



Driver Behavior & Performance

Examination of Cannabis Users’ Perceptions and Self-Reported Behaviors to Inform Messaging to Deter Impaired Driving

To address the paucity of evidence on strategies to deter driving after cannabis use, this multiphase project interviewed relevant experts and surveyed cannabis users to inform recommendations for public policy stakeholders, law enforcement, and public health professionals.

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Technical Report

Report Summary

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Introduction

Cannabis is the most widely used psychotropic substance surpassing alcohol use in 2022 in the United States. As with other impairing substances, evidence suggests that driving under the influence of cannabis is also associated with an increased risk of crashes, injuries, and fatalities. There is a paucity of evidence on strategies to impact driving after cannabis use. In addition, many users hold misperceptions about cannabis and driving, including that cannabis is less risky than alcohol, cannabis is legal so it is lawful to drive after use, and police cannot identify cannabis impairment. This multiphase study synthesized insights from subject matter experts and drivers who use cannabis in order to provide recommendations for more effective communication strategies and interventions to reduce the incidence of cannabis-impaired driving.

Methodology

To address this gap and enhance public safety, the research team implemented a comprehensive study in three phases:

- Phase 1: Interviews with subject matter experts (SMEs)
- Phase 2: A survey of 2,000 cannabis users across eight states regarding their driving behavior
- Phase 3: A survey of 800 cannabis users across states about their reactions to targeted messaging promoting safe driving practices after cannabis use

The Phase 1 interviews included 19 SMEs, from a variety of domains including driving and/or substance use research, government agencies, organizations concerned with substance use safety, and traffic safety industry members.

For the Phase 2 survey of 2,000 cannabis users in eight states, a questionnaire was developed with multiple-choice questions with open-ended items with probes. Eight states were chosen to obtain the breadth of U.S. cannabis regulatory laws at the time of the study: Michigan and Oregon (fully legal); Louisiana and Ohio (medical only and decriminalized); Oklahoma and Florida (medical only and not decriminalized); South Carolina and Texas (illegal for all use). Only respondents who were current consumers of cannabis (in any form and containing THC) were selected to complete the full survey.

Phase 3 queried 800 respondents across the same eight states for their reaction to specific cannabis and driving messaging. The tested messages were derived from existing and novel messaging and informed by the first two phases of the project. Eight sample messages with accompanying visuals were sent to respondents, who were classified as ultra-high-risk, high-risk, and medium-risk cannabis users as defined by their driving habits after using cannabis. The respondents rated each of the messages for appeal, attention getting, relevance, believability, image reinforcement, and offensiveness.

Results

The SMEs recommended a number of specific strategies for reaching cannabis users with safe driving messages: address issues that the SMEs see as misconceptions and myths (e.g., cannabis is less risky than alcohol), promote effective communication (e.g., avoid stereotypes), and address gaps in knowledge. With respect to messaging campaigns, SMEs endorsed collaborating with the cannabis industry for messaging and dissemination, using social media, and incorporating testimonials from cannabis users.

In the Phase 2 survey, 84.8% of consumers indicated that they drive the same day that they consume cannabis, compared to never driving after use (defined by either waiting 8 hours or more and sleeping or not the same day). This is slightly lower in legal states (78.4%) compared to the other state categories (medical, 86.5%; not legal, 87.9%). About 1 in 5 (19.0%) thought their driving was worse after use, while others viewed their driving as the same (46.9%), a little better (14.7%), or much better (19.4%). Only 29.2% of respondents believed a police officer could detect the influence of cannabis, 46.7% did not believe they could detect it, and 24.1% were unsure. This pattern was fairly consistent across all states. Most (90%+) of respondents in fully legal states (MI, OR) correctly identified their state as fully legal, whereas in the four states legal for medical only, 38.4% thought cannabis was fully legal. In the two fully illegal states, 16.8% thought use was fully legal. Based on their history of driving after using cannabis, respondents were categorized as follows: those who consumed an hour or less before driving (53% of the sample population) were considered ‘ultra-high risk,’ the 20% who consumed 2 to 3 hours before driving were considered ‘high risk,’ and the 12% who consumed 4 hours or more before driving but still within the same day (without sleep) were considered ‘medium risk.’ Individuals who consume but do not drive until the next day (8 hours, after sleep) were considered ‘low risk’ and represented 15% of the sample.

In the Phase 3 survey, three messages were well received and scored best across most parameters:

- “Driving high is driving Impaired—Find a safe ride home”
- “If you feel different, you drive different—Drive High. Get a DUI”
- “THC slows reaction time, distorts perception, and increases the risk of a car crash—Don’t Drive High.”

Respondents were also asked whether the messages were likely to impact their behavior related to cannabis use and driving (e.g., increasing their wait time between consuming cannabis and driving). “Feel Different Drive Different” had the largest proportion of respondents on increasing wait time (62%) and taking alternate transportation (58%) among all respondents. All messages showed little behavioral impact on reducing cannabis use, eliciting only 20% to 29% response to ‘very likely’ reducing use after viewing the message. Trusted sources of information regarding cannabis use and safe driving included cannabis brands and companies for the ultra-high-risk and high-risk groups, and physicians, medical groups, safe driving groups, and labeling on products for the medium-risk group.

The results demonstrated high-risk driving (driving within 1 hour of use) patterns in most cannabis users. There was a generally low level of knowledge about cannabis laws and regulations. Cannabis users were most responsive to the public safety messages which were factual, respectful, and avoided stereotyping. The report concludes with detailed recommendations for public policy stakeholders, law enforcement, and public health professionals.

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