



National Institute on Drug Abuse

Effects after self-administration of typical kratom dose among people who use kratom regularly

INTRODUCTION

Kratom is a plant-based product marketed as dietary supplement with bioactive alkaloids that act on **opioid, adrenergic, serotonergic, and other receptors**.¹

People who use kratom have reported **analgesic and stimulatory effects**, but these effects are not well characterized.^{2,3}

Most human data on kratom effects in humans is from **self-report**, with only one pharmacokinetic profile of well-characterized kratom tea in humans to-date.^{4,5}

No study has collected **subjective and objective data following observed self-administration of commercially available kratom products** at doses reflective of real-world kratom consumption.

METHODS

We examined kratom effects in a controlled laboratory setting in 10 US adults who regularly use kratom.

Following baseline assessments, participants took their first regular daily dose of kratom under observation, with 5 follow-up time points.

We measured the following outcomes:

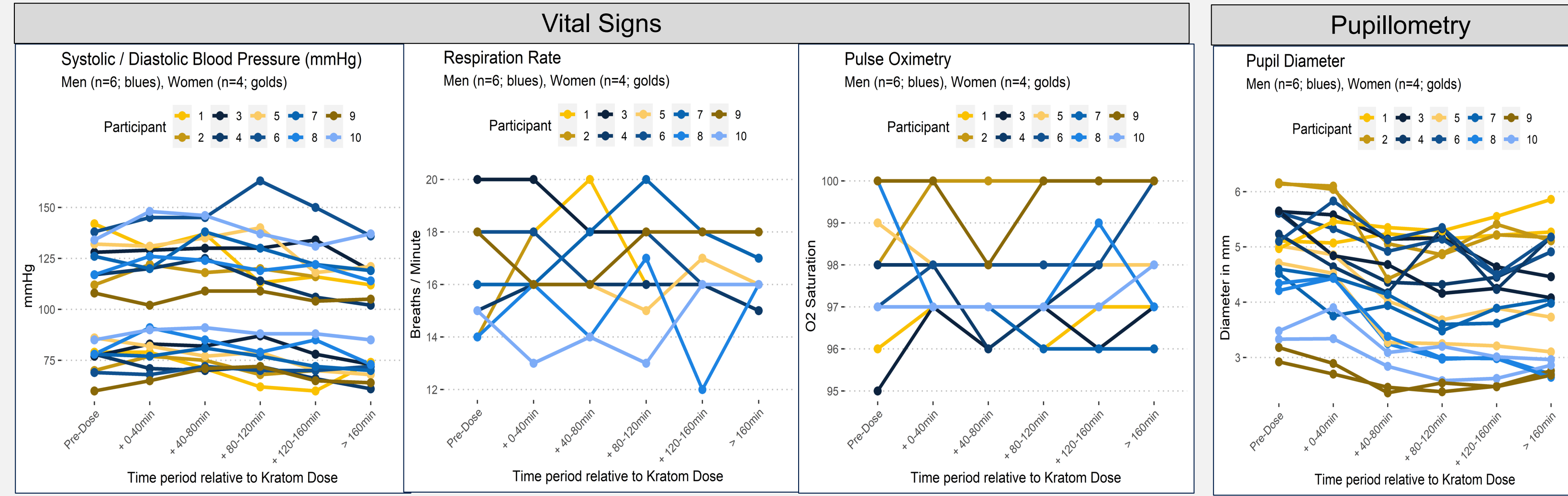
-Physiological: blood pressure, respiratory rate, heart rate, pulse oximetry, pupil diameter.

-Subjective: Subjective Opioid Withdrawal Scale (SOWS), Driving Confidence Assessment, Addiction Research Center Inventory, Drug Effects Questionnaire

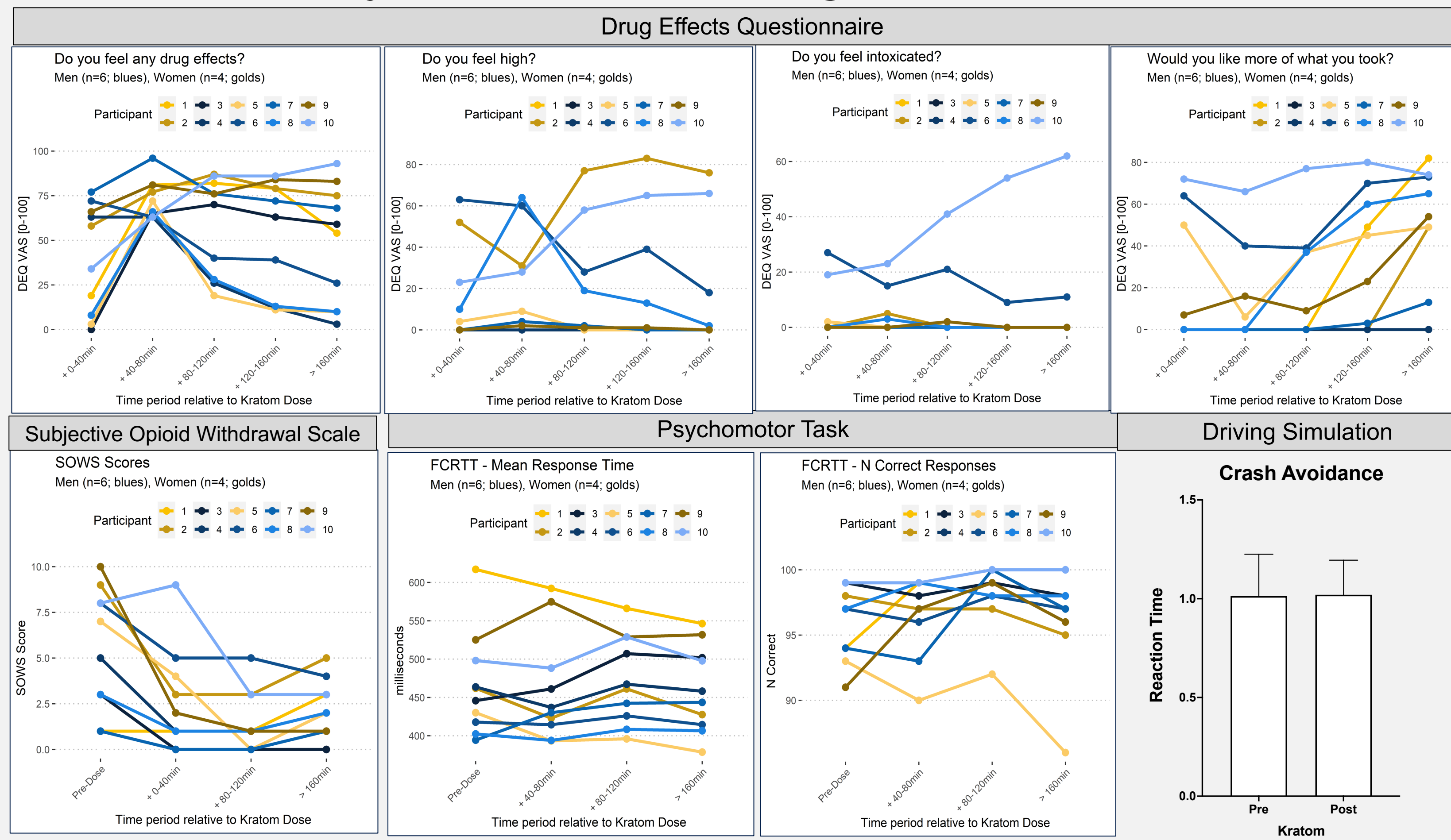
-Cognitive performance: psychomotor tasks (FCRTT). **Driving skills** were assessed using an immersive driving simulator.

RESULTS

Physiological Outcomes



Subjective Outcomes and Cognitive Performance



Case	Sex	Age	Race	Longest use period	Typical dose	Doses per day	Session dose weight (g)	KUD severity (past yr)
1	Female	60	White	5 yr	1 g	5	1.14	None
2	Female	26	White	2 yr	3 g	2	4.03	Moderate
3	Male	45	White	6 yr	1 tsp	2	4.32	None
4	Male	49	White	8 mo	3 g	3	3.07	None
5	Female	35	White	2 yr	4 caps	3	4.43	Mild
6	Male	34	White	8 yr	2 g	2	3.22	Severe
7	Male	52	White	2 yr	10 g	2	10.9	None
8	Male	32	Asian, White	3 yr	8 g	2	7.93	Mild
9	Female	41	White	6 yr	5 g	3	5.82	Mild
10	Male	38	White	7 mo	1.5 tbsp	1	6.57	None

RESULTS & CONCLUSION

-Mean kratom product dose self-administered was 5.2 grams (range=1.14-10.9).

-Mild withdrawal symptoms were observed prior to dosing at the group level.

-No significant changes in vitals were found.

-Post-dose, 6/10 participants reported mild effects consistent with Morphine-Benzedrine group on ARCI, indicating mild euphoria. However, DEQ items and psychomotor tasks did not find indicators of intoxication or impairment post-dosing.

-No statistically significant changes at the group level were found for any driving simulation task.

-10 kratom alkaloids/metabolites were found in participant urine and plasma samples.

-These preliminary data suggest significant within-group variability requiring further investigation.

AUTHORS & DISCLOSURES

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REFERENCES:

