

Too Scientific; Didn't Understand!

Let me explain!

Can we measure cannabis exposure through hair – and does it match what people self-report?

Why?

Cannabis is becoming **legal in more places**, and products are **getting stronger**. Hence, we need reliable ways to measure **how much cannabis** someone has actually been exposed to. Self-report questionnaires are commonly used, but may not always be accurate.

Hair analysis offers a **biological alternative**: cannabinoids - the main components of cannabis - accumulate in hair over time, giving a window into someone's recent exposure. **But how well can we measure cannabis exposure in hair?**



What & How?

We recruited **74 near-daily cannabis users** who provided **hair samples** and completed **questionnaires about their use** – including how much they used, how potent they estimated their cannabis to be, and problems with use such as withdrawal and craving.

From the hair samples, we measured **concentrations of different cannabinoids**: THC (the main psychoactive component), CBD (the main non-psychoactive component), and CBN (a minor cannabinoid). Cannabis use was also verified through urine screening.

WHAT DID HAIR THC LEVELS CAPTURE?

LINKED TO HAIR THC

Self-reported potency:

- Relative potency
- Potency category
- Perceived high

NOT LINKED TO HAIR THC

- Self-reported use quantity
- Withdrawal
- Craving

What did we find?

Cannabinoids were detectable in nearly all hair samples from people who tested positive on a urine screen – confirming that **hair analysis works well for detecting cannabis use**.

However, hair **THC levels** were **only linked to self-reported potency** (how strong people thought their cannabis was), but not to how much they reported using. Crucially, unlike self-reported quantity and potency, hair THC levels were **not associated with withdrawal and craving**.

Hair CBD levels, CBN levels, and THC:CBD ratio were not associated with any of the measures of potency, quantity, withdrawal, and craving.

This suggests that what people experience and report captures something that hair analysis alone does not.

Important!

Hair analysis is useful for confirming that cannabis use has occurred, but **does not straightforwardly replace self-report** for measuring how much someone uses or how their use affects them. **The two approaches seem to capture different aspects of cannabis exposure**.

Future research should compare hair analysis with **other biological measures** – such as blood plasma – alongside self-report, to **better understand what each method can and cannot tell us**.

