$







Methods

- Google "buy delta thc" in incognito mode
- Downloaded top 100 results using resultstoexcel.com
- Used SimilarWeb to compare web traffic: top 3 sites

Rossheim, M.E., <u>Tillett, K.K.</u>, <u>Vasilev, V.</u>, LoParco, C.R., Berg, C.J., Trangenstein, P.J., Yockey, R.A., Sussman, S.Y., Siegel, M., & Jernigan, D.H. (in press). Types and Brands of Derived Psychoactive Cannabis Products: An Online Retail Assessment, 2023. *Cannabis and Cannabinoid Research*.

Results

- 26 distinct intoxicating compounds
 - Are these actually distinct compounds or just marketing?
- Overall, most products (54%) were blends, containing 2 to 8 different intoxicating compounds in a single product
 - There were **185 different combinations** of intoxicating compounds contained within these 804 products
 - There is little understanding of the health effects from using these compounds in these various combinations.

Results

- 26 distinct intoxicating compounds including:
 - Delta-8 THC
 - THC-P
 - Delta-9 THC
 - HHC
 - THC-A
 - Delta-10 THC
 - THC-H
 - THC-B
 - THC-JD
 - THC-X
 - HHC-P
 - Delta-11 THC

There were **185 different combinations of intoxicating compounds** contained within these 804 products.

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Results

Modalities included

- disposable vapes (43%)
- edibles (29%)
- vape carts (18%)
- pre-rolls (7%)
- flower (2%)
- dabs (1%)
- vape pods (<1%)

Results

- Among the 118 brands, the most common were:
 - Exhale
 - Delta Extrax
 - Cake
 - URB
 - Looper
 - TRE House



















































TRE

Who's the Target Demographic?

- For vaping Tre House brand Ice Cream Cake flavor?
 - Is this what you imagine?



Effective Regulations?

- Can we effectively regulate these products?
 - How if we don't know all the harms?
 - From each compound individually as well as in multitude of combinations sold

2024 Farm Bill

- Opportunity to address the unintended consequences of the 2018 Farm bill
 - What's going to happen in each state???

Research Publications

Rossheim, M.E., <u>Tillett, K.K.</u>, <u>Vasilev, V.</u>, LoParco, C.R., Berg, C.J., Trangenstein, P.J., Yockey, R.A., Sussman, S.Y., Siegel, M., & Jernigan, D.H. (in press). Types and Brands of Derived Psychoactive Cannabis Products: An Online Retail Assessment, 2023. *Cannabis and Cannabinoid Research*.

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Rossheim, M.E. LoParco, C.R., Walker, A., Livingston, M.D., Trangenstein, P.J., <u>Olsson, S., McDonald, K.K.</u>, Yockey, R.A., Luningham, J.M., Kong, A.Y., Henry, D., Walters, S.T., Thombs, D.L., & Jernigan, D.H. (2022). Delta-8 THC Retail Availability, Price, and Minimum Purchase Age. *Cannabis and Cannabinoid Research*. doi: 10.1089/can.2022.0079

Walker, A.L., LoParco, C.R., Rossheim, M.E., & Livingston, M.D. (2023). #Delta8: A retailer-driven increase in Delta-8 THC discussions on Twitter from 2020 to 2021. American Journal of Drug and Alcohol Abuse, 49(4):491-9, doi:10.1080/00952990.2023.2222433

LoParco, C.R., Rossheim, M.E., Walters, S. T., Zhou, Z., Olsson, S., & Sussman, S. (2023). Delta-8 tetrahydrocannabinol: a scoping review and commentary. *Addiction*, 118(6):1011–28. doi: 10.1111/add.16142

Henry, D., Partin, K., <u>LoParco, C.</u>, & Rossheim, M. (2023). The Hemp-Derived Cannabinoid Industry and the Potential of Self-Regulation: Using Social Media to Assess an Evolving Health Risk. *Social Science & Medicine*.

Livingston, M.D., Walker, A., Cannell, M.B., & Rossheim, M.E. (2022). Popularity of Delta-8 THC on the Internet Across US States, 2021. *American Journal of Public Health*, 112(2), 296–299. doi: 10.2105/AJPH.2021.306586.

LoParco, C.R., Olsson, S.E., Greene, K.M., Livingston, M.D., Henry, D., Trangenstein, P.J., Walker, A., & Rossheim, M.E. (2022). How are retailers describing Delta-8 THC? A mixed-methods study in Fort Worth, Texas. *Journal of Studies on Alcohol and Drugs*, 84(2):298-302. doi: 10.15288/jsad.22-00287

LoParco, C.R., Olsson, S., Sekhon, V., McDonald, K.K., Yockey, R.A., Livingston, M.D., Trangenstein, P.J., & Rossheim, M.E. (2023). Associations between Delta-8 THC and Four Loko retail availability in Fort Worth, Texas. *Health Behavior Research*.

Derived Psychoactive Cannabis Products (DPCPs): An Overlooked Threat to Public Safety

hsc ** School of Public Health

What are Derived Psychoactive Cannabis Products (DPCPs)?

DPCPs have psychicactive properties similar to cannabis, but they are chemically derived, not grown.

Because of a loophole created by the 2018 Farm Bill (i.e., Agriculture improvement Act), these compounds are regulated as "hemp" despite their psychoactive properties (because they have 4 0.3% A-9 by weight).¹⁴⁷ This loophole also legalizes A-9 THC edibles, as the product weight allows for a high dose of THC.¹ One in six past-month cannable

users (17%) used &-8 THC, the first

DPCP to enter the market.4



Most status do not require testing for chemical contaminants, even though DPCPs are commonly synthesized using harsh solvents known to be hazardous to human health. Potency limits are rare, despite conclusive evidence that more potent products carry higher risk of harms.¹ Research supports that DPCP use is associated with acute psychiatric, lung, chest and heart disorders, as well as injuries

and poisonings.1

DPCPs carry risk of harm,

especially to young people 13-7

DPCPs are also very new, so we don't know all the short- and long-term risks from use.1 DPCPs are consumed accidentally by children, as evidenced by the large number of calls to Polson Control Centers involving minors because of poor labeling and a lack of child-proof containers." These products are marketed to young people. Some DPCP product packaging mimics well-known food brands that appeal to children. Including Cap'n Crunch, Cocoa-Puffs, Froot Loops, Nerds Ropes, Starbursts and Sour Patch Kids. among others.*

DPCPs are available in every state, including those that have banned certain DPCPs such as &-8 THC.¹⁰ This is because the loophole allows for the continuous engineering of new types of DPCPs, including &-6 THC, &-10 THC, &-11 THC, THC-A, THC-0, THC-P, THC-Y, THC-JD, PHC, HHC, HHC-P and HXC.⁷

Availability and Access

Some of these new DPCPs are marketed as being far more potent than cannebls. DPCPs are easy to buy online: age verification measures are rarely used and easily circumvented.⁴ in many states, there are no age taxes, so it is up to the retailers whether to aeit DPCPs to children.⁴⁴

DPCPs are marketed in ways that are extremely likely to attract children, such as added in candy, chips and chocolates. DPCPs are inexpletsive (sometimes < 55), and stores are disproportionately located in low-income areas.⁴

No psychoactive drug should be sold as "hemp."

The 2023 Farm Bill should close the loophole that helps kids access unregulated, psychoactive candy.

Questions or concerns? Please contact: Platthew.Rdsthelm=unthic edu

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HSC - Derived Psychoactive Cannabis Products



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Questions

- The 2024 Farm Bill and state laws should help reduce availability of these products. In the interim:
 - How prevalent is the use of each DPCP?
 - Are our cannabis-related survey instruments and biological tests valid for assessing the use of these various DPCPs?
 - How do the effects of these various DPCPs (and their combinations) compare to traditional THC products in terms of their potency, as well as their mental and physical health effects (short- and long-term)?
 - In addition to young people, are there specific patient populations that should be particularly cautious about using DPCPs?
 - What strategies should public health advocates/healthcare providers employ to inform communities/patients about related risks?











Questions?

- Matt Rossheim, PhD, MPH, CPH
- Matthew.Rossheim@unthsc.edu





Thank you!

To join the Pacific Southwest ROTA-R mailing list please visit psrota-r.org

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