

Reasons for individual and concurrent use of vaped nicotine and cannabis: their similarities, differences, and association with product use

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Introduction

- Concurrent use (co-use) of nicotine and cannabis is common and exceeds the use of cannabis alone.
- Understanding similarities, differences, and associations between reasons people use vaped nicotine and cannabis may be important for identifying underlying contributors to their co-use.

Methods

N=112 concurrent users of vaped nicotine and cannabis were recruited from Amazon Mechanical Turk and responded to a survey on inhaled nicotine and cannabis use behaviors.

- Eligible participants were aged 18 or older, residents of the country of Canada or a U.S. state with medical or recreationally-legal cannabis, reported past 30-day use of vaped nicotine *and* vaped cannabis, and usually used their vaping products at least monthly.
- All participants responded to questions about nicotine and cannabis vaping behaviors, while those who smoked cannabis or tobacco cigarettes answered additional questions about use of those products.
- The survey took 25-30 minutes to complete, and participants were paid a total of \$5.00 for their time.
- Participants responded to parallel sets of measures to assess reasons for using vaped cannabis, vaped nicotine, and smoked cannabis.
- Participants also completed a scale outlining reasons for co-use created by Berg *et al* (2018).

Analysis

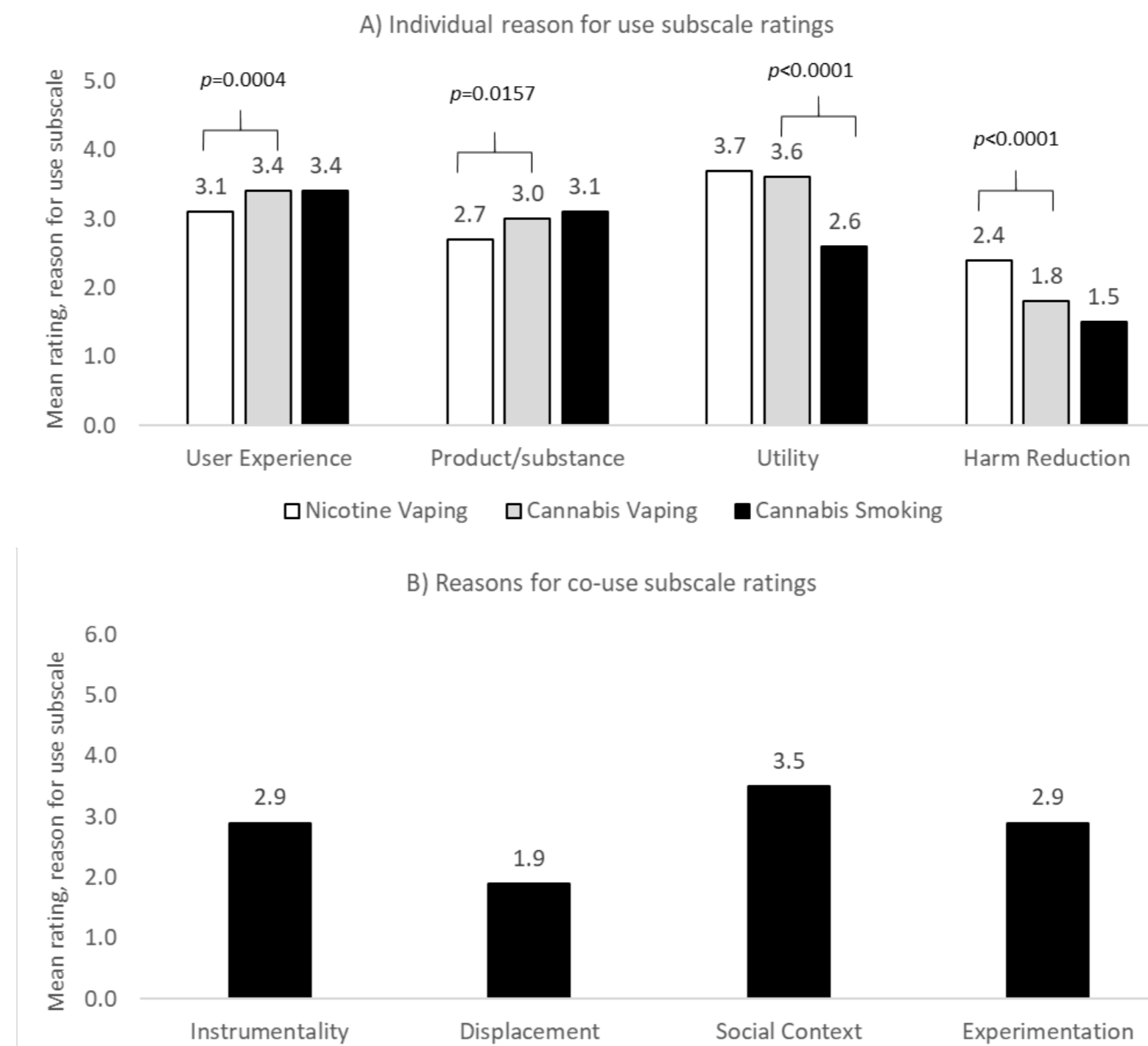
- Reason for use measures for vaped cannabis, vaped nicotine, and smoked cannabis were evaluated by two independent raters and consolidated into four thematic groups: 1) *User experience*, 2) *Product/substance*, 3) *Utility*, 4) *Harm reduction*.
- Reasons for co-use were grouped four groups according to previously published findings: 1) *Instrumentality*, 2) *Displacement*, 3) *Social context*, 4) *Substitution*.
- Univariate and bivariate analyses were used to examine ratings for reasons for individual and concurrent product use.
- Regression modelling was used to examine associations between reasons for individual and concurrent product use and total monthly use sessions.

Results

	Cronbach's alpha			Co-use ^A
	Cannabis vaping	Nicotine vaping	Cannabis smoking	
Reasons for individual product use				
User experience	0.84	0.78	0.86	---
Product/substance	0.67	0.78	0.78	---
Utility	0.67	0.79	0.66	---
Harm reduction	0.85	0.89	0.94	---
Reasons for co-use				
Instrumentality	---	---	---	0.78
Displacement	---	---	---	0.76
Social Context	---	---	---	0.78
Experimentation	---	---	---	0.59

^A Measures of internal consistency from Berg *et al* (2018): Instrumentality: 0.81, Displacement: 0.72, Social Context: 0.80, Experimentation: 0.55

Results



Scales range from 0 (not at all) - 5 (very much) for cannabis vaping, nicotine vaping, and cannabis smoking reasons for use subscales; scale ranges from 0 (not at all) - 6 (very much) for co-use subscales..

Table 2: Associations between reasons for individual product use and product consumption

	Monthly use sessions (unstd. Beta)			Ever engaging in co-use practices (aORs)	
	Nicotine vaping	Cannabis vaping	Cannabis smoking	Chasing	Co-admin
Nicotine Vaping					
User experience	0.24	0.37	-0.12	0.86	1.06
Product/substance	-0.12	-0.16	0.11	1.61	1.21
Utility	0.32*	-0.17	-0.17	1.22	0.90
Harm reduction	0.21*	-0.06	0.05	1.08	1.10
Cannabis Vaping					
User experience	-0.05	0.14	-0.05	2.18*	0.87
Product/substance	0.04	0.20	-0.12	1.34	1.64
Utility	0.19	-0.02	0.12	0.44	0.89
Harm reduction	-0.16	0.08	0.11	1.18	1.17
Cannabis Smoking					
User experience	-0.05	0.26	-0.17	1.00	0.82
Product/substance	0.38	-0.25	0.33*	0.33	1.01
Utility	-0.41*	-0.04	0.19	2.99*	1.55
Harm reduction	-0.04	0.08	-0.02	0.95	1.05

Adjusted for age, sex, and GAIN-SS subscales. Confidence intervals suppressed for clarity. Bold & red values are statistically significant at p<0.05.

Table 3: Associations between reason for co-use and product consumption

	Monthly use sessions (unstd. Beta)			Co-use practices (aORs)	
	Nicotine Vaping	Cannabis Vaping	Cannabis Smoking	Chasing (ever)	Co-admin (ever)
Instrumentality	0.26**	0.04	-0.06	3.06*	1.27
Displacement	-0.20	0.07	0.14	0.82	1.41
Social Context	0.02	0.01	0.05	0.85	1.02
Experimentation	-0.01	-0.06	0.06	0.47*	1.05

Adjusted for age, sex, and GAIN-SS subscales. Confidence intervals suppressed for clarity. Bold & red values are statistically significant at p<0.05.

Conclusion

- Vaping serves a purpose that differs by substance, with nicotine vaping being more closely related to reducing tobacco smoking-related harms, and cannabis vaping being more closely related to circumventing social problems posed by cannabis smoking.
- Lifetime engagement in sequential co-use practices and more frequent nicotine vaping were associated with reasons related to enhancing the intoxicating effects of cannabis.
- Findings have implications for studying nicotine and cannabis vaping.

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Disclosures

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