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Development and Validation of Messaging to Deter Cannabis Impaired Driving

INTRODUCTION

With the recent liberalization of cannabis control laws, increasingly larger numbers of drivers are testing positive for cannabis. Research suggests many cannabis users believe driving under the influence of the drug is relatively safe. The purpose of this multiphase project was to understand cannabis users' thoughts, perceptions, and reasons for driving under the influence of cannabis and develop public health messages that might deter users from impaired driving in the future.

METHODOLOGY

The project had three main phases: message development, message ranking, and message validation. In the message development phase, the research team conducted 11 focus groups with subgroups of 88 cannabis users with a history of drugged driving. Subgroups included older adults, middle-aged adults, younger adults, medical cannabis users, recreational cannabis users, habitual users, occasional users, those in recreational-legal states, those in recreational-illegal states, and those who regularly use alcohol and cannabis together. Drawing on focus group discussions, the research team developed messages designed to persuade cannabis users not to drive under the influence. These were supplemented with messages edited from a ChatGPT query "What are some messages to convince people not to drive under the influence of cannabis?"

In the message ranking phase, two samples of cannabis users were recruited to help identify message effectiveness. Using an online survey platform, the first sample of cannabis users (n=63) was asked to rank the messages within randomized blocks in terms of their perceived effectiveness. Results identified the top ranked individual messages. Next, a second sample of cannabis users (n=50) were asked to rank the most promising messages head-to-head.

Once the messages were ranked, the research team selected three messages to evaluate in the message validation phase. To validate the messages, the research team created a hypothetical scenario to present to participants. In the scenario, a person consumed cannabis to the point of feeling high, but suddenly realized that they needed to go somewhere and it was important to leave almost immediately. One of the risk messages was then integrated into

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Founded in 1947, the AAA Foundation for Traffic Safety in Washington, D.C., is a nonprofit, publicly supported charitable research and educational organization dedicated to saving lives by preventing traffic crashes and reducing injuries when crashes occur. Funding for this research was provided by voluntary contributions from AAA/CAA and their affiliated motor clubs, individual members, AAA-affiliated insurance companies, and other organizations or sources.

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the scenario, and after reading it, participants were asked to imagine themselves in that situation and indicate how likely it would be (percent) that they would drive in that situation (as opposed to taking an Uber or following some other path). Participants also answered questions about demographics, cannabis use, and personality characteristics. Finally, the most promising message from this stage was compared with a poorer scoring message to validate the viability of the message.

RESULTS

Analysis of the focus groups discussions identified six broad themes that may be useful in developing messages to deter cannabis-impaired driving:

- Legal and financial consequences
- Safety concerns
- Statistics and science
- Narrative or testimonial
- Personal responsibility
- Separating cannabis use from driving

There was little evidence that different cohorts of users identified more strongly with specific themes or message types. In general, however, focus group discussants suggested the most effective messages would be those that (a) were positive, (b) were realistic, (c) avoided stereotypes, and (d) reflected diversity.

The top-rated messages from the ranking study were the following:

- Driving high isn't just reckless; it's selfish. Think twice before getting behind the wheel after using marijuana.

- You wouldn't drink and drive, so why drive high? Don't drive under the influence of marijuana.

- Marijuana impairs your judgement, slows your reactions, and increases your risk of crashing. Don't drive high.

The ranking exercise indicated that messages that highlighted personal responsibility and safety concerns performed better than messages based on legal risks and separating cannabis use from driving.

In the validation study, exposing participants to the top-rated "Driving high isn't just reckless; it's selfish..." message resulted in significantly lower willingness to drive scores (19.9%) than a poorer scoring message from the ranking study (34.2%). The relatively large effect of the "Driving high isn't just reckless; it's selfish..." message on willingness to drive persisted for high-risk users including habitual users, those who frequently drove under the influence, recreational users, and those who lived in recreational-legal states.

While this study produced a list of messages to deter driving after cannabis use, the message that "Driving high isn't just reckless; it's selfish..." seemed more effective than other messages in terms of lowering participants' willingness to drive under the influence in a hypothetical scenario. Notably, this message was developed by ChatGPT, rather than the focus group process, a finding which warrants further exploration. Participants' ranking of messages appeared relatively consistent with findings on message effectiveness (as measured by participant reports of willingness to engage in the behavior). Strategically, to increase efficiency, future message development approaches could consider quickly constructing many messages (with less concern for quality), followed by an inexpensive ranking process to narrow down the most effective messages. However, even the best messages will only affect a portion of the people exposed to them. Multimethod, multifaceted approaches are needed to achieve sizeable population reductions in impaired driving.