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Effects of Rave Drug use on Cognitive Functioning

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p Between Rave Drug Use and Executive Functioning

YC 292, Research in Addictive Behaviors, Fall 2020

Malaika Malik

BACKGROUND

- MDMA/Ecstasy, also known as “rave” or “party” drugs have become popular amongst young adults
- Little is known or confirmed about the effects of MDMA/Ecstasy
- Studies have shown evidence in favor of deficits in executive functioning that is linked to the use of the drug
- Depressive symptoms could be related to MDMA/Ecstasy use, but exploration as to how is required
- Age could be a potential contributor to worsening deficits in executive functioning
- This study aimed to explore these variables and if there is an relationship between these variables

MEASURES

- There were 5 measures used to assess the variables:
 - **Substance Involvement Screening Test** was used to determine MDMA/Ecstasy use history
 - **CES-D[A]** was used to determine self-reported depressive symptoms
 - **DEX** and **Webexec** were used to assess self-reported deficits in executive functioning
 - **Barratt Impulsiveness Scale** was used as a control measure for impulsiveness

STUDY DESIGN AND PROCEDURE

- Participants were recruited via social media outreach and on Clark University’s campus ($n = 31$)
- Consenting participants took an online survey to self report on the measures
- Data was scored accordingly, and mean scores were determined
- A correlational analysis was run to determine a relationship between:
 - Substance involvement and depression
 - Substance involvement and executive functioning
 - Substance involvement, age, and executive functioning with the covariate of depression

RESULTS

- Results indicated that there was a significant positive correlation between MDMA/Ecstasy use and executive functioning
 - Based on scoring methods, it was revealed that use of rave drugs is correlated to deficits in executive functioning
- Participants who were involved with the consumption of MDMA/Ecstasy showed deficits in executive functioning, as well as a relationship with depression
- Hypothesis regarding negative effects of MDMA/Ecstasy use on executive functioning was supported

TABLES

Table 1
Means and standard deviation of all measure variables based on total score and age in years.

Variable	Mean	SD
1. Substance Involvement	1.00	2.08
2. CES-D[A]	23.93	14.80
3. DEX	25.65	21.86
4. Webexec	12.03	4.61
5. Barratt	62.33	10.37
6. Age in Years	21.58	2.85

Table 2
Intercorrelations between total score of measure of individual measures for Substance Involvement and subsequent measures of executive functioning, depression, age demographics, with the control for impulsiveness.

Measures	1	2	3	4	5	6
1. Substance Involvement	-	.409*	.546**	.416*	.452*	.551**
2. CES-D[A]	-	-	.825**	.654**	.637**	-.043
3. DEX	-	-	-	.798**	.814**	-.039
4. Webexec	-	-	-	-	.751**	-.057
5. Barratt	-	-	-	-	-	.189
6. Age in Years	-	-	-	-	-	-

**Correlation is significant at the 0.01 level (2-Tailed)
*Correlation is significant at the 0.05 level (2-Tailed)

DISCUSSION

- The hypothesis of the study was supported by the results
- Limitations:
 - Small participant pool
 - Measures were all self-report
- The results were significant, and are a support to previous literatures that touch upon the negative effects of MDMA/Ecstasy use