



Reasonable Resistance: An Intervention to Reduce Drug Abuse among NYC Teens

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Problem

- ▶ Drug abuse amongst teenagers has become a significant health concern in America. **
- ▶ At least 1-in-8 teenagers have abused an illicit substance in the last year and 50% of teenagers have misused a drug at least once
 - ▶ 2019 - 4,777 overdose deaths among 15 to 24-year-olds
 - ▶ 11.89 million 18 to 25-year-olds used drugs in the last month
 - ▶ Drug use accounts for 3.2% of the total of disability-adjusted-life-years
- ▶ 14% of NYC public high school students have misused prescription drugs within the past year or had lifetime use of illicit drugs
- ▶ A 2017 report stated that 1 in 10 NYC youth in public high schools reported any illicit drug use
- ▶ Causes: A multitude of factors
 - ▶ Main reasons youth use drugs are for the social benefits of seeming “cool” and being more accepted by their peers
 - ▶ lack of parental guidance, SES, peer pressure, poor decision-making skills, coping mechanism, experimentation, perception of drug use



Significance

- ▶ Data brief reports on self-reported drug use have shown a steady increase in drug use among youth
- ▶ Drug abuse can affect the brains ability to function in the present moment and further stunt development in the long term
- ▶ Crucial physical and intellectual growth takes place during teenage years and anything with negative health effects on the brain and body can interfere with these processes
- ▶ Common health outcomes of drug-abusing teens include: **brain shrinkage, altered socialization skills, amnesia and memory problems, strokes, seizures, and mental problems.**
- ▶ Treatment initiatives are **essential** because drug abuse at a young age correlates to more significant continued substance abuse problems later in life
- ▶ **Economic cost of drug abuse was estimated to be \$193 billion in 2007**

Solution / Program Description



- ▶ A school-based intervention program “**Reasonable Resistance**” aimed at reducing the prevalence of drug abuse among teenagers in New York City and tailoring decision-making and refusal skills.
 - ▶ **contemporary approaches** to develop the intervention based on psychosocial theories on the etiology of adolescent drug use and targeting risk and protective factors that promote initiation
- ▶ Population: students ages 14-18 from public high schools across the five boroughs of NYC
- ▶ Investigate the effectiveness of school-based interventions on reducing drug abuse among teenagers compared to teenagers who do not participate in such intervention programs
- ▶ Program will offer lessons with information about drugs and their harmful effects, the psychological effects of drug use, and social and personal skills to aid resistance
 - ▶ **12 weekly 60-minute classes**
 - ▶ Each lesson will come with 4 to 6 activities addressing these topics on drug prevention



Goals and Objectives

- ▶ Reduce the prevalence of drug use and abuse among teens
 - ▶ Establish innovative interventions
 - ▶ Reduce drug use incidence by 10%
 - ▶ Increase the percentage of youths' literacy on drugs and drug-related behaviors
- ▶ Ensure availability of school-based drug intervention programs in all public schools
 - ▶ Increase the number of schools offering drug use intervention programs
 - ▶ Increase the number of NYC children actively participating and adhering to the intervention curriculum
 - ▶ Identify factors preventing the presence of such programs in NYC public schools
- ▶ Identify risk/predisposing factors that lead to drug abuse among teens
 - ▶ Partner with high-risk youth, their parent/guardian/caregiver, and healthcare providers to optimize communication
 - ▶ Develop a valid and reliable questionnaire
 - ▶ establish quality data collection systems and methods to better analyze use risk factors



Implementation

- ▶ Participating students will be given a pre-test questionnaire and post-test questionnaire to evaluate their likeliness to use drugs before taking the course and after.
- ▶ Questions will focus on the frequency of use of tobacco, marijuana, inhalants, and cocaine in the past 30 days, year, and one's lifetime.
 - ▶ Questionnaire will combine questions from the European Drug Addiction Prevention Program (EU-DAP), "Unplugged", and the Drug Use Questionnaire from the National Institute on Drug Abuse in America (validity)
- ▶ Data will be gathered on socio-demographic factors, knowledge of drugs, beliefs and opinion on drugs, decision-making skills and refusal skills
- ▶ Qualitative Data will be collected through focus groups (separate male and female groups consisting of 8-12 individuals)
 - ▶ Will help us understand social phenomena with the help of the perspectives and experiences of all of the participants
- ▶ Budget: \$75,000

Questionnaire



1.	Gender: How do you identify?	M	F	Other
2.	What is your age group?	13-14	15-17	>18
3.	In which borough do you reside?	a. Bronx b. Brooklyn c. Queens d. Manhattan e. Staten Island		
4.	Is the effect of a drug increasing if one takes more of it?	Y	N	
5.	Do drugs affect all people in the same way?	Y	N	
6.	Are drugs more dangerous for females than males?	Y	N	
7.	Are there any drugs, which do not have a risk of getting addicted to?	Y	N	
8.	Will people like me more if I use drugs?	Y	N	
9.	Are drugs helpful in solving problems?	Y	N	
<i>These Questions refer to the past 30 days, year or lifetime</i>				
10.	Have you used drugs other than those required for medical reasons?	Y	N	

18.	Have you engaged in illegal activities in order to obtain drugs?	Y	N	N/A
19.	Have you ever neglected yourself whilst using drugs?	Y	N	N/A
20.	Did you acquire your drug of choice from an adult (18+) or minor (<18)?	Adult	Minor	N/A

11.	Have you used a drug in excess of the directions?	Y	N	
12.	Do you/Have you abuse more than one drug at a time?	Y	N	
13.	Have you ever used tobacco, marijuana, inhalants, cocaine or any other illegal substance on a single occasion?	Y	N	
<i>If you answered "N" to questions 10-13, you may select "N/A" for questions 14-20.</i>				
14.	Are you unable to stop using drugs when you want to?	Y	N	N/A
15.	Have you ever had blackouts or flashbacks as a result of drug use?	Y	N	N/A
16.	Do you ever feel bad or guilty about your drug use?	Y	N	N/A
17.	Does your parents ever complain about your involvement with drugs?	Y	N	N/A

Extra Details				
21.	Were you adopted?	Y	N	
22.	Have you been in foster care?	Y	N	
23.	Have you ever been homeless?	Y	N	
24.	Did you grow up in a single (1) or two (2) parent household?	1	2	
25.	Have you witnessed or do you think your parents use drugs?	Y	N	
26.	What are your parents' highest level of education?	a. < 12 th grade b. High School or GED c. Some college, No degree d. Associate's Degree e. Bachelor's Degree f. Post-graduate Degree		
27.	Have you ever witnessed your peers use drugs?	Y	N	



Focus Group Questions

- ▶ In what ways have drugs been offered to you in your community, if any?
 - ▶ In what ways can you access drugs in your community?
 - ▶ Give an example
 - ▶ Tell me more
 - ▶ How did it make you feel?
 - ▶ What was your response?
- ▶ What are some factors that promote drug abuse amongst people your age in this community?
- ▶ What role does social media play in drug abuse?
 - ▶ Social activities?
 - ▶ Peer Pressure?
- ▶ What can you recommend to address this drug misuse problem?
- ▶ What actions have you taken when you suspect someone is abusing drugs?
- ▶ How often do you encounter drugs?
- ▶ How do you perceive the health effects of drugs?
- ▶ In what ways do you feel the intervention could have helped students more?
 - ▶ What are some recommendations for improvement?
 - ▶ Examples of potential additions?
 - ▶ Things we should keep?
 - ▶ Thing we could have taken away?
- ▶ Why is drug abuse among teens a public health concern?
 - ▶ How do you feel about efforts to help with the problems?

Logic Model



Inputs	Outputs		Outcomes -- Impact		
	Activities	Participation	Short Term	Mid Term	Long Term
1. Students 2. Teachers 3. Board of Education Members (BOE) 4. Materials 5. Technology 6. Parents 7. Curriculum 8. Instruction 9. Workshops 10. Focus Groups 11. Questionnaires 12. Evidence Based Practices 13. Peer Reviewed References 14. School/Community Sites 15. Community Engagement 16. Funding	1. Organize a drug use reduction program 2. Community supply donations 3. Collaborate with the students, parents, and BOE members to identify priority of needs 4. Develop social media/ marketing campaigns to advertise to high-risk youth 5. Develop a risk reduction curriculum 6. Instructor training 7. Financing program costs 8. Identify key stakeholders involved in prevention efforts	1. High School students ages 14-18 residing in NYC	1. Risk factors that lead to drug abuse have been identified 2. Predisposing factors that increase susceptibility to drug use have been identified 3. Students have been instructed on intervention options and resources to help with drug use 4. Students in extenuating situations have been referred to healthcare providers 5. Students have taken a lecture on decision-making and refusal skills	1. Students have the option to participate in school-based programs at their school or school nearby 2. A plan of action has been developed by the BOE to tackle the problem in schools 3. Youths' literacy on drugs and drug-related behaviors have increased 4. Factors prohibiting intervention effectiveness have been identified 5. Increased intervention compliance and adherence	1. Reduce the prevalence of drug use and abuse 2. Reduce the incidence of drug use and abuse 3. All students attending NYC public schools are mandated to participate in school-based intervention programs 4. School-based, community-based, and family-based interventions all have significant effects on risk-reduction 5. Have specific interventions for specific risk-factors 6. Increase life expectancy of teens using drugs 7. Ensure availability of school-based drug intervention programs in all public schools



Evaluation

- ▶ Summative assessment approach - data collected before and after the program
 - ▶ performance of the program will be analyzed based on the responses of the questionnaires at the end of the program in comparison to determine the significant difference between the final data set and the data set at the beginning of the program before the implementation process.
 - ▶ analysis will be done based on the attendance of the students
- ▶ Independent t-test to determine the effect of the intervention on the results of the project.
 - ▶ intervention - independent variable
 - ▶ outcome - dependent variable
- ▶ Multiple regression analysis to determine how a multitude of factors affect initiation of drug use among teenagers
 - ▶ helpful in designing the mitigation strategies towards the program and problem
 - ▶ A multiple regression analysis will be done in the beginning of the program to determine the significance of previous knowledge about drugs, social demographic factors, beliefs, opinion on drugs and the questionnaire scores recorded in the beginning of the experiment of the program



Tracking Matrix

Student Unique number M= Male F= Female	Number of lessons attended of the 144 available	Substance abuse data in the beginning of the Program (Questionnaire)	Substance abuse response at the end of the Program (Questionnaire)
STM1	No. of lessons	Questionnaire score feedback	Questionnaire score feedback
STM2	No. of lessons	Questionnaire score feedback	Questionnaire score feedback
STM3	No. of lessons	Questionnaire score feedback	Questionnaire score feedback
STM4	No. of lessons	Questionnaire score feedback	Questionnaire score feedback

STF1	No. of lessons	Questionnaire score feedback	Questionnaire score feedback
STF2	No. of lessons	Questionnaire score feedback	Questionnaire score feedback
STF3	No. of lessons	Questionnaire score feedback	Questionnaire score feedback
STF4	No. of lessons	Questionnaire score feedback	Questionnaire score feedback



Conclusion

- ▶ Reasonable Resistance was created to investigate the effectiveness of school-based intervention programs on reducing drug abuse among teenagers compared to teenagers who do not participate in such intervention programs.
 - ▶ Will consist of 12 weekly 60-minute classes
 - ▶ Educate students on drugs and their harmful effects, the psychological effects of drug use, and social and personal skills to aid resistance.
- ▶ Between 2016 and 2020 drug use went up 61% among 8th graders and 50% of teenagers have misused a drug at least once
- ▶ This issue must be tackled efficiently and effectively because drug abuse at a young age correlates to more significant continued substance abuse problems later in life.
- ▶ Goals of the program include reducing the prevalence of drug use and abuse, ensuring the availability of school-based drug intervention programs in all New York City public schools, and identifying risk and predisposing factors that lead to drug abuse among teens.

Conclusion



- ▶ The program will be evaluated on a summative basis using an independent t-test and multiple regression analysis.
- ▶ Data and findings from the Reasonable Resistance intervention can help the board of education, school systems, educational staff and providers understand their role in reducing drug abuse amongst teenagers.
- ▶ Results of this study can also be presented to parents as an educational resource to help them understand their role and contributing factors to drug abuse outside of school-based intervention programs.

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