

Assessing Stress and Coping in College Students who use Cannabis and Nicotine

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Introduction

- 93.7% of college students rated at least one type of stress at least mild (Karyotaki et al., 2020).
- 80.3% of college students have symptoms of moderate to severe stress (Othman et al., 2019).
- In 2020, 44% of college students reported using marijuana/cannabis in the past year (NIDA, 2021).
- It is important to investigate the relationship between these variables as it may help us understand what specific challenges universities can target to help mediate the issues of substance use on college campuses.
- The purpose of this study was to gain a better understanding of substance use, use motives, and coping among college students.

Methods

Inclusion Criteria:

- 18 years or older
- Student at Northern Arizona University

Procedure:

- Participants completed a survey that was 25-30 minutes long using REDCap
- Recruitment occurred through fliers, emails, in-class announcements, and word of mouth.
- Participants were eligible to win a \$15 gift card.
- Some participants also received class credit via SONA
- All responses were anonymous.

Measures:

- Addiction Severity Index** (ASI; McLellan et al., 2006) assessed the participants' use of cannabis (any form) or nicotine (e-cigarettes), the frequency of their use, and last date of use.
- Perceived Stress Scale** (PSS; Cohen et al., 1983) assessed how often within the last month that the participants felt stressed. 14-items rated from 1–5, $\alpha = 0.79$
- Brief COPE** (Carver, 1997) assessed the coping strategies and styles (avoidant coping/A, emotion-focused coping/EF, and problem-focused coping/PF) of the participants. 28-items rated from 1–4, $\alpha = 0.83$ (PF), $\alpha = .74$ (EF), and $\alpha = .75$ (A).
- Marijuana Decisional Balance Scale** (MDB; Elliott et al., 2011) was used to investigate motivations behind cannabis use divided into “pros” and “cons” subscales. 8-items for the pros scale and 16-items for the cons scale, both rated from 1–5, Pro $\alpha = 0.91$, Con $\alpha = 0.95$.
- E-cigarette Outcome Expectancy Measure** (Barker et al., 2019) was used to investigate participants' perceptions of outcomes associated with e-cigarette use divided into “pros” and “cons” subscales. 11-items for the pros scale and 8-items for the cons scale, both rated from 1–5, Pro $\alpha = 0.9$, Con $\alpha = 0.81$.

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Results

Table 1: Demographics of 276 Students

Variable	%	M (SD)
Gender		
Women	73.2%	
Men	19.9%	
Non-binary	5.4%	
Transgender Women	0.4%	
Transgender Men	0.7%	
Race & Ethnicity		
Non-Hispanic White	58.0%	
Non-Hispanic Black	4.7%	
Non-Hispanic other	9.8%	
Hispanic White	14.5%	
Hispanic other	13.0%	
Sexuality		
Heterosexual	68.5%	
Homosexual	6.5%	
Bi/pansexual	21.4%	
Asexual	0.7%	
Queer	2.9%	
Year in School		
Freshman	55.8%	
Sophomore	25.4%	
Junior	12.7%	
Senior	5.1%	
5 th year or beyond	1.1%	
Use in the Past Month		
Nicotine (E-cig)	14.5%	
Cannabis	39.5%	
Both	21.7%	
Neither	24.3%	
Route of Admin (Cannabis)		
Inhale	41.7%	
Oral/ingest	31.2%	
Vape/e-cig	40.6%	
Other	2.5%	
E-cig times per day		18.78 (29.8)
Cannabis smoked times per month		12.63 (19.82)
Cannabis concentrate smoked times per month		4.68 (9.17)
Cannabis vaped times per month		8.88 (16.97)
Cannabis ingested times per month		2.94 (6.30)
Age		19.05 (1.45)
PSS		2.93 (.49)
Cope (Problem Focused)		2.74 (0.6)
Cope (Emotion Focused)		2.49 (0.5)
Cope (Avoidant)		2.00 (.55)
MJ Pro		2.72 (1.14)
MJ Con		3.07 (1.15)
Ecig Pro		2.41 (.96)
Ecig Con		2.07 (.86)

Table 2: Correlation Frequency of Nicotine ECIG use among 100 students who have used Nicotine ECIGS

	2	3	4	5	6	7	8	9
1.Age	.505**	-.020	<.000	-.059	.054	.103	.192	.274**
2.Year		-.057	-.134	.229*	.095	-.029	.056	.151
3. Freq of ECIG use			.332**	-.200	.092	.138	.208	-.059
4.PSS				-.304**	.152	.479**	.226*	.127
5.Cope (Problem)					.377**	-.139	-.294**	-.181
6.Cope (Emotion)						.361**	.049	-.122
7.Cope (Avoidant)							.259**	.156
8. ECIG Pros								-.033
9. ECIG Cons								

Table 3: Correlation Frequency of Cannabis among 169 students who have used Cannabis

	2	3	4	5	6	7	8	9	10	11	12
1.Age	.871**	.052	.032	.248*	.104	-.027	.047	.003	-.110	.046	-.157*
2.Year		.017	-.016	.284*	.069	-.089	.102	-.010	-.158*	.060	-.244**
3.Freq Smoked			.387*	.544**	.255	-.056	.249*	.203*	.169	.295**	-.156
4.Freq Smoked Concentrate				.075	.072	.021	-.023	.056	.250*	.206*	-.212*
5.Freq Orally Ingested					.610**	-.256*	.208	.100	.132	.288*	-.185
6.Freq used ECIG						-.146	.066	.059	.156	.308**	-.154
7.PSS							-.239**	.187*	.505**	.176*	.096
8.Cope (Problem)								.516**	-.010	.151*	.181*
9.Cope (Emotion)									.441**	.378**	.129
10. Cope (Avoidant)										.542**	.071
11. MJ Pros											-.061
12. MJ Cons											

*Correlation is significant at the .05 level (2-tailed)
** Correlation is significant at the .01 level (2-tailed)

Conclusion

- There were no differences in perceived stress between gender groups. In other words, all genders reported comparable levels of perceived stress.
- Age was positively correlated with e-cigarette cons. Suggesting that older students perceive more consequences related to using nicotine e-cigarettes.
- Perceived stress was positively correlated with frequency of nicotine e-cigarette use among students who reporting using e-cigarettes. Meaning the more stress a student reported the more they used their e-cigarette. This is a correlation, not causation and could be bidirectional.
- Perceived stress was positively correlated with avoidant coping among students who use nicotine e-cigarettes and among students who use cannabis. This could suggest that students are using e-cigarettes and cannabis as an avoidant coping mechanism.
- Perceived stress was negatively correlated with problem focused coping in students who use nicotine e-cigarettes and among students who use cannabis. Meaning higher problem focused coping was associated with lower perceived stress.
- People who identified as LGBTQIA+ reported higher perceived stress, higher avoidant coping, higher perceived cannabis pros, and lower perceived cannabis cons.
- Future directions should investigate the differences observed between the cisgender heterosexual group and the LGBTQIA+ group, specifically why there are more pros for using cannabis among the LGBTQIA+ group.

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