



## RESEARCH PAPER

### The Level of Impulsivity and Aggression among Crystal Meth and Cannabis Users

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#### ABSTRACT

Cannabis and crystal meth use is pervading in our society. Present study was conducted to explore the relationship between level of impulsivity and aggression among crystal meth and cannabis users. The sample of the present study was comprised of 100 participants. There were 50 cannabis and 50 crystal meth users who were diagnosed on the basis of DSM-V without any comorbidity. The sample were taken from all age range of population. The minimum education level was primary and maximum education level was graduation and above. The sample was selected from different drug rehabilitation centers of Rawalpindi and Islamabad, Pakistan. Demographic Performa was used to collect the initial important information, The "Barratt Impulsiveness Scale" was used to measure the impulsivity and "Aggression Questionnaire" were used to measure the level of aggression. Finding of the study showed that there are significant differences among crystal meth and cannabis users on level of aggression. The calculated mean value for crystal meth user and for cannabis users indicates that crystal meth users have higher level of aggression as compared to the cannabis user. Over all analysis indicates a significant positive correlation of impulsivity with the variable aggression. The alpha coefficient value for all scale is acceptable.

#### Introduction

Drug addiction is a leading current problem particularly crystal meth (Methamphetamine) a particularly addictive stimulant, has speedily unfold to become the foremost ordinarily used illicit drug in Pakistan. In keeping with UNODC 275 million folks are misuser of drugs worldwide within the year until 2020, though on top of thirty six million people agonized from substance use disorders, World Drug Report free in 2021, by the world organization workplace on medicine and Crime (UNODC). The bulk of common substances dependent encompass "cannabis, crystal meth (methamphetamines), Heroin, or ecstasy, followed by cocaine and opiates" conjointly another pharmaceuticals in the society or community (UNODC, 2021).

Studies suggests that abuse of crystal meth (methamphetamine) is growing country wide and worldwide public fitness trouble with an projected 35 million manipulators worldwide, comprising international locations Canada, China, Japan, Mexico, and USA. Crystal meth (methamphetamine) additionally growing in Pakistan. One look at intended that concluded 1/2 of the world's Crystal meth (methamphetamine) consumers exist in Southeast Asia and in Mexico the variety of human beings got here to remedy for psych stimulant dependency from 1996 to 2006 multiplied from 3% to 20%. Crystal meth (methamphetamine) is the maximum regularly synthesized unlawful drug with inside the United States and has been noted through police officers because the main purpose of crook issues with inside the United States.

A survey was conducted in 2006 and this survey confirmed that 5.8% of Americans elderly 12 years or older used Crystal meth (methamphetamine) at the least as soon as. There were big increase in Crystal meth (methamphetamine) associated emergency room admissions at hospitals with inside the Southwest of the USA (Koob & Volkow, 2010).

### **Level of Impulsivity and Aggression among the User of Crystal Meth**

There are a few elements manipulating the Expression of Aggression in Crystal meth (Methamphetamine) Users Current sympathetic and know-how of why a implication among Crystal meth (Methamphetamine) use and aggression is experiential in a few consumers, however now no longer in others, is exceedingly incomplete. Although many research genuinely set up an affiliation among Crystal meth (Methamphetamine) use and aggression, there was relatively little attention compensated to elements which could thought the propensity to enjoyment aggressively.

Two variables that have been strongly, even though unconnectedly, related to each Crystal meth (Methamphetamine) use and aggression are compulsion manipulate (the aptitude to inhibit behavior) and psychotic symptoms. Although those impartial implications studies is but to adjust whether or not those elements play a intermediating or controlling position at the expression of competitive conduct in Crystal meth (Methamphetamine) consumers. In the subsequent section, research which have investigated every of those elements can be revised (Stretesky, 2009).

### **Biological Basis for Crystal Meth (Methamphetamine) use and Violent Behavior**

There is a strong relationship among crystal Meth (Methamphetamine) and violent behavior, that there requirement be an inexpensive organic passageway through which methamphetamine use can basis be a violence. There are some of organic elements that

growth the hazard of violent conduct (like satisfied styles of mind pathologies), however the maximum in all likelihood technique for methamphetamine use to growth the opportunity of violent conduct is by its movement on neurochemical structures with inside the mind. Most typically cited neuro-pharmacological substrate of violent conduct is exhausted serotonin (Boles & Miotto 2003).

### **Impulsivity and Aggression in Cannabis**

According to (Niblett, 2018), hashish (THC) is the maximum extensively used illicit substance globally. In England, number one hashish use variations for the most important percentage of younger human beings in treatment for substance misappropriation. Some of them there may be a main aspect contributing to hashish dependence can be co-dependence on nicotine, on account that many hashish people who smoke additionally smoke cigarettes and are much more likely to relapse to hashish even as persevering with to smoke cigarettes (Rabin & George, 2015).

Comorbidity hashish cigarette smoking is related to denser cigarette smoking relative to cigarette smoking simplest at the same time as cigarette smoking allows the connection among hashish use and hashish dependence. Failure to recollect the function of cigarette smoking while trying to apprehend elements underlying complex hashish use might also additionally have delayed studies progress (Hindocha et al, 2015).

The goal of this present study is to fill gap of growing variety of substance consumers strongly preference that the reasons of the substance use issues must be explored. There is a strong gap among aggression and impulsivity amongst cannabis and crystal meth users.

The excessively significant frequency of the relapse strongly preferred to be addressed. There are distinct contributing elements that could boom the threat and occurrence of the relapse. Aggression and impulsivity are taken into consideration because the main reason of relapse are these two factors are involved. Present research is aimed to minimize the number of relapse by working on impulsivity and level of aggression among substance users.

H1: There would be a positive relationship between aggression and impulsivity.

H2: The level of aggression will be higher among crystal meth users as compared to the cannabis users.

H3: The level of impulsivity will be higher in crystal meth users as compared to the cannabis users.

H3a: The level of hostility will be higher among crystal meth users as compared to the cannabis users.

H3b: The level of physical aggression will be higher among crystal meth as compared to the cannabis users.

H3c: The level of anger will be higher among crystal meth users as compared to the cannabis users.

H3d: The level of verbal aggression will be higher among crystal meth as compared to the cannabis users.

H4: The divorced substance users have high level of aggression and impulsivity as compared to the single and married crystal meth and cannabis users.

H5: The graduate crystal meth and cannabis users have higher level of aggression and higher level of impulsivity as compared to primary, matric and intermediate crystal meth and cannabis users.

## **Material and Methods**

The sample of the present study is comprised of 100 diagnosed substance users. There were 50 crystal meth users and 50 cannabis users from the rehabilitation centers of Rawalpindi and Islamabad. The minimum educational level of the sample was primary and maximum educational level was above masters. The crystal meth and cannabis users who had any other psychological comorbidity were excluded from the study. These samples were selected by using the convenient sampling of non-probability sampling.

## **Instruments**

Following important research instruments were used to collect the data.

### **Barratt Impulsiveness Scale**

Barratt Impulsiveness Scale used on this examines and the impulsivity Scale turned into used". The "Barratt Impulsiveness Scale (Version 11; BIS-11; Patton, Stanford, & Barratt, 1995) is a gold well known degree that has been influential in shaping

contemporary theories of impulse control, and has performed a key position in research of impulsivity and its biological, psychological, and behavioral correlates". We used Urdu model that's translated through Muhammad Mussaffa Butt, Sana Fatima & Kafeel Ashraf from GC University Lahore, Pakistan.

### Aggression Scale

The "Aggression scale includes four factors, Physical Aggression (PA), Verbal Aggression (VA), Anger (A) and Hostility (H)". The entire rating designed for "Aggression" is the calculation of the characteristic achieve. Buss and Perry Aggression Questionnaire (1992). It is remodel hooked on Urdu through "Dr. Rabia" in line with civilization.

### Procedure

In order to collect the data different rehabilitation were contacted and proper institutional approval was taken from the institution. After institutional approval diagnosed crystal meth (Methamphetamine) and cannabis users without any comorbidity were selected as the sample of the study. An informed consent was used which was based on confidentiality, anonymous participation, right to withdraw from the study and no physical or psychological harm to the participants. Demographic pro-forma, aggression questionnaire and impulsivity scale was used to collect the data. After collection of the data the participants were properly thanked.

### Results and Discussion

**Table 1**  
**Psychometric properties of study variables (N=100)**

Variables	M	SD	A	Range		Skewness	Kurtosis
				Minimum	Maximum		
Anger	20.20	6.40	.66	9	34	.053	-1.00
Physical Aggression	27.31	7.81	.71	9	42	-.120	-.708
Hostility	23.88	7.78	.72	8	39	.150	-.755
Verbal Aggression	14.38	4.84	.49	5	25	.006	-.500
AQ	85.07	24.28	.90	32	137	-.003	-.878
BIS	68.49	10.14	.68	30	92	-.834	2.81

Note: BPAQ = BIS = Barratt Impulsiveness Scale, AQ = Aggression Questionnaire

The calculated alpha reliability of the variable for all scales is greater than 0.60 which depicts that research instruments are reliable.

**Table 2**  
**Pearson correlation between different study variables (N=100)**

Variables	1	2	3	4	5	6
AQ	-	-.048	.91***	.93***	.91***	.81***
BIS		-	-.04	-.04	-.04	0.3
Anger			-	.91***	.76***	.70***
Physical Aggression				-	.80***	.71***
Hostility					-	.60***
Verbal Aggression						-

Note: AQ = Aggression Questionnaire, BIS = Barratt Impulsiveness Scale, \*\*\* $p < .000$ ,

Findings indicate there is no correlation between aggression and impulsivity. There is strong positive correlation between Aggression and anger, aggression and hostility, aggression and physical aggression and aggression and verbal aggression.

**Table 3**  
**Mean differences on aggression and impulsivity among cannabis and crystal meth users.**

Variables	CM (N= 50)		CB (N= 50)		$t(100)$	$P$	95% CI		Cohen's d
	M	SD	M	SD			LL	UL	
Anger	22.77	6.01	17.66	5.78	4.29	.000	-1.64	2.30	0.053
Physical aggression	29.95	7.35	24.78	7.45	3.46	.001	-1.47	2.96	0.108
Hostility	27.12	7.01	20.73	7.24	4.46	.000	.01	4.16	0.324
Verbal Aggression	15.70	7.01	13.06	5.05	2.82	.006	-.32	4.13	0.273
AQ	96.76	21.58	76.24	22.57	4.54	.000	-1.90	2.26	0.026
BIS	68.44	10.81	68.54	9.76	-.04	.961	-6.28	3.58	0.087

Note:  $M$  = Mean,  $SD$  = Standard Deviation, AQ = Aggression Questionnaire, BIS = Barratt Impulsiveness Scale, CM = Crystal Meth, CB = Cannabis.

The computed values shows that crystal meth users have high level of aggression as compared to cannabis user with  $t(100) = 4.54, p < .000$ . The computed value of  $t(100) = -.04, p > .05$  indicates that there are no significant differences among cannabis and crystal meth user for impulsivity. Results show that there are significant differences among cannabis and crystal meth users on anger with  $t(100) = 4.29, p < .000$ . Finding of the research shows that crystal meth users have higher level of physical aggression as compared to cannabis users with  $t(100) = 3.46, p < .000$ . Crystal meth users have higher level of hostility and verbal aggression as compared to cannabis users with  $t(100) = 4.46, p < .000$  and  $t(100) = 2.82, p < .000$ .

**Table 4**  
Mean Differences on the basis of marital status.

Measures	Mean (SD), 95% CI	Statistics F, p	Post-hoc Analysis
AQ		0.01 p<0.05	
1. Single	0.43 (5.13), 9.77-10.64	0.93 p>0.05	
2. Married	0.43 (5.13), 10.64-9.77	0.93 p>0.05	
3. Divorced	41.51 (17.32), 7.11-75.91	0.01 p<0.05	
		.65, p=n's	
1. Single	1.21 (2.12), 5.43-3.00	0.56 p>0.05	
2. Married	1.21 (7.00), 20.65-25.79	0.56 p>0.05	
3. Divorced	10.47 (7.36), 4.15-25.00	0.15 p>0.05	

Note: SD = Standard Deviation, AQ = Aggression Questionnaire, BIS = Barratt Impulsiveness Scale.

Table 4 the calculated value of p is greater than 0.05 for single and married however the p < 0.05 for divorced which means that the results are significantly different on the marital categories. The mean value for divorced is (M= 41.51) which shows that divorced has higher level of aggression. There are no significant differences on impulsivity among the categories of marital status.

**Table 5**  
Mean Differences on the basis of Education.

Measures	Mean (SD), 95% CI	Statistics F, p	Post-hoc Analysis
AQ		0.08 p<0.05	
1. Primary	<b>6.06 (6.05), 18.08-5.95</b>	0.31 p>0.05	
2. Matric	<b>6.06 (6.05), 5.95-18.08</b>	0.31 p>0.05	
3. Intermediate	<b>1.79 (7.70), 13.50-17.10</b>	0.81 p>0.05	
4. Graduation	<b>7.66 (8.46), 24.47-9.15</b>	0.08 p<0.05	
		.72, p=n's	
BIS		0.72 p>0.05	
1. Primary	<b>0.88 (2.47), 5.79-4.02</b>	0.96 p>0.05	
2. Matric	<b>0.13 (3.20), 6.23-6.49</b>	0.88 p>0.05	
3. Intermediate	<b>1.01 (3.01), 4.96-7.00</b>	0.87 p>0.05	
4. Graduation	<b>0.51 (3.53), 6.50-7.52</b>	0.87 p>0.05	

Note: SD = Standard Deviation, AQ = Aggression Questionnaire, BIS = Barratt Impulsiveness Scale.

Table 5 the calculated value of p is greater than 0.05 for primary, matric, and intermediate but the p value is less than 0.05 for graduation which shows the significance of the differences. The calculated mean value (M = 7.66) for graduation is greater than other educational level which shows that graduate substance users have higher level of aggression.

## **Discussion**

The first research hypothesis of present study was “There would be a positive relationship between aggression and impulsivity” and findings indicates that there is no correlation between aggression and impulsivity. There is strong positive correlation between Aggression and anger, aggression and hostility, aggression and physical aggression and aggression and verbal aggression.

The second hypothesis of this study was that “The level of aggression will be higher among crystal meth users as compared to the cannabis users”. The finding of the research indicates that crystal meth (Methamphetamine) users have higher level of aggression as compared to cannabis.

The finding of the study showed that crystal meth users have higher level of aggression (Baskin-Sommer, 2006) designate that the connotation between aggressive behavior and crystal meth (methamphetamine) use support those of other studies, though most previous studies refer precisely to ‘violent behavior’ and were conducted in adult samples and critical review of the association between methamphetamine use and violence (Tyner & Fremouw, 2008).

The third hypothesis of this study was that “high level of impulsivity among crystal meth users than cannabis users shows Pearson Correlation among different study variables. Findings indicate that Aggression is negatively correlated with impulsivity ( $r = -.04, p > .005$ ), but there is strong positive correlation between Aggression and anger ( $r = -.78, p < .000$ ), aggression and hostility ( $r = -.60, p < .000$ ), aggression and physical aggression ( $r = -.80, p < .000$ ) and aggression and verbal aggression ( $r = -.81, p < .000$ ). The four subscale and the hypothesis which is used that indicate positive correlations that hypothesis are H3a, H3b, H3c and H3d.

Another research by (Linehan, (1993) indicate that cause of impulsive and violent behavior in BPD, stresses attempt to control affect, frequently in the context of external inputs that are perceived as invalidating or that the patient desires to alter. According to Stretesky, (2009) research, violent unlawful behavior has been connected to crystal meth (methamphetamine) signifying that it motivating violence, including inhibition of prompts that normally control behavior, increased stimulation, interfering with interpersonal statement and intensification of emotions.

Another research hypothesis of present research was that “The divorced crystal meth and cannabis users have high level of aggression and impulsivity as compared to the



single and married crystal meth and cannabis users. In this table 4 explicates the values of mean variances for aggression and impulsivity on marital status. Marital status was divided into three categories, single, married, and divorced. The calculated value of p is greater than 0.05 for single and married however the  $p < 0.05$  for divorced which means that the results are significantly different on the marital categories. The mean value for divorced is ( $M = 41.51$ ) which shows that divorced has higher level of aggression. There are no significant differences on impulsivity among the categories of marital status.

The fifth research hypothesis of present research was that “The graduate substance users have higher level of aggression and higher level of impulsivity as compared to primary, matric and intermediate crystal meth and cannabis users.

Table 5 explains the values of mean differences for aggression and impulsivity on level of education. Level of education was divided into four categories, primary, matric, intermediate and graduation. The calculated value of p is greater than 0.05 for primary, matric, and intermediate but the p value is less than 0.05 for graduation which shows the significance of the differences. The calculated mean value ( $M = 7.66$ ) for graduation is greater than other educational level which shows that graduate substance users have higher level of aggression.

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