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## Background

- With more states legalizing cannabis use, particularly for medicinal purposes, research regarding the benefits and risks of its use have become especially important.<sup>1</sup>
- Previous research has shown that cannabis use is associated with negative physical consequences to hearts, lungs, and liver;<sup>2</sup> continued use of tobacco,<sup>3</sup> and greater incidence of psychological issues.<sup>4</sup>
- Limitations of traditional cannabis use research include:
  - Inability to determine directionality of relations between cannabis use and health.
  - Requiring participants to recall cannabis use over weeks or months introduces bias.

## Objective

- This study examined the effects of previous day cannabis use on next day stress, happiness, tobacco use, and alcohol use.
- Findings of this study will provide a better understanding of the effects of cannabis use and may inform future just-in-time interventions for cannabis use.

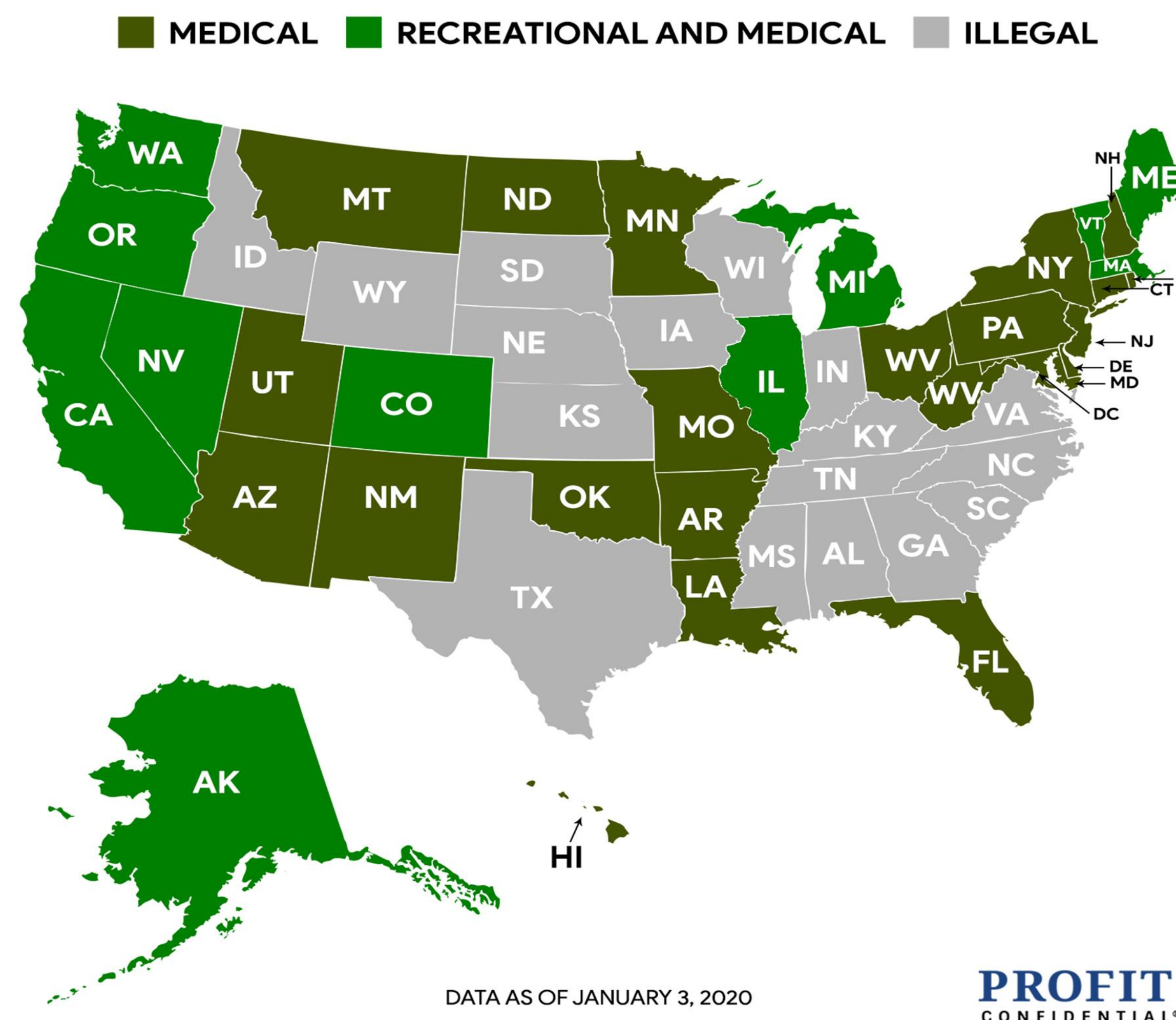
## Study Design and Measures

- Daily Ecological Momentary Assessment (EMA) data from the Exemplar study (N=485) were used.
  - Participants completed 2-4 prompted daily surveys for 28 days to investigate factors that influence EMA compliance.
- Those who reported using cannabis at least once during the EMA period were included in this study (n=100).
- Stress and Happiness were assessed via slider-type questions for 2 weeks (0=None; High=10) and Likert-type questions for 2 weeks (1=Strongly disagree to 5=Strongly agree).
- Tobacco and alcohol use were recorded daily via EMA responses (“How many standard drinks of alcohol did you have yesterday?”, and “How many cigarettes did you smoke yesterday?”).

## Data Analyses

- Multilevel analyses were used to examine relationships between previous day cannabis use and next day happiness, stress, alcohol use, and tobacco use.
  - Covariates (age, gender, race, ethnicity) were included.

## U.S. MARIJUANA LEGALIZATION BY STATE

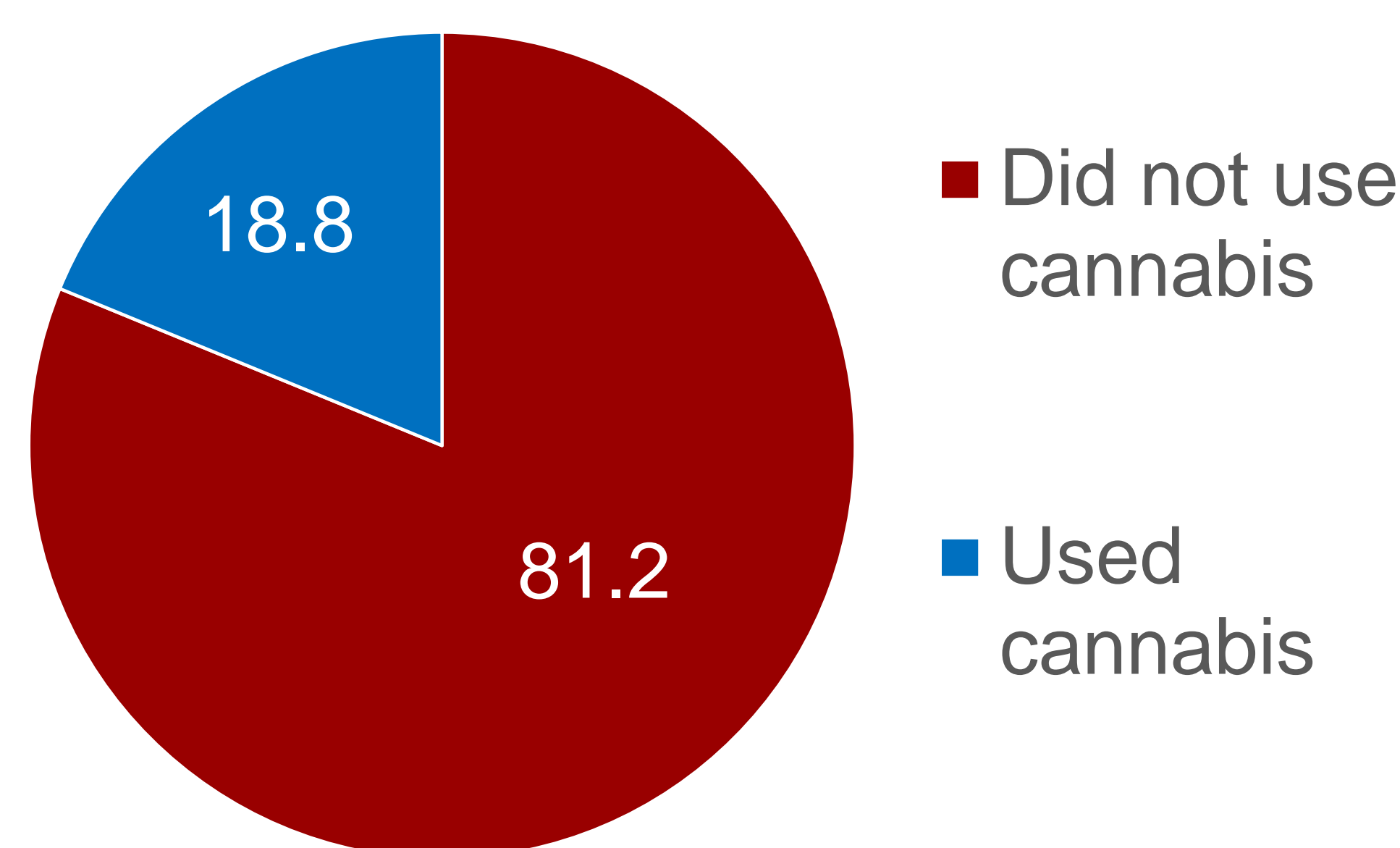


## Results

Table 1. Sample Characteristics

N=100	% or Mean (N or SD)
<b>Biological Sex</b>	
Male	30.0% (30)
Female	70.0% (70)
<b>Race</b>	
White	68.0% (68)
Other	32.0% (32)
<b>Age</b>	
Average number of Cannabis Use Days	46.5 (12.1)
	12.3 (9.2)

Figure 1. Percentage of those who reported using cannabis during the study (N = 485)



## Funding Statement

## Results (cont.)

- Due to the exploratory nature of this work, results were considered significant at the  $p = 0.1$  level. All analyses controlled for age, biological sex, and race.
- No significant effect was found regarding yesterday's cannabis use on today's happiness or stress.
- There was a positive time lag effect of cannabis use yesterday on alcohol use ( $b=0.524, t=2.430, p<0.05$ ) and smoking ( $b=0.480, t=1.688, p<0.1$ ) today.
- Within participants, cannabis use days were followed by more alcoholic beverages consumed and more cigarettes smoked the next day when compared with cannabis non-use days.

## Conclusions

- Study findings indicated that cannabis use days were associated with more cigarettes smoked and greater amounts of alcohol consumed the following day compared with cannabis non-use days.
- These interesting findings may indicate that cannabis use can perpetuate unhealthy behaviors on days following cannabis use.
- This research could have important implications for future interventions that address substance use.
- Limitations
  - Relatively small sample of cannabis users.
  - Mostly White and female sample.
- Future directions
  - Additional research is needed to identify mechanisms linking cannabis use and next day alcohol and tobacco use.
  - Future research should further examine relations between cannabis use and various same day and next day affect and stress variables.
  - Finally, research is needed to determine if cannabis cessation/reduction interventions might have positive impacts on reduction in other unhealthy behaviors (e.g., cigarette smoking, alcohol consumption).

# References

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