

# Marijuana use trajectories during college predict health outcomes nine years post-matriculation

## MAJOR FINDINGS:

College students who use marijuana might be risking their long-term physical and mental health, even if they only use occasionally, and even after they quit using. Adverse health outcomes may endure after years of moderation or abstinence. The research team tracked the marijuana use patterns of 1,253 young adults during a ten-year period, and categorized them into six groups based on when they started using and how their use progressed over time (Non-Use, Low-Stable, Early-Decline, College-Peak, Late-Increase, Chronic).

Health outcomes were measured in the 10th year of the study—when participants were in their late twenties—and analyzed for association with marijuana use group membership. College students' marijuana use patterns were significantly associated with seven of the nine health outcomes they analyzed, even after adjustment for alcohol and tobacco use patterns during college and baseline health status. These health outcomes were: 1-3) functional impairment due to injury, illness, or emotional problems; 4) psychological distress; 5) subjective well-being; and 6-7) mental and physical health service utilization. (Body mass index and general health rating were the only two outcomes in this study that were not related to marijuana use group membership.)

An earlier report on this sample documented health outcomes in Year 7, and the current findings indicate that many of those marijuana-related differences persisted in Year 10. The Non-Use group tended to display the best physical and mental health outcomes, while the Chronic and Late-Increase groups tended to fare the worst. Students whose marijuana use declined over time (Early-Decline, College Peak) had more positive mental health outcomes than the Chronic group. Students who started college using relatively low levels of marijuana but increased in frequency during Years 3 through 6 (Late-Increase) fared significantly worse than the stable groups (Non-Use, Low-Stable, Chronic) on both physical and mental health outcomes. Individuals who established a heavy use pattern earlier in life (Early-Decline) had worse health outcomes than those who began to use during college (College-Peak), even though both groups later reduced their use. Students in the Late-Increase group exhibited particularly poor health outcomes compared to all other groups, including the Chronic group.

### *Of major interest to:*

- College Administrators
- Parents
- Educators
- Health Professionals
- Students
- Law and Policy Makers



**Practice and Policy Suggestions:** The findings of this study suggest that marijuana use during young adulthood is associated with health risks several years later. More research is needed to confirm these findings among other samples, including non-college attending youth and students in different geographic areas. Understanding the impact of marijuana use patterns on physical and mental health—as well as on health care service utilization and associated costs—should be regarded as an important priority among both researchers and policymakers, especially given marijuana’s increasing accessibility and acceptability for medical and recreational use. The finding that even modest differences in health outcomes among marijuana-using groups were already apparent in young adulthood underscores the importance of early identification and intervention with marijuana-using students. College is an opportune time for early intervention, and might provide unique settings for confidential screening (e.g., campus health and counseling centers, academic assistance programs) before problems escalate.

The complete publication referenced in this research brief can be found here: Arria, A.M., Caldeira, K.M., Bugbee, B.A., Vincent, K.B., O’Grady, K.E. (2016). Marijuana use trajectories during college predict health outcomes nine years post-matriculation. *Drug and Alcohol Dependence*. 159, 158-165. doi: 10.1016/j.drugalcdep.2015.12.009

The complete publication for the earlier report can be found here: Caldeira, K.M., O’Grady, K.E., Vincent, K.B., Arria, A.M. (2012). Marijuana use trajectories during the post-college transition: Health outcomes in young adulthood. *Drug and Alcohol Dependence*. 125(3), 267-275. doi:10.1016/j.drugalcdep.2012.02.022



### About the College Life Study (CLS)

The CLS is a longitudinal study of 1,253 college students at a large, public, mid-Atlantic university. This study is one of the first large-scale scientific investigations that aims to discover the impact of health-related behaviors during the college experience. Any first time, first-year student between 17 and 19 years old at the university in the fall of 2004 was eligible to participate in a screening survey. The researchers then selected students to participate in the longitudinal study, which consisted of two-hour personal interviews administered annually, beginning with their first year of college. A full description of the methods used is available.<sup>1,2</sup> Inherent to all self-reporting research methods is the possibility for response bias. Because the sample is from one large university, the ability to generalize the findings elsewhere is uncertain. However, response rates have been excellent and attrition bias has been minimal.

For more information about the study, please visit [www.cls.umd.edu](http://www.cls.umd.edu) or contact Amelia M. Arria at the University of Maryland School of Public Health at [aarria@umd.edu](mailto:aarria@umd.edu).

<sup>1</sup> Arria, A.M., Caldeira, K.M., O’Grady, K.E., Vincent, K.B., Fitzelle, D.B., Johnson, E.P., Wish, E.D. (2008). Drug exposure opportunities and use patterns among college students: Results of a longitudinal prospective cohort study. *Substance Abuse*. 29(4), 19-38. doi:10.1080/08897070802418451; PMC2614283

<sup>2</sup> Vincent, K.B., Kasperski, S.J., Caldeira, K.M., Garnier-Dykstra, L.M., Pinchevsky, G.M., O’Grady, K.E., Arria, A.M. (2012). Maintaining superior follow-up rates in a longitudinal study: Experiences from the College Life Study. *International Journal of Multiple Research Approaches*. 6(1), 56-72. doi:10.5172/mra.2012.6.1.56; PMC3255097

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