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TYPES, STRENGTHS AND VARIETIES OF EMOTIONS: EMOTIONAL EDUCATION CLUES AGAINST CANNABIS SMOKING IN YOUTH.

Gonzalo Díaz Meneses
(University of Las Palmas de Gran Canaria, Spain, gonzalo.diazmeneses@ulpgc.es)
Asunción Beerli
(University of Las Palmas de Gran Canaria, Spain, suny.beerli@ulpgc.es)
Josefa Delia Martín Santana
(University of Las Palmas de Gran Canaria, Spain, josefa.martin@ulpgc.es)

Abstract:

The aim of this work is analysing cannabis consumption amongst youth. It explains this maladaptive phenomenon by exploring the differences between cannabis takers and non-takers to make clear what specific emotions are associated with cannabis. We demonstrate that cannabis relates to both pleasant and unpleasant emotions, but non-takers of cannabis actually exhibit a more intensively emotional state of mind, and even, in fact, display a broader variety of emotions. Finally, certain practical implications could improve emotional learning and education, as well as social marketing campaigns with emotional appeals. We also suggest future lines of research.

Keywords: *consumer behaviour, emotions, cannabis, emotional learning, social marketing.*

1. Introduction

Although there exists a clear association between the type, intensity and range of emotions and smoking cannabis, it is difficult to pinpoint the specific type, strength and variety of emotions that profile smokers and non-smokers. Smoking cannabis is often associated with paradoxical emotional responses. On the one hand, it is consumed due to a desire for relief from boredom and stress but eventually results in anxiety and depression (Schofield, Tennant, Nash, Degenhardt, Cornish, Hobbs & Brennan, 2006). There are problems of emotional regulation linked to cannabis use (Bonn-Miller et al., 2008), and biological reasons that relate smoking cannabis to both anxiety and euphoria (Moreira & Lutz, 2008). On the other hand, smoking cannabis seems to be a legitimated hedonist response (Brodbeck, Matter, Page & Moggi, 2007) in the context of civil liberties, the value of which, in terms of protecting individual pleasure, is arguably as significant a task as increasing public tax revenues and maintaining healthcare (MacCoun & Reuter, 1997). For these reasons, opinions are divided as to whether smoking cannabis gives rise to the same type, intensity and range of emotions or whether smokers and non-smokers show the same emotional differences. These are some of the contradictions this research seeks to shed light on, intending to improve emotional learning related to drug prevention campaigns.

To be more specific, this paper aims to set out three research objectives. Firstly, to acknowledge which specific emotions are correlated with cannabis use by measuring the degree of emotional dissimilarity between smokers and non-smokers. Hence, the question to raise is: how different are the emotional responses experienced by cannabis smokers and non-smokers? Secondly, to measure the strength of emotionality under which smokers and non-smokers deal with cannabis. So, the answer to this question lays in computing the level of intensity that carries every emotion in cannabis smokers and non-smokers. Thirdly, to calculate the emotional range, variety and richness that both cannabis smokers and non-smokers experience. In this sense, we highlight the existence of any discrete emotion so as to count the added degree of variety that describes, as well as differentiates, the emotional state of both cannabis smokers and non-smokers.

2. Review of the literature

We should suggest that there exists a clear association between type, quantity and range of emotions and smoking cannabis. First, the literature has indicated that specific types of emotions are connected to cannabis use. To be specific, smoking cannabis is associated with negative emotional circumstances, and this is the driving force behind having an urge to take drugs. The research has mostly highlighted that young people often consider cannabis as a means to reducing negative emotions such as anxiety and stress (Hutchinson, Baldwin & Oh, 2006) and avoiding the emotional effects stemming from the perceived need for the approval of others (Comeau, Stewart & Loba, 2001; Green, Kavanagh & Young. 2004). Personal crises are also particularly important, and feelings of frustration and aggressiveness trigger behaviour that leads to drug consumption (Buckner, Keough & Schmidt, 2007), often as a form of compensation for a lack of social skills (Miller, Alberts, Hecht, Trost & Krizrk, 2000; Buckner, Bonn-Miller, Zvolensky & Schmidt, 2007).

Positive emotions are often associated with smoking cannabis and it has long been acknowledged that drugs can give rise to pleasant feelings during consumption (Parker & Egginton, 2002). According to Calafat, Juan, Becoña, Fernández, Gil, Palmer, Sureda & Torres (2000) and Deeham & Saville (2003), drug consumption is a way of facilitating social interactions and encouraging, along with music designed to induce a trance-like state, the ritualistic behaviour of dancing with large groups of strangers in sophisticated venues. However, young adults do not only see drugs as a means of having fun; but consumption also allows them to extend the pleasant feelings generated by partying (Williams & Parker, 2001), an enjoyment they intend to achieve and prolong (Zvolensky, Vuljanovic, Berstein, Bonn-Miller, Marshall & Leyro, 2007). Finally, drug addiction is an undesired consequence of drug use and connected to negative emotions such as depression and other problems of emotional regulation (Bonn-Miller, Vujanovic & Zvolensky, 2008; Gratz, Tull, Baruch, Bornovalova & Lejuez, 2008).

In the same vein as non-smoking campaigns, anger about illegal trafficking, concern about public health, the joy of life, and pride in oneself are posed as themes for campaigns whose messages convey the importance of being free of this drug (Lau, Sales, Averill, Murphy, Sato & Murphy, 2015; Reinarman & Cohen, 2007). These represent a few of the examples that might be given to support an emotive deterrent

to drug use among non-consumers. Hence, one might state that there is a specific relationship between types of emotion and cannabis consumption, and so hypothesis H_1 is formulated as follows:

H_1 Young cannabis smokers and non-smokers differ in the types of emotions they feel.

In addition, it seems logical to highlight not only the affective character of emotions but also the significance of the emotional experiences drugs provide their users compared to the emotional experience of non-users. Insofar as smoking cannabis is regarded as a controversial issue that might work against youth health, it is not clear who demonstrates the more intensive emotional experiences: the cannabis smokers or the non-smokers. Nevertheless, contrary to what seems evident in the vast majority of research, the emotional experience of non-smokers must be richer than that of cannabis smokers. Cannabis smokers show a significant deficit in detecting emotional expressions and need more emotional intensity to acknowledge their responses (Platt, Kamboj, Morgan & Curran, 2010). Consistently, the intensity of emotional experiences is much more malleable than in the case of negative valence (Kim & Hamann, 2007). Likewise, while problematic cannabis smoking responses are associated with difficulty in emotional self-regulation and distress tolerance (Dvorak & Day, 2014), non-smoking of cannabis is linked to higher levels of emotional intelligence (Claros & Sharma, 2012), as well as lucidity and focus (Osborne & Fogel, 2008). On this basis, and recognising the existence of different potential intensities of emotional responses, hypothesis H_2 is put forward as follows:

H_2 Young cannabis smokers and non-smokers differ in the intensity of emotions they feel.

In summary, emotional costs and negative emotions on the one hand, and enjoyable and pleasant experiences on the other, comprise what might be defined as a rich pool of emotions. Not in vain, emotions show two valences, given that there are positive and pleasant emotions such as joy, pride and a sense of novelty while, at the same time, there are also negative emotions such as anxiety and frustration. These positive and negative valences often occur in conjunction and provide a very rich emotional landscape in the minds of not only young cannabis smokers but also those whose responses are against smoking. What is more, not smoking cannabis must offer further opportunities to process a wide variety of emotions than smoking cannabis due to several reasons. First, smoking cannabis is driven by the desire to escape from fear reactivity sentiments (Zvolensky, Marshall, Johnson, Hogan, Berstein & Bonn-Miller, 2009) and repression of other unpleasant emotional responses (Houck, Bryan & Ewing, 2013) rooted in the non-acceptance of reality (Bonn-Miller et al, 2008). Thus, cannabis smokers are more likely to reject negative emotions and are more willing to be self-unaware of their sentiments (Tull, Bardeen, DiLillo, Messman-Moore & Gratz, 2015). Second, cannabis smokers show less ability to craft emotional regulation strategies than non-smokers (Brodbeck et al., 2007; Weiss, Bold, Sullivan, Armeli & Tennen, 2017). Finally, as the vast majority of cannabis smokers are low-level users, they don't display all the emotional potential that drugs entail (Pearson, Bravo & Conner, 2017). On this basis, and recognising the existence of a broad range of emotional consequences attached to smoking cannabis, we propose the following hypothesis:

H_3 Young cannabis smokers and non-smokers differ in the range of emotions they feel.

3. Methodology

The methodology of this empirical research was based on a self-administered structured questionnaire, completed by a representative sample of individuals aged 18 to 30. Participants were selected using relationship sampling, as we required close collaboration from respondents so they felt free to express their opinions, beliefs, attitudes and behaviour in terms of cannabis consumption. Additionally, we applied a proportional affixation quota of gender and age. The total sample comprised 403 individuals whose characteristics are laid out in table 1.

Table 1. The sample profile

FEATURES	n	%	FEATURES	n	%
GENDER			SOCIAL CLASS		
Male	205	50.9	Upper	27	6.7
Female	198	49.1	Upper middle	90	22.3
AGE			Middle	184	45.7
Between 18 to 21 years	124	30.8	Lower middle	61	15.1
Between 22 to 25 years	190	47.1	Lower	38	9.4
Between 26 to 30 years	88	21.8			
EDUCATION			CANNABIS CONSUMPTION FREQUENCY		
Without education	1	0.2	Every day	15	3.7
Primary	37	9.2	Three or four times a week	18	4.5
Secondary	163	40.4	Only at weekends	6	1.5
College	140	34.7	Some weekends	34	8.4
University	61	15.1	Once a month	12	3.0
			Seldom	55	13.6
			Never	263	65.3

Emotions related to cannabis consumption were measured using a 9-item, 7-point Likert scale, based on the literature on marketing psychology (Westbrook & Oliver, 1991) and a qualitative phase by the authors of this paper. This scale gathers information on the greater or lesser intensity of the feelings and their positive or negative valence towards the use of this substance.

Lastly, youth cannabis consumption was measured in terms of frequency and based on the criteria from the questionnaire created by the Spanish National Drug Programme. In this study, the frequency of consumption was measured using a single-item scale in which frequency had values from 1 to 7, where 1 corresponds to “every day” and 7 to “never”.

Table 2 shows the items that finally made up the measurement scales of each construct in this study after performing factorial analyses. Their results are shown in the results section.

Table 2. Scale items

Emotions related to cannabis consumption	
EMOTION1	I boast, or I could boast, about using cannabis
EMOTION2	Cannabis consumption leads to feelings of euphoria
EMOTION3	Cannabis consumption leads to feelings of satisfaction
EMOTION4	Cannabis consumption makes you moody and hostile
EMOTION5	Cannabis consumption makes you feel depressed
EMOTION6	Cannabis consumption humiliates you and your family
EMOTION7	Cannabis consumption is degenerate
EMOTION8	It scares me that cannabis consumption can lead to addiction and mental health problems
EMOTION9	I reject cannabis consumption
Cannabis consumption frequency	
Everyday/Three or four times a week/Every weekend/Some weekends/Once a month/Seldom/Never	

4. Analysis of the results

4.1. Preliminary results

An exploratory factor analyses were carried out to extract a summary of the emotions related to cannabis consumption and so acknowledge the types of existing emotions. The exploratory factor analysis carried out on the scale of emotions has distinguished two different dimensions: positive and negative emotions. Insofar as the first dimension regards disgust, sadness, shame, anger and fear related to smoking cannabis, it has been labelled "negative emotions". In contrast, the second dimension has been labelled "positive emotions", since smoking cannabis is assumed to be satisfying, joyful and a source of pride (see table 3).

Table 3. Factor analysis on the emotions scale

Com.	Items	Neg. emo.	Pos. emo.
.715	Cannabis consumption is degenerate	.842	-.076
.734	I reject cannabis consumption	.824	-.236
.673	Cannabis consumption makes you feel depressed	.789	-.223
.633	Cannabis consumption humiliates you & your family	.788	-.114
.635	Cannabis consumption makes you moody & hostile	.774	-.190
.498	It scares me that cannabis consumption can lead to addiction and mental health problems	.699	-.094
.769	Cannabis consumption leads to feelings of satisfaction	-.212	.851
.718	Cannabis consumption leads to feelings of euphoria	-.276	.801
.631	I boast, or I could boast, about using cannabis	-.020	.794
KMO: .867; Barlett: 1683.609, df: 36, Sig.: 0.000; Explained variance: 66, 728			

To build new variables to measure the degree of intensity and variety of emotions, several operations were performed. For the intensity of emotions, the corresponding mean, derived from the original variables, was calculated and a new variable was created. In addition, for a variety of emotions, a new variable was generated in two steps. First, the values of the original emotional variables were dichotomised into two different categories by considering whether values 2,3,4,5,6 & 7 equal 1 or not (value 1 equals 0). Second, a new variable called a variety of emotions was built as a result of carrying out a summation of the dichotomised variables.

4.2. Contrasting the hypotheses

Likewise, correlations and t-tests of students were carried out to measure similarities and differences in terms of emotions between cannabis smokers and non-smokers.

Table 4 shows the results obtained thanks to correlation analysis between the *emotions* and *smoking cannabis* variables. It shows evidence that there is a positive relationship between smoking cannabis and processing negative emotions and, in turn, there is a negative association between smoking cannabis and feeling positive emotions.

Table 4. Analysis of Spearman Correlation Coefficient for the emotions types

V112	Negative emotion (F1)	Positive emotion (F2)
C.	.345**	-.547**
Sig	.000	.000
N	391	391

Therefore, hypothesis 1 is verified, given that young cannabis smokers and non-smokers differ in the type of emotions they feel.

Table 5 captures the results obtained from a t-test of students to contrast whether or not there is a difference in the quantity, volume and intensity of emotions from the perspective of smoking cannabis. It was found that non-smokers feel a greater intensity of emotions than smokers of cannabis.

Table 5. T of students between cannabis consumption and intensity of emotions

Cannabis consumption		N	Mean	Standard deviation	Mean of standard error
No	00	254	3.6093	1.31186	.08231
Yes	1.00	137	2.9124	1.06113	.09066

	Levene Test of equal variances		Mean test of equal mean		
Intensity of emotions	F	Sig.	T	gl	Sig. (bilateral)
Equal variances	12.983	.000	5.345	389	.000
No equal variances			5.691	331.538	.000

On this basis, hypothesis 2 is verified, since young cannabis smokers and non-smokers differ in the intensity of emotions they feel.

Also, following a t-test of students that was performed to analyse the similarities of emotional varieties between smokers and non-smokers, it might be stated that non-smokers show a greater variety of emotions than smokers of cannabis (see table 6).

Table 6. T of students between cannabis consumption and a variety of emotions

Cannabis consumption		N	Mean	Standard deviation	Mean of standard error
No	00	254	.4751	.22076	.01385
Yes	1.00	137	.4161	.27317	.02334

	Levene Test of equal variances		Mean test of equal mean		
Variety of emotions	F	Sig.	T	gl	Sig. (bilateral)
Equal variances	8.058	.005	2.316	389	.021
No equal variances			2.174	233.135	.031

Therefore, hypothesis 3 is verified, given that young cannabis smokers and non-smokers differ in the variety and degree of emotions they embrace.

5. Conclusions

On the whole, not only has this study been able to show certain links between types, intensities and varieties of emotions and cannabis consumption, but it has also shown glaring differences between young cannabis smokers and non-smokers.

The findings are consistent with previous works that pointed out that cannabis consumption is related not only to the absence of positive emotions but also to the presence of negative. As a result, it is clear that in providing insight into smoking cannabis, the obtained evidence is consistent with the predominant literature in confirming the depressing, shameful and unstable emotional reality of drugs. Nevertheless, the most surprising and illuminating evidence stemming from the current research about emotions is that people who smoke cannabis are poorer in terms of the intensity and variety of emotions they experience when compared to non-smokers. The consumption of drugs has been described as being characterised by a craving for excitement (Schofield et al, 2006), and one of the contributions of this research work is in bringing to the attention of the literature the notion that more should be said on the consequences for the passion of smoking cannabis (Demant, 2013).

To be specific, two types of emotions have been found associated with cannabis, that is, positive and negative emotions. Firstly, while smokers show negative emotional states, non-smokers process positive emotional responses. This finding is consistent to Schofield et al. (2006) in that smoking cannabis implies a craving for positive emotions and hence it signifies a current lack of positive emotions. Therefore, it is not the positive emotional response in itself that matters, but rather the anxiety, boredom and depression stemming from drug consumption. On this basis, we should give credit to the acquisition of both emotional skills (Biglan, Mrazek, Carnine & Flay, 2003) and active coping abilities (Salovey, Stroud, Woolery & Epel, 2002) as tools of drug prevention.

Secondly, it is worth stating that the presence of negative emotions is comparatively weak in cannabis smokers than the presence of positive emotions is strong in non-smokers. Therefore, not only is the emotional valence different depending on whether one smokes cannabis or not, but also the intensity of emotions is dissimilar between smokers and non-smokers. According to Platt et al. (2010), the cannabis user is not only slower on the emotional uptake, but also their stimuli require more intensity. It might be because negative emotions are always harder to process than positive emotions, which leads to smokers feeling a certain lack of emotional self-awareness (Troup, Bastidas, Nguyen, Andrzejewski, Bowers & Nomi, 2016). The incapacity to perceive one's own emotions is related to illegal drug consumption (Brackett, Mayer & Warner, 2004). As a consequence, the enhancement of emotional intelligence by schools and social marketing campaigns might be of help in improving the way people perceive, understand, and manage their lives and, in turn, the performance of drug prevention policies (Nelis, Quoidbach, Mikolajczak & Hanseene, 2009; Mikolajzack, Petrides & Hurry, 2009).

Thirdly, the pool of emotions is infused with lesser variety in the case of smokers. This emotional asymmetry in terms of types, intensities and varieties is argued by Kuny & Demetrovics (2010) as a consequence of a disparate level of emotional intelligence. Smokers are worse at decoding their emotions since their ability to identify and distinguish emotions is poorer, mainly in populations with addiction (Kornreich, Foisy, Philippot, Dan, Tecco, Noe, Hess, Pelc & Verbanck, 2003). Similarly, in medical populations, cannabis users show a lower level of ability to pay attention to, systematise and interpret their emotions (Boden, Gross, Babson & Bonn-Miller, 2013). Finally, cannabis smokers possess lesser accuracy and sensitivity in respect to recognising, organising and understanding emotions, not only their own but also anybody else's (Hindocha, Wollenberg, Leno, Alvarez, Curran & Freeman, 2014).

All these things considered, it seems logical to recommend that drug prevention campaigns are as intensely emotional as possible, taking into account a wide range of emotions from negative to positive. Nevertheless, given that cannabis smokers are devoid of positive emotions, messages should be predominantly positive. Moreover, insofar as smokers lack emotional intensity, their treatment should be stronger in terms of affections, sentiments and moods. Finally, a special emphasis should be placed on enhancing a rich variety of emotions if the target audience is comprised of cannabis smokers, for example, with pleasant valences such as joy, surprise and pride, as well as negative valences such as anger, disgust, sadness, shame and guilt.

Finally, we acknowledge some limitations stemming from the fact that the key research variables, namely emotions, have been analysed utilizing questionnaires, rather than by neuro measuring instruments, and it seems logical to think that there can be a gauging difference between the former subjective method and the latter objective procedure. It goes without saying that a future line of research should set up scanning measuring methods and use neuroscience techniques. In addition, although the relationship between emotional intelligence and cannabis smoking has been explored by the current paper, more thorough research is needed in this area of expertise, that is, emotional education against smoking cannabis.

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