Cannabis use and expectancies, personality constructs, and sub-clinical mental health disorders: The prediction of use behaviour, dependence and associated problems

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Introduction

Cannabis is the most widely used illicit drug in the world. Although not all users experience harm, some young people experience damaging social and health consequences of use. Identifying which types of young people are at risk from cannabis related harm is therefore important. Previous work has found a relationship between patterns of cannabis use and cannabis effect expectancies (Marijuana Effect Expectancies: Buckner and Schmidt, 2009), psychopathology (e.g. Depression: Buckner et al., 2007; Anxiety: Buckner et al., 2008) and personality factors (e.g. Sensation Seeking: Creemers et al., 2009; Time Perception: Apostolidis et al., 2006a; 2006b). However, little work has investigated how these factors interact to predict dysfunctional cannabis use and associated problems. The aim of this research was to investigate the association of these factors and cannabis-related outcomes, in order to inform the development of targeted prevention interventions.

Methods

The sample consisted of undergraduate students recruited through psychology courses. Students received course credit for their participation. Additional participants were also recruited through online forums, including Blue Light and Drugs-Forum. Participants had to be between the ages of 18 and 25 years and have no current clinical diagnosis of an affective disorder or be in drug treatment in order to take part. Participants completed an online questionnaire that took approximately 30 minutes. This poster presents preliminary analyses using multiple regression techniques, in order to estimate the association between cannabis outcomes and cannabis expectancies, psychopathology, and personality constructs.

Measures

Construct	Measure	Mean (Standard Deviation)	
Personality Factors			
Impulsivity	Sensitivity to Reward Questionnaire (Torrubia et al., 2001)	Sensitivity to Reward	0.51 (0.19)
	Future Consequences (Strathman et al., 1994)	Future Consequences	3.05 (0.39)
Sensation Seeking	Brief Sensation Seeking Scale (Zuckerman, 1994)	2.26 (0.76)	
Time Perception	Zimbardo Time Perception Inventory (Zimbardo & Boyd, 1999)	Future	3.20 (0.49)
		Past-Negative	3.11 (0.75)
		Past-Positive	3.40 (0.59)
		Present-Fatalistic	2.72 (0.61)
		Present-Hedonistic	3.54 (0.56)
Mental Health Factors			
Aggression	The Aggression Questionnaire (Buss & Perry, 1992)	Anger	16.85 (8.47)
		Physical	21.27 (7.91)
		Verbal	15.12 (4.46)
Anxiety Sensitivity	Anxiety Sensitivity Index - 3 (Taylor et al., 2007)	Cognitive	3.36 (4.54)
		Physical	3.87 (4.30)
		Social	7.01 (5.07)
Depression	Center for Epidemiologic Studies Depression Scale (Radloff, 1991)	16.82 (10.81)	
Drug-Related Factors			
Cannabis Expectancies	Marijuana Effect Expectancies Questionnaire (MEEQ) (Aarons et al., 2001)	Cognitive Behavioural Impairment	32.65 (7.06)
		Craving and Physical Effects	22.21 (4.22)
		Global Negative Effects	21.43 (7.88)
		Perceptual and Cognitive Enhancement	25.06 (5.30)
		Relaxation and Tension Reduction	27.56 (6.00)
		Social and Sexual Facilitation	27.14 (5.47)

Sample Population

Measure		
Age (Years) (N = 250)	M=20.10; SD = 2.57	
Sex (% Female)	167 (66.8)	
Ethnicity (%)	White	229 (91.6)
	Mixed Race	4 (1.6)
	Asian British	6 (2.4)
	Asian	5 (2.0)
	Black	3 (1.2)
	Other	3 (1.2)
Lifetime Cannabis Use	Never	73 (29.2)
	Lifetime	177 (70.8)
	Past Year	136 (54.4)
	Past Month	97 (38.8)
Cannabis Frequency	Never	93 (37.2)
	Less than monthly	38 (27.2)
	Monthly	17 (6.8)
	Weekly	33 (13.2)
	Daily	39 (15.6)
Cannabis Problems Index (N = 225)	M = 1.17; SD = 2.49	
Severity of Dependence Scale (N = 121)	M = 1.69; SD = 2.49	

Cannabis-Related Factors and their relationship with Drug-Related, Mental Health, and Personality Factors

	b	SE b	β
Lifetime Cannabis Use (N = 236)			
Constant	1.26	0.56	
Sex	0.65	0.11	0.25***
MEEQ – Global Negative Effects	-0.11	0.01	-0.68***
MEEQ – Craving and Physical Effects	0.08	0.01	0.26***
MEEQ – Cognitive Behavioural Impairment	0.03	0.01	0.15**
Time Perception – Present-Fatalistic	-0.33	0.08	-0.16***
Time Perception – Present-Hedonistic	0.24	0.11	0.10***
Sensation Seeking	-0.14	0.08	-0.08#
Aggression – Anger	0.01	0.01	0.07#

$F_{(8, 227)} = 67.98, p<.001$

Note. $R^2 = 0.70$. #p<0.10, *p<0.05, **p<0.01, ***p<0.001.

	b	SE b	β
Cannabis Use Frequency (N = 167)			
Constant	2.30	0.56	
Sex	0.95	0.16	0.33***
MEEQ – Perceptual and Cognitive Enhancement	0.06	0.02	0.22***
MEEQ – Global and Negative Effects	-0.09	0.01	-0.42***
Sensation Seeking	-0.32	0.10	-0.16**
Anxiety Sensitivity - Cognitive	0.03	0.02	0.10#

$F_{(5, 161)} = 49.13, p<.001$

Note. $R^2 = 0.60$. #p<0.10, *p<0.05, **p<0.01, ***p<0.001.

	b	SE b	β
Severity of Dependence (N = 116)			
Constant	-4.43	1.55	
Sex	1.39	0.39	0.31***
MEEQ – Cognitive Behavioural Impairment	0.06	0.03	0.17#
MEEQ – Social and Sexual Facilitation	-0.08	0.04	-0.18#
MEEQ – Perceptual and Cognitive Enhancement	0.09	0.03	0.29**
Aggression – Anger	0.10	0.04	0.22*

$F_{(6, 106)} = 9.18, p<.001$

Note. $R^2 = 0.34$. #p<0.10, *p<0.05, **p<0.01, ***p<0.001.

	b	SE b	β
Cannabis Use Problems (N = 146)			
Constant	-2.23	1.55	
Cannabis Frequency	0.90	0.14	0.47***
MEEQ – Cognitive Behavioural Enhancement	0.09	0.03	0.22**
Aggression – Physical	0.06	0.03	0.18*
Aggression – Verbal	-0.11	0.05	-0.18*
Anxiety Sensitivity – Cognitive	0.10	0.04	0.18*
Impulsivity – Sensitivity to Reward	1.97	1.12	0.14#
Time Perception – Past-Positive	-0.50	0.324	-0.11

$F_{(7, 138)} = 12.52, p<.001$

Note. $R^2 = 0.39$. #p<0.10, *p<0.05, **p<0.01, ***p<0.001.

Conclusions

Results indicate that cannabis expectancies and personality constructs of time perception and sensation seeking were associated with lifetime cannabis use, cannabis use frequency and dependence, while cannabis problems were associated with frequency of use, cannabis expectancies and (sub-clinical) anxious symptomatology and aggression. Although the cross-sectional research design prevents us from making assumptions regarding causality, it appears that aggressive and anxiety mental health disorders, at the sub-clinical level, are related to self-reported cannabis problems. Physical aggression and cognitive anxiety sensitivity have a positive relationship with cannabis use problems, while verbal aggression has a negative relationship. It is possible that verbal aggression is measuring assertiveness, opposed to verbal aspects of aggression. Additionally, it is possible that those with higher self-reports of aggression and anxiety may also be more likely to interpret their behaviour as problematic. This research suggests that personality constructs and cannabis expectancies are associated with cannabis use, frequency and dependence, while self-reported cannabis problems are exacerbated by sub-clinical levels of anxiety and aggression. Further research should investigate the relationship between sub-clinical levels of anxiety and aggression and the development of cannabis problems.

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