

PubMed ▼

Format: Abstract

Full text links



J Subst Abuse Treat. 2018 Aug;91:12-19. doi: 10.1016/j.jsat.2018.05.001. Epub 2018 May 9.

# Cannabis use, other substance use, and co-occurring mental health concerns among youth presenting for substance use treatment services: Sex and age differences.

Hawke LD<sup>1</sup>, Koyama E<sup>2</sup>, Henderson J<sup>3</sup>.

## Author information

### Abstract

**Cannabis** use among youth is of significant concern given the potential negative health impacts on young people. This study describes the **mental** health characteristics, **cannabis** use, and substance use profiles of youth aged 14 to 24 years seen at the Youth Addiction and Concurrent **Disorders** Service at the Centre for Addiction and **Mental** Health, through an age and gender lens. Almost all participating youth indicated lifetime **cannabis** use. Substance use and **mental** health profiles among those indicating a history of **cannabis** use differed along sex and age. Male youth were more likely to use **cannabis** more frequently, while female youth were more likely to use greater variety of substances and display more co-occurring **mental** health problems. **Adolescent** problematic substance use tended to co-occur with externalizing problems whereas problematic young adult substance use tended to co-occur with internalizing problems. Implications for the integrated, coordinated care of substance use and **mental** health concerns, with attention to the unique needs of subgroups of youth, are discussed.

**KEYWORDS:** Cannabis use; Concurrent disorders; Mental health; Sex differences; Substance use disorders; Youth

PMID: 29910010 DOI: [10.1016/j.jsat.2018.05.001](https://doi.org/10.1016/j.jsat.2018.05.001)

LinkOut - more resources



PubMed

Format: Abstract

Full text links

SAGE Journals

Can J Psychiatry. 2018 Jan 1;706743718784935. doi: 10.1177/0706743718784935. [Epub ahead of print]

## Early Adolescent Substance Use and Mental Health Problems and Service Utilisation in a School-based Sample.

Brownlie E<sup>1,2</sup>, Beitchman JH<sup>1,2</sup>, Chaim G<sup>1,2</sup>, Wolfe DA<sup>2,3,4</sup>, Rush B<sup>1,2,5</sup>, Henderson J<sup>1,2</sup>.

### Author information

### Abstract

**OBJECTIVE:** This paper reports on substance use, **mental** health problems, and **mental** health service utilisation in an early **adolescent** school-based sample.

**METHOD:** Participants were 1,360 grade 7 and 8 students from 4 regions of Ontario, Canada. Students completed an in-class survey on **mental** health and substance use. The sampling strategy and survey items on demographics, substance use, service utilisation, and distress were adapted from the Ontario Student Drug Use and Health Survey. Internalising and externalising **mental** health problems were assessed using the Global Assessment of Individual Needs - Short Screener. Distress was defined as fair or poor self-rated **mental** health.

**RESULTS:** Rates of internalising and/or externalising problems above the threshold exceeded 30%; yet, fewer than half had received **mental** health services in the past 12 mo. Substance use was associated with increased odds of internalising and externalising problems above the threshold and distress. Youth using **cannabis** had 10-times the odds of exceeding the threshold for internalising or externalising problems. The use of substances other than alcohol or **cannabis** was associated with increased odds of fair or poor self-rated **mental** health among grade 8 students. Of the youth who confirmed at least a substance use problem, most also reported **mental** health problems; this association was stronger among girls than boys.

**CONCLUSIONS:** Early **adolescent** substance use was associated with concurrent self-reported **mental** health problems in a non-clinical sample. The low levels of service utilisation reported highlight the need for improved access to early identification and intervention to prevent the development of concurrent **disorders**.

**KEYWORDS:** comorbidity; early adolescence; **mental** health; service utilisation; substance use

PMID: 29929386 DOI: [10.1177/0706743718784935](https://doi.org/10.1177/0706743718784935)

PubMed

Format: Abstract

Full text links

ELSEVIER  
FULL-TEXT ARTICLE

Addict Behav. 2018 Oct;85:43-50. doi: 10.1016/j.addbeh.2018.05.010. Epub 2018 May 15.

## Transition to drug co-use among adolescent cannabis users: The role of decision-making and mental health.

Lopez-Quintero C<sup>1</sup>, Granja K<sup>2</sup>, Hawes S<sup>2</sup>, Duperrouzel JC<sup>2</sup>, Pacheco-Colón I<sup>2</sup>, Gonzalez R<sup>2</sup>.

### Author information

#### Abstract

**BACKGROUND:** Co-use of **cannabis** and drugs other than **cannabis** (DOTC) influences the risk of experiencing **cannabis disorders**. Accordingly, we explored whether speed of transition to drug co-use, the number of DOTC used, and/or being an experimental **cannabis**-only user, a regular **cannabis**-only user, or a regular **cannabis** user who co-uses DOTC (i.e., **cannabis**-plus user) were associated with decision-making (DM), **mental health disorder** symptoms, or **cannabis** use-related characteristics.

**METHODS:** We analyzed baseline data from a sub-sample of 266 **adolescent** (ages 14 to 16) **cannabis** users (CU) participating in an ongoing longitudinal study. Assessments included semi-structured interviews, self-report questionnaires, and measures of drug use, DM (measured via the Iowa Gambling Task), **mental health disorders**, and **cannabis** use-related problems.

**RESULTS:** Endorsing a larger number of mood **disorders** symptoms was associated with being a regular **cannabis**-plus user rather than a regular **cannabis**-only user (AOR = 1.08, C.I.95% 1.01, 1.15). Poorer DM was associated with a faster transition to co-use, such that for each one unit increase in DM performance, the years to onset of drug co-use increased by 1% (p = 0.032). Endorsing a larger number of **cannabis** use-related problems was positively associated with endorsing a larger number of DOTC used (p = 0.001).

**CONCLUSIONS:** This study provides new evidence on the process of drug co-use among CU. Specifically, mood disorder symptoms were associated with use of DOTC among regular CU. Furthermore, poorer DM was associated with a faster transition to drug co-use. Poorer DM and mood disorder symptoms may aggravate or accelerate the onset of adverse consequences among **adolescent CU**.

Copyright © 2018 Elsevier Ltd. All rights reserved.

**KEYWORDS:** Cannabis; Co-use; Decision-making; Depression; Polydrug; Transition

PMID: 29843040 DOI: [10.1016/j.addbeh.2018.05.010](https://doi.org/10.1016/j.addbeh.2018.05.010)

PubMed

Format: Abstract

Full text links

[Drug Alcohol Depend.](#) 2018 Jun 1;187:351-357. doi: 10.1016/j.drugalcdep.2018.03.012. Epub 2018 Apr 15.

ELSEVIER  
FULL-TEXT ARTICLE

## A prospective study of newly incident cannabis use and cannabis risk perceptions: Results from the United States Monitoring the Future study, 1976-2013.

Parker MA<sup>1</sup>, Anthony JC<sup>2</sup>.

### Author information

### Abstract

**BACKGROUND:** A prevailing epidemiological theory about drug use occurrence among secondary school students is that trends in perceived risk of drug-related harms can drive use. If so, **cannabis** risk perceptions during one school year should predict newly incident **cannabis** use in the same school the following year. We aimed to study trends in incidence and epidemiological clustering of **cannabis** use among United States (US) 12th-graders, and a novel prediction that incidence in school-year 't' is influenced by school-specific **cannabis** risk perceptions (CRP) of 12th-graders a year prior at 't-1'.

**METHODS:** US schools sampled each year from 1976 to 2013 (~130 schools per year) yielded an annual nationally representative sample of ~15-16,000 12th-graders with questionnaire assessments. Analyses involved Alternating Logistic Regressions (ALR) to study trends in school-level clustering and slopes that estimate the degree to which CRP levels at 't-1' might predict newly incident **cannabis** use at 't'.

**RESULTS:** School-level CRP levels at 't-1' predict newly incident **cannabis** use in the next year's 12th-grade class. For each unit CRP increment, the next year's class shows tangibly reduced incidence of starting to use **cannabis** (overall odds ratio, OR = 0.10; 95% CI: 0.03, 0.33). Within-school clustering of newly incident **cannabis** smoking also can be seen (e.g., pairwise odds ratio, PWOR = 1.11; 95% CI: 1.07, 1.15).

**CONCLUSIONS:** Programmatic manipulation of perceived risk in one year's senior class via public health/school alliances might dampen the subsequent risk of newly incident **cannabis** use in the next year's class.

Copyright © 2018 Elsevier B.V. All rights reserved.

**KEYWORDS:** Adolescents; **Cannabis**; Clustering; Epidemiology; Incidence; Marijuana; Perception; Risk

PMID: 29709733 PMCID: [PMC5959792](#) [Available on 2019-06-01] DOI: [10.1016/j.drugalcdep.2018.03.012](#)

[Indexed for MEDLINE]

PubMed

Format: Abstract

Full text links

ELSEVIER  
FULL-TEXT ARTICLE

Neuropharmacology. 2018 Nov 12;144:345-357. doi: 10.1016/j.neuropharm.2018.11.016. [Epub ahead of print]

## Concomitant THC and stress adolescent exposure induces impaired fear extinction and related neurobiological changes in adulthood.

Saravia R<sup>1</sup>, Ten-Blanco M<sup>1</sup>, Julià-Hernández M<sup>1</sup>, Gagliano H<sup>2</sup>, Andero R<sup>3</sup>, Armario A<sup>2</sup>, Maldonado R<sup>4</sup>, Berrendero F<sup>5</sup>.

### Author information

### Abstract

$\Delta^9$ -tetrahydrocannabinol (THC) consumption during adolescence is reported to be a risk factor for the appearance of psychiatric disorders later in life. The interaction between genetic or environmental events and cannabinoid exposure in the **adolescent** period can also contribute to exacerbate behavioural deficits in adulthood. Here we investigate the effects of THC treatment as well as the consequences of concomitant THC and stress exposure during adolescence in the extinction of fear memory in adult mice. **Adolescent** mice treated with THC and exposed to stress exhibit impaired cued fear extinction in adulthood. However, no effect was observed in animals exposed to these two factors separately. Notably, resistance to fear extinction was associated with decreased neuronal activity in the basolateral amygdala (BLA) and the infralimbic prefrontal cortex, suggesting a long-term dysregulation of the fear circuit. These changes in neuronal activation were paralleled with structural plasticity alterations. Indeed, an increase of immature dendritic spines in pyramidal neurons of the BLA was revealed in mice simultaneously exposed to THC and stress. Corticosterone levels were also enhanced after the cued fear conditioning session in the same experimental group. These results show that an interaction between **cannabis** exposure and stress during adolescence may lead to long-term **anxiety** disorders characterized by the presence of pathological fear.

**KEYWORDS:** Adolescence; Amygdala; Dendritic spines; Fear extinction; Stress;  $\Delta(9)$ -tetrahydrocannabinol

PMID: 30439419 DOI: [10.1016/j.neuropharm.2018.11.016](https://doi.org/10.1016/j.neuropharm.2018.11.016)

LinkOut - more resources

PubMed

Format: Abstract

Full text links

[Addiction](#), 2018 Oct 1. doi: 10.1111/add.14459. [Epub ahead of print]

## Age-varying effects of cannabis use frequency and disorder on symptoms of psychosis, depression and anxiety in adolescents and adults.

Leadbeater BJ<sup>1</sup>, Ames ME<sup>1</sup>, Linden-Carmichael AN<sup>2</sup>.

### Author information

### Abstract

**AIMS:** We tested the age-varying associations of **cannabis** use (CU) frequency and disorder (CUD) with psychotic, depressive and **anxiety** symptoms in **adolescent** and adult samples. Moderating effects of early onset ( $\leq 15$  years) and sex were tested.

**DESIGN:** Time-varying effect models were used to assess the significance of concurrent associations between CU and CUD and symptoms of psychosis, depression and **anxiety** at each age.

**SETTING AND PARTICIPANTS:** **Adolescent** data (V-HYS;  $n = 662$ ) were collected from a randomly recruited sample of adolescents in Victoria, British Columbia, Canada during a 10-year period (2003-13). Adult cross-sectional data (NESARC-III;  $n = 36\ 309$ ) were collected from a representative sample from the United States (2012-13).

**MEASUREMENTS:** Mental health symptoms were assessed using self-report measures of diagnostic symptoms. CU was based on frequency of past-year use. Past-year CUD was based on DSM-5 criteria.

**FINDINGS:** For youth in the V-HYS, CU was associated with psychotic symptoms following age 22 [ $b = 0.13$ , 95% confidence interval (CI) = 0.002, 0.25], with depressive symptoms from ages 16-19 and following age 25 ( $b = 0.17$ , 95% CI = 0.003, 0.34), but not with **anxiety** symptoms. CUD was associated with psychotic symptoms following age 23 ( $b = 0.51$ , 95% CI = 0.01, 1.01), depressive symptoms at ages 19-20 and following age 25 ( $b = 0.71$ , 95% CI = 0.001, 1.42) and **anxiety** symptoms ages 26-27 only. For adults in the NESARC-III, CU was associated with mental health symptoms at most ages [e.g. psychotic symptoms; age 18 ( $b = 0.22$ , 95% CI = 0.10, 0.33) to age 65 ( $b = 0.36$ , 95% CI = 0.16, 0.56)]. CUD was associated with all mental health symptoms across most ages [e.g. depressive symptoms; age 18 ( $b = 0.96$ , 95% CI = 0.19, 1.73) to age 61 ( $b = 1.11$ , 95% CI = 0.01, 2.21)]. Interactions with sex show stronger associations for females than males in young adulthood [e.g.

**V-HYS:** CUD  $\times$  sex interaction on psychotic symptoms significant after age 26 ( $b = 1.12$ , 95% CI = 0.02, 2.21)]. Findings were not moderated by early-onset CU.

### CONCLUSIONS:

PubMed

Format: Abstract

Full text links

Depress Anxiety. 2018 Jun;35(6):490-501. doi: 10.1002/da.22735. Epub 2018 Feb 27.



## Clinical and functional outcomes of cannabis use among individuals with anxiety disorders: A 3-year population-based longitudinal study

Feingold D<sup>1,2</sup>, Rehm J<sup>3,4,5</sup>, Factor H<sup>6</sup>, Redler A<sup>6</sup>, Lev-Ran S<sup>2,3,7</sup>.

### Author information

#### Abstract

**BACKGROUND:** Cannabis use has been reported to negatively affect the course and outcome of various psychiatric disorders, yet little is known on its effect on rates of remission from anxiety disorders and associated clinical and functional outcomes.

**METHODS:** In this study, data were drawn from Waves 1 and 2 of the National Epidemiologic survey on Alcohol and Related Conditions, focusing on individuals who qualified for a diagnosis of any anxiety disorder (social anxiety, panic disorder, generalized anxiety disorder, and specific phobias) at Wave 1 (N = 3,723). Cannabis users and individuals with cannabis use disorders (CUDs) throughout a 4-year period were compared to nonusers in rates of remission, suicidality, general functioning, and quality of life at Wave 2, while controlling for baseline confounders.

**RESULTS:** Although rates of remission decreased with level of cannabis use, this was not maintained in adjusted models. Aside from specific outcomes (individuals with CUDs were significantly more prone to report breaking up from a romantic relationship; adjusted odds ratio [AOR] = 3.85, 95% confidence interval [CI] = 1.66-8.97) and repeatedly quitting school (AOR = 6.02, 95% CI = 2.65-13.66)), following adjustment no additional differences were found in outcome measures.

**CONCLUSIONS:** These findings add to previous reports suggesting that poorer outcome of anxiety disorders among cannabis users may be attributed mainly to differences in baseline factors and not cannabis use.

© 2018 Wiley Periodicals, Inc.

**KEYWORDS:** anxiety disorders; cannabis; course of illness; marijuana

PMID: 29486095 DOI: [10.1002/da.22735](https://doi.org/10.1002/da.22735)

[Indexed for MEDLINE]

PubMed

Format: Abstract

Full text links

ELSEVIER  
FULL-TEXT ARTICLE

Schizophr Res. 2018; Feb 2. pii: S0920-9964(18)30028-8. doi: 10.1016/j.schres.2018.01.008. [Epub ahead of print]

## Patterns in adolescent cannabis use predict the onset and symptom structure of schizophrenia-spectrum disorder.

Shahzade C<sup>1</sup>, Chun J<sup>2</sup>, DeLisi LE<sup>3</sup>, Manschreck TC<sup>4</sup>.

### Author information

### Abstract

This study investigated **adolescent cannabis** use as a risk factor for schizophrenia spectrum disorder (SSD). Motives for early **cannabis** use and resulting usage patterns were examined alongside clinical measures of SSD onset and symptomatology. Participants (N = 178) were recruited for two samples, 1: healthy controls (HC) with **cannabis** use, 2: schizophrenia patients (SSD) with **cannabis** use. Structured interviews of participants and family informants were used to obtain diagnostic and biographical information. Factor-analysis of reported motives for initiating **cannabis** use produced four groups; sedation, stimulation, social pressure, and recreation. Regression analyses revealed significant relationships between these groups and SSD. Most notably, reason group factor scores predict SSD risk as well as schizotypal symptom severity. Findings also indicate that these factors follow a hierarchical structure, which explains their relative involvement in increased SSD risk. We suggest that **adolescent cannabis** use both hastens the onset and amplifies the severity of SSD. In response we propose a model for identifying at risk individuals, predicting the onset and severity of SSD, and potentially mitigating the associated psychiatric impairments.

**KEYWORDS:** Adolescent; Cannabis; Motivation; Psychosis; Schizophrenia; Symptomatology

PMID: 29402581 DOI: [10.1016/j.schres.2018.01.008](https://doi.org/10.1016/j.schres.2018.01.008)

LinkOut - more resources



PubMed

Format: Abstract

Full text links



*Addict Behav.* 2018 Mar;78:107-113. doi:10.1016/j.addbeh.2017.11.005. Epub 2017 Nov 4.

## The association between adolescent cannabis use and anxiety: A parallel process analysis.

Duperrouzel J<sup>1</sup>, Hawes SW<sup>2</sup>, Lopez-Quintero C<sup>2</sup>, Pacheco-Colón I<sup>2</sup>, Comer J<sup>2</sup>, Gonzalez R<sup>2</sup>.

### Author information

#### Abstract

**INTRODUCTION:** Associations between **anxiety** symptoms and **cannabis** use have been previously explored, yet the directionality of these associations remains highly debatable. The present study aims to prospectively examine patterns of **cannabis** use and **anxiety** during adolescence focusing on their co-development and bidirectional influences.

**METHODS:** Adolescents (n=250) of predominantly Hispanic ethnicity, aged 14-17 at baseline, exposed to drugs, alcohol, or cigarettes completed three (bi-annual) assessments across a 1-year period. Latent growth curve modeling (LGCM) and parallel process growth curves were conducted to examine potential associations in the joint development of **anxiety** and **cannabis** use.

**RESULTS:** Our results suggest that, during adolescence, early **cannabis** use has a greater influence on prospective reports of **anxiety**, than vice versa. Specifically, adolescents exhibiting higher initial levels of **cannabis** use displayed more persisting self-reported **anxiety** across time, as compared to those with less frequent use (b=0.28, p=0.024). In contrast, early levels of **anxiety** were not found to influence rates of change in **cannabis** use. These analyses considered concurrent depression, alcohol, and nicotine use.

**CONCLUSIONS:** Our findings suggest that prevention and targeted intervention programs for **cannabis** use in adolescence would benefit from **anxiety** management strategies; in order to reduce subsequent **anxiety** associated with **cannabis** use. Future studies should continue to employ longitudinal designs across larger time periods and aim to replicate these findings with more diverse samples.

Copyright © 2017 Elsevier Ltd. All rights reserved.

**KEYWORDS:** Adolescents; **Anxiety**; **Cannabis**; LCGM; Parallel process

PMID: 29149635 PMID: [PMC5819339](https://pubmed.ncbi.nlm.nih.gov/29149635/) [Available on 2019-03-01] DOI: [10.1016/j.addbeh.2017.11.005](https://doi.org/10.1016/j.addbeh.2017.11.005)