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Social Determinants and Effective Drug and Alcohol Prevention Programs

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Abstract

There is a relationship between social determinants and effective drug and alcohol prevention programs. Through this analysis, the objective will be to examine social determinants and distal, intermediate, and proximal causes of drug abuse in relation to youth drug and alcohol abuse. The research is a mixed-methods approach and includes a content analysis using the social determinants of health framework on existing drug and alcohol prevention programs that focus on youth, employing quantitative research. The most prevalent programs were intermediate or upstream programs. The research yields mixed results on the most effective level of social determinant in reducing drug and alcohol use among youth. It is recommended that further research be conducted to gain a better understanding of the success rates associated with social determinants and effective drug and alcohol prevention programs.
Keywords: youth, drug/alcohol abuse, social determinants, health

Literature Review

This analysis aims to address social determinants of youth engagement in alcohol and drugs. The research will look at the alignment of prevention programs with the etiology of the behaviors. The literature often explains youth drug and alcohol abuse as a result of distal, intermediate, and proximal causes. *Distal* can be defined as upstream in the sense that it is understood to affect health indirectly. In contrast, *proximal* is considered to be downstream and is thought of as directly affecting health (Frakt, 2021). This leaves *intermediate* determinants, which are often understood as the origin of proximal-level causes (Rotenberg, 2016). For the purpose of the analysis, we will look at prevention programs focusing on the relationship between drug and alcohol abuse within distal, intermediate, and proximal ideologies. This analysis will be an attempt to understand the causes of youth engagement in drugs and alcohol and what programming is needed. This will help to understand why we need prevention programs at distal, proximal, or intermediate levels. We are looking at the social determinants of youth crime and the efficacy of prevention programs, and how these programs can impact Wilmington, North Carolinas, drug and alcohol abuse in youth, given data on youth arrests from the Wilmington Police Department.

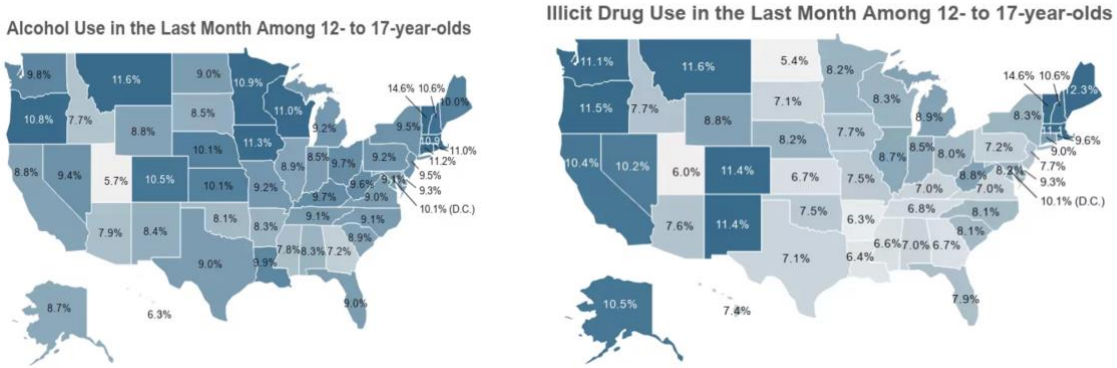
Discussion of Significance

Sociology is significant as a whole because it aims to understand social life. This can include social change and social issues resulting from human behavior. Within sociology, the goal is to look at organizations and societies as well as the ways that people interact and are structured (American Sociological Association 2021, p. 1). We will be looking at community-based research and social determinants to understand drug and alcohol abuse in youth. Youth face many issues, such as racism, violence, education differences, housing, and discrimination. These are all social determinants that may play a part in whether or not a youth is involved in drug and alcohol use. Through the research, we will look for patterns to understand drug and alcohol abuse in youth better.

Background Information & Statistics

Drug and alcohol use is a prevalent issue on a national, state, and local level. Research shows that "2.08 million or 8.33% of 12- to 17-year-olds nationwide report using drugs in the last month" (National Center for Drug Abuse Statistics 2019). 50% of teenagers have also been reported to have used some kind of illicit substance at least once (National Center for Drug Abuse Statistics 2019). At 50%, drug use in youth is a salient issue America needs to address.

Alcohol use is significant at "1.19 million 12- to 17-year-olds report binge drinking in the last month" (National Center for Drug Abuse Statistics 2019). Youth binge drinking is significant at national levels. Alcohol is the most common substance that is abused by youth in the United States. Research on evidence-based prevention programs for alcohol abuse could help make recommendations on how to lessen the amount of alcohol abuse.



(National Center for Drug Abuse Statistics, 2019)

On a state level for North Carolina, we know that 65,000, or what would be 8.14% of youth aged 12-17, have reported using drugs within the last month. This is compared to alcohol use in North Carolina, where 9.15% of youth aged 12-17 have used alcohol within the last month. Youth in North Carolina is 2.23% less likely to have used drugs within the last month than the average number of youth in America. Alcohol use is more comparable to the average 0.04% less likely (National Center for Drug Abuse Statistics 2019).

Wilmington, North Carolina, does not have the same state and national level data on drug and alcohol abuse. Through a partnership with the Wilmington Police Department, we have access

to raw arrest data that shows drug and alcohol arrests in Wilmington. This data shows that 7.9% of arrests among children, as well as youth arrests, were for drug charges, and 1.3% of youth in Wilmington were arrested for alcohol (Anderson, 2021). There is more than double the number of arrests for drugs than there is for alcohol. These statistics show that at a local level, it may be beneficial to recommend prevention programs for drug use specifically.

Social Determinants and Prevention Programs

Distal

To understand distal, we can think of macro issues such as health care, income, and discrimination. Havard Global Health institute defines distal and proximal as "Factors that affect health are often described as either "proximal" (downstream or directly affecting health) or "distal" (upstream or indirectly affecting health)" (Frakt 2021, Pp. 1). For the purpose of this research, we will be looking at prevention programs and where they are in terms of distal, proximal, and intermediate levels. Wallace and Muroff (2002) highlight a distal issue when attempting to understand drugs and alcohol with youth. In their research, they addressed substance abuse tied to race-specific research. Key findings show that "African American and white seniors differed significantly in their exposure to more than half of the 55 risk factors examined. Similarly, nearly one-third of the 165 tests for race differences in vulnerability were highly significant" (Wallace & Muroff, 2002, p. 235). Arguably these findings suggest that there are distal level determinants that are influencing the risk factors. This research looks at the risk factors and vulnerabilities that black youth have compared to their white counterparts. Discrimination and social determinants play a role in the heightened drug and alcohol abuse among black youth. Black youth have experienced delays when they attempt to seek treatment, as well as being less likely to receive outside resources such as medication (Volkow, 2021). The research design discusses the fact that the study uses multi-stage sampling in order to obtain samples nationally (Wallace & Muroff, 2002, p. 246).

Proximal

As discussed above, proximal determinants are what directly affect an individual, so these issues are downstream issues. Examples include school policies, community violence, housing segregation, and more. The proximal level research *Long-Term Effects of Staying Connected with Your Teen on Drug Use Frequency at Age 20* is a community-level study that looks at violent behavior, as well as sexual activity, in terms of causes for why youth use drugs and alcohol. The key findings from the research suggest that the program that is family-focused, called *Staying in Touch with your Teen,* had a direct effect when looking at decreasing drug and alcohol abuse in youth (Haggerty et al. 2015, Pp. 1). The research design looked at families to understand the impacts of intervention ". Families (N=331; Black=163, White=168) were randomly assigned to three conditions: parent-adolescent group-administered (PA), self-administered with telephone support (SA), and no-treatment control (Haggerty et al. 2015, Pp. 1). When understanding the key variable it is important to note that the effect of the invention looking at family stressors as well as the frequency of drug use is essential. There is also a discussion on causal factors relating to poverty, poor schools, and discrimination that can play a role in drug and alcohol use (Haggerty et al. 2015, Pp. 1). Haggarty Et al. elaborate that further research and discussion need to be done in order to understand racial differences in the study (2015). The strength of the study is that it shows promising results for family-focused intervention.

Intermediate

To better understand the intermediate prevention programs, we have found it is important to define intermediate determinants as they differ from proximal and distal. “intermediate determinants of health, ‘downstream’ from the Structural Determinants. They include material circumstances and psychosocial and behavioral characteristics. They include the living and working conditions of people, such as their pay, access to housing, or medical care” (IDPH 2021). Hawkins, Guo, Hill, Battin-Pearson, and Abbott discuss the program Raising Healthy Children, which focuses on individual intervention. The program is an intermediate prevention program focusing on substance abuse in schools. The findings show mixed results in the prevention program, where there were significant effects in some aspects, like antisocial behavior and school performance. Still, there was not the same conclusion for parent and child data (Hawkins Et al. 2001, Pp. 1). The research looked to understand if the reason or cause youth were using drugs was related to antisocial behavior or behavioral changes. The research design included a longitudinal study that looked at 18 public schools. The sample was an equal amount of boys and girls that were youth. Weaknesses of the design could be that late intervention was not as determinately significant. It would be beneficial to have research that looked at earlier ages. The strength of the design was that it did find that bonding was something that could help to predict health in children (Hawkins Et al. 2001, Pp. 233).

At an intermediate level, these prevention plans are downstream, and the research shows that while it may help temporarily, it does not mean that these programs could end youth drug and alcohol use. These programs had major limitations in their results, and all argued for further research to be done in order to understand intermediate prevention programs. These programs were connected by their level of intervention and demographics as well. To further analyze intermediate prevention programs, compare other intermediate prevention programs.

Conclusion & Implications

Through analyzing distal, proximal, and intermediate levels of intervention, it can be seen that prevention plans at these levels still need a lot of research in order to have more recommendations on prevention plans for drugs and alcohol. It is apparent that on a national, state, and local level, we have a serious problem in terms of drug and alcohol abuse in youth. When considering the discussion of problem-solving sociology, we would be looking for a solution to reduce drug and alcohol use in youth. We know that the literature on drug and alcohol prevention programs is extensive. There are studies that look in-depth at proximal and intermediate determinants. Whether or not there is a decrease in drug and alcohol use depends on the prevention program. For example, Spoth et al. (2002) saw more of a decrease in marijuana use than alcohol. Edelen et al. (2010) showed no significant long-term change in community-based prevention programs. This can be compared to Hawkins et al. (2001), where there was a decrease in drug and alcohol abuse after one year. These intermediate-level programs still show promising suggestions for future research. We know that at a proximal level, it can be understood that we need more space for understanding racial differences in prevention programs Haggerty et al. (2015). And parent-based prevention programs such as Petrie et al. (2006) and Kuntsche & Kuntsche (2016) showed promising results for programs that involved family, which is consistent with the research focusing on individuals and families.

Community-Based Participatory Research

Through a partnership with the Wilmington Police Department, we were given youth arrest data. The data shows that youth drug and alcohol arrests are a prevalent issue in Wilmington.

Through this research, the goal is to be able to identify prevention programs that would be able to lessen the number of arrests of youth for drugs and alcohol. We hope to be able to make recommendations to the Wilmington Police Department and the city of Wilmington as to what prevention program might benefit the community.

Research Methodology

This section focuses on the data that we have collected on existing prevention programs. These programs focus on the prevention of youth drug and alcohol abuse. Through this research, we will be reviewing as well as finding research that pertains to youth drug and alcohol abuse and prevention programs. We will be using the scientific method in order to look at prevention programs that already exist. Through these existing prevention programs, we will then code using content analysis and understanding of the social determinants of health framework. Through this research, we will use the concept of upstream and downstream theory to frame the project. The information that we present will be used to inform prevention for at-risk youth in Wilmington, North Carolina. We are looking to understand at what level the prevention programs are: distal, intermediate, or proximal prevention programs, as well as whether they are upstream, midstream, or downstream, and which are most effective in reducing drug and alcohol use in youth.

We will be using mixed methods and analyzing prevention programs while using content analysis to create data on these programs. Due to the nature of prevention programs, we will be focused on quantitative research, which will have numerical values in which we will be able to make comparisons for different prevention programs. We will use some level of qualitative research when looking at prevention programs that may not have quantitative research.

Content Analysis

For the research, we will be codifying and analyzing the prevention programs. Through content analysis, we will be looking at qualitative data and quantitative data from our sample and then making quantitative data. This content analysis is meant to show patterns in prevention programs as well as trends. Using the data that we create, there will then be a recommendation on prevention programs that may show positive research that might decrease drug and alcohol among youth.

Unit of Analysis

For this research, we will focus on youth drug and alcohol abuse prevention programs as the unit of analysis. The prevention programs will not be limited to only Wilmington or the United States. For variables, we are looking at prevention programs. The variables are what we will be coding when we are looking at prevention programs. These codes will include the following:

- Are they evidence-based? We hope to find patterns in whether or not a prevention program is effective, and whether or not it is evidence-based.
- Proximal?
- Distal?
- Intermediate?
- How long was the study, as well as how long the prevention programs lasted?
- Where did this program come from?
- What is the effectiveness?
- Type of area?
- Level of intervention?
- Demographic of those that the prevention program is directed at?
- Level of intervention that the program is directed at?

- What is the program addressing?

Through these codes, we will then be able to define what variable we will be looking at within the prevention programs. These units of analysis will help us to be able to compare these prevention programs.

Complications with Design and Procedures

All of the prevention programs may not have the information to code for each variable. There is a difference in some of the research demographics, especially with the ability to select our samples. Some of the prevention programs might only look at drugs, and some may only look at alcohol which makes some of the prevention programs not comparable. We found that many times there was research being done on multiple programs but not with a focus on one prevention program. It was difficult to isolate individual studies on only one prevention program.

Sampling

We will be using a structured purposive sampling design and will be using a snowball method as well. For example, within the prevention programs, we may see a citation that will lead us to another prevention program. When this happens, we will essentially follow several different prevention programs and find more examples of prevention programs and research. This often happens throughout, as it is hard to find research on individual programs. We will use content analysis to look for successful prevention programs, especially in the Wilmington area.

This research is a non-probability sample because we will select the samples. This is opposed to a probability sample where there is random selection. Additionally, it is non-probability because not everyone has a chance to be a part of the sample. In a probability sample, people have an equal chance of being a part of the sample.

As researchers, we will be using our own knowledge to select a sample for the most relevant prevention programs and research. This is the best choice because it is paired with data from the Wilmington Police Department on youth arrests and gives a comprehensive recommendation for reducing drug and alcohol abuse in youth. This sampling design is also one that is easily accessible to us. Through this sampling design, we will also be able to extract an extensive amount of information from these prevention programs. Through this sampling design, we are able to be more specific and find relevant evidence that pertains to youth drug and alcohol prevention programs.

This will not be a representative sample because we are using a non-random sampling design. As there might be an exclusion of research from other countries that are not published in English, we could see an exclusion of prevention programs based on the limitations of our search terms for bringing prevention programs to the sample. We have ten types of different prevention programs. We ended up eliminating many of the programs we found because there was insufficient research for them.

There are strengths and limitations to our design. There is strength in that we will be able to focus on and analyze specific prevention programs that pertain to the research. Through snowball sampling, we will also have to do less planning than would have to be done with other forms of sampling. There may also be limitations because the research is going to be chosen by the authors. We can also understand that programs we find might lead to others through snowball sampling and are more similar than some that might be drawn randomly. There might be some level of research bias. There might be limitations in that we have a lower amount of reliability. We

could also see that it could be hard to generalize the findings that are there.

The steps that were taken to carry out the sampling technique started with googling prevention programs, using the library as a resource for finding peer-reviewed articles, and searching for local prevention programs. We will be using keywords: 'Addiction,' 'risks,' 'deviance,' 'peer pressure,' 'adolescent development,' 'youth violence,' 'cannabis,' 'alcohol use,' 'tobacco,' 'schools,' which was expanded as we searched with the phrases "Youth substance abuse prevention" and "Drug and alcohol prevention" interchangeably with the keywords. Based on the prevention programs found we will then make comparisons. This sampling will also allow us to exclude any that might not relate to our program or have enough data to be able to code. This will leave us with a final sample size we can use for data analysis.

Data Analysis

The data is in the form of codes. This data is mixed methods depending on which prevention program is being analyzed. We ended up relying heavily on evidence-based prevention programs. We coded our data in google sheets; once the data was coded into google sheets, we were able to compare the prevention programs in order to see patterns and trends within the data. These patterns will revolve around the duration of the programs, whether or not they were evidence-based, and whether or not they were successful. We also looked at whether or not the programs were distal, intermediate, or proximal, as well as whether or not they will be upstream, midstream, or downstream. By looking at these patterns, we aim to address the concerns of what makes a prevention program efficient at decreasing drug and alcohol use in youth.

Our research instruments or coding scheme helped us to organize our data. The coding scheme being used will be the words and phrases that we have defined above in order to organize the data. These codes will be input into google sheets in order to analyze the data. We will use SPSS to reference the Wilmington Police Department youth arrest data. We will be using the results from the Wilmington Police Department arrest data in regard to the background information as well.

Results

Table 1: Prevention Program Success

Name of the Program	Duration	Evidence-Based	Proximal, distal, intermediate	Evidence of Success	Summary of success in terms of drug and alcohol
Raising Healthy Children (RHC)[1]	long term. in k- 6th follow-ups at 18, 21, 24, & 27	Yes	intermediate (schools)	Results indicate that RHC students had higher academic achievements and levels of school commitment than control groups. While there was no evidence to suggest that the program prevented alcohol and drug usage, it did reduce the frequency of usage.	Not successful
Staying Connected with Your Teen[2]	7-10 weeks	Yes	proximal (families)	SCT saw a significant reduction in positive opinions on substance use. This reduction continued to be relevant in the follow-ups.	Yes reduction
Strengthening Families Program[3]	1 year after the intervention posttest	Yes	Intermediate (school/family)?	Reduction rates for alcohol initiation were 30% for combined intervention and 4.1% for LST only.	Slight reduction
Adolescent Outcomes Project[4]	effects 72 to 102 months after intake	Yes	Intermediate community-based)	No evidence was found when looking at long-term effects although there was a change in a negative effect on property crime.	Not successful
PATHS[5]	N/A	Yes	proximal	PATHS demonstrated a significant increase in teachers perceptions of change in children's social-emotional competence, PATHS analyses also demonstrated a significant increase in prosocial behavior, PATHS led to a significant reduction in emotional symptoms	Not successful in drug and alcohol
Lions Quest program Skills for Adolescence[6]	N/A	Yes	proximal (family) and intermediate (school)	The result shows that even an abbreviated version of SFA could help lessen marijuana use, it was also shown to help reduce binge drinking.	Slight reduction
DARE[7]	N/A	Yes	intermediate	Results show that the finding from three analyses indicate that D.A.R.E is not an effective prevention program. positive.	Not successful
Project Towards No Drug Abuse (Project TND)[8]	480 minutes	Yes	intermediate	The results show that there were reductions in the use of cigarettes, marijuana, and drugs as well as how youth perceived drugs. In some instances, there were no significant changes.	Slightly successful
Coastal Horizons Outdoor adventure[9]	Dependent on what challenge is picked	No	proximal and intermediate	N/A	N/A
The incredible Years [10]	16 weeks	Yes	proximal and intermediate	Children who received any of the intervention components were more likely to have lower mother-rated internalizing symptoms at post-treatment compared to children in a wait-list control group. Implications for future research and for designing interventions and prevention strategies for children with internalizing symptoms are discussed.	Successful but not for drugs and alcohol

1 https://youth.gov/content/raising-healthy-children

2 https://youth.gov/content/staying-connected-your-teen

3 https://pubmed.ncbi.nlm.nih.gov/12079251/

4 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2814882

5 https://pathsprogram.com

6https://www.lions-quest.org/explore-our-sel-curriculum/middle-school-social-and-emotional-learning-program/

7https://link.springer.com/article/10.1186/1475-9276-12-33?utm_source=getftr&utm_medium=getftr&utm_campaign=getftr_pilot

8https://tnd.usc.edu

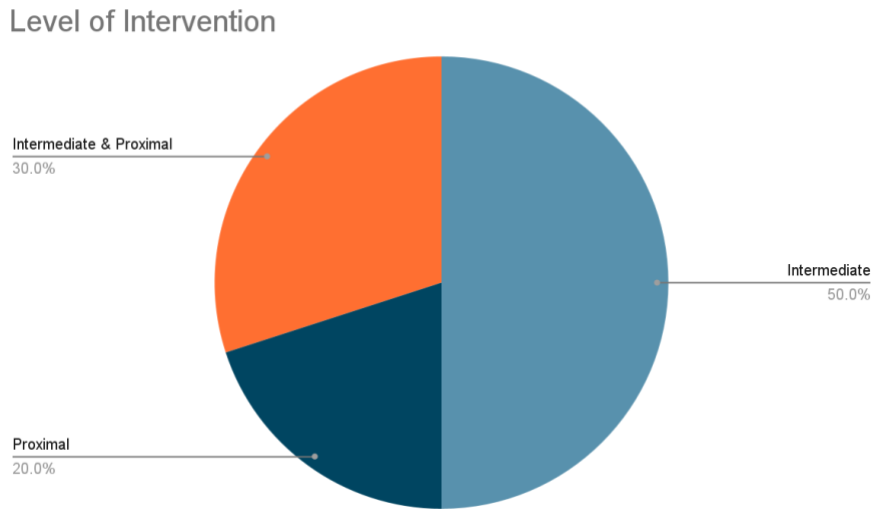
9https://www.google.com/url?q=https://www.coastalpreventionresources.org/adventure/&sa=D&source=editors&ust=1637187690231000&usg=AOvVaw3lIX7M0C6mD90xmvtp8WYR

10 https://incredibleyears.com

Of the ten prevention programs used, we can see that four of the prevention programs were successful at reducing drug and alcohol abuse in youth. One of the programs did not have data on whether or not the program was successful. One of the programs was successful in helping with emotional regulation but did not have evidence to support that it reduced drug and alcohol use in youth. This leaves four prevention programs that were not successful in reducing drug and alcohol abuse in youth. Of the four successful programs, four of these programs involved family. Those four successful programs were also all evidence-based programs. The length of these programs varied from 280 minutes to one year. These programs were designed very differently, suggesting that there is a lot of variability in how we can approach preventing drug and alcohol use in youth.

Of the ten programs, three programs were not successful. These were programs that were evidence-based and admitted to seeing no decrease in drug or alcohol abuse in youth after the program was researched. The three programs that were not successful were all at an intermediate level of intervention. This might suggest that at an intermediate level, drug and alcohol prevention programs for youth may be less successful. Furthermore, two additional programs were successful in other areas that were not related to youth drug and alcohol use. More research would need to be done to understand what makes a program successful in areas that are unrelated to drug and alcohol use.

Graph 1: Level of Intervention in Prevention Programs for Youth Drug and Alcohol Abuse



Intermediate programs were the most prevalent at (50%) followed by intermediate and proximal at (30%), and the proximal-only interventions were not as prevalent. The programs that were proximal showed mixed results. In *Staying Connected with Your Teen*, we were able to see that there was a significant reduction in drug and alcohol use in youth (Spoth, 2002). This can be compared to the prevention program *Paths*, in which we see that there was no reduction in drug and alcohol abuse in youth. It could be suggested that having some level of intermediate level of intervention is valuable in a prevention program though this would need to be followed with research to be able to back up this statement.

Graph 2: Upstream, Midstream, Downstream

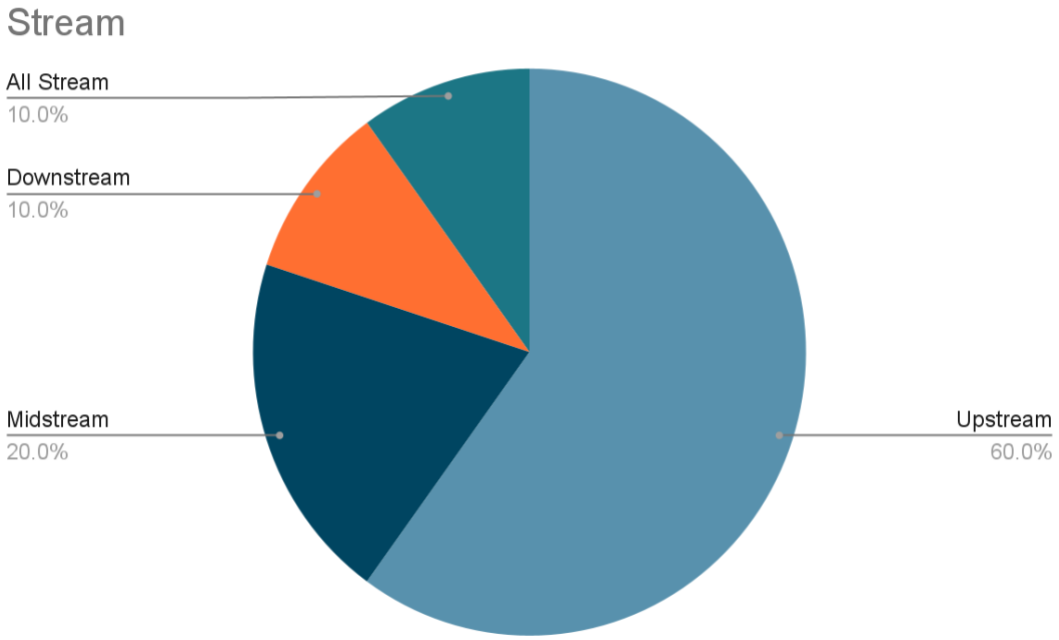


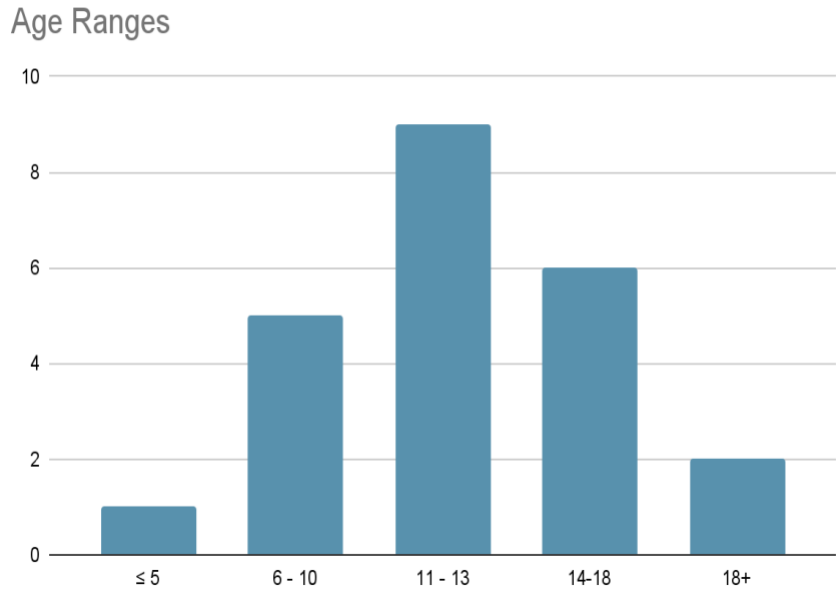
Table 2: Success and Stream

Name of the Program	The success of the program	Stream
Raising Healthy Children (RHC)[1]	Not successful	The program is upstream, they want to educate children before problems arise.
Staying Connected with Your Teen[2]	Yes reduction	The program is upstream because they are intervening before issues arise.
Strengthening Families Program[3]	Slight reduction	midstream as it is addressing schools.
Adolescent Outcomes Project	Not successful	downstream
PATHS	Not successful in drug and alcohol	upstream
Lions Quest program Skills for Adolescence	Slight reduction	upstream
DARE	Not successful	upstream
Project Towards No Drug Abuse (Project TND	Slightly successful	This is midstream as they designed the program for high-risk students
Coastal Horizons Outdoor adventure	N/A	This is a could be all levels of streams. This is because they target all kinds of people to get involved.
The incredible Years	Not enough data	This would upstream, trying to prevent issues before they happen.

Of the ten prevention programs, 60% of them could be considered upstream programs. The success of upstream programs was mixed, with two inconclusive results and three of the five other programs showing no success, and only two of the upstream prevention programs showing success in limiting drug and alcohol use in youth. Both of the midstream programs show a slight reduction in drug and alcohol use in youth. Only one prevention program was considered downstream, and this program was not considered to be successful. Additionally, one of the prevention programs

did not have conclusive results because there was no data on whether or not the program was successful at lessening drug or alcohol use in youths. These findings suggest that the success of a prevention program may not be tied to its upstream or downstream foundation, and more research would need to be done focusing on this concept.

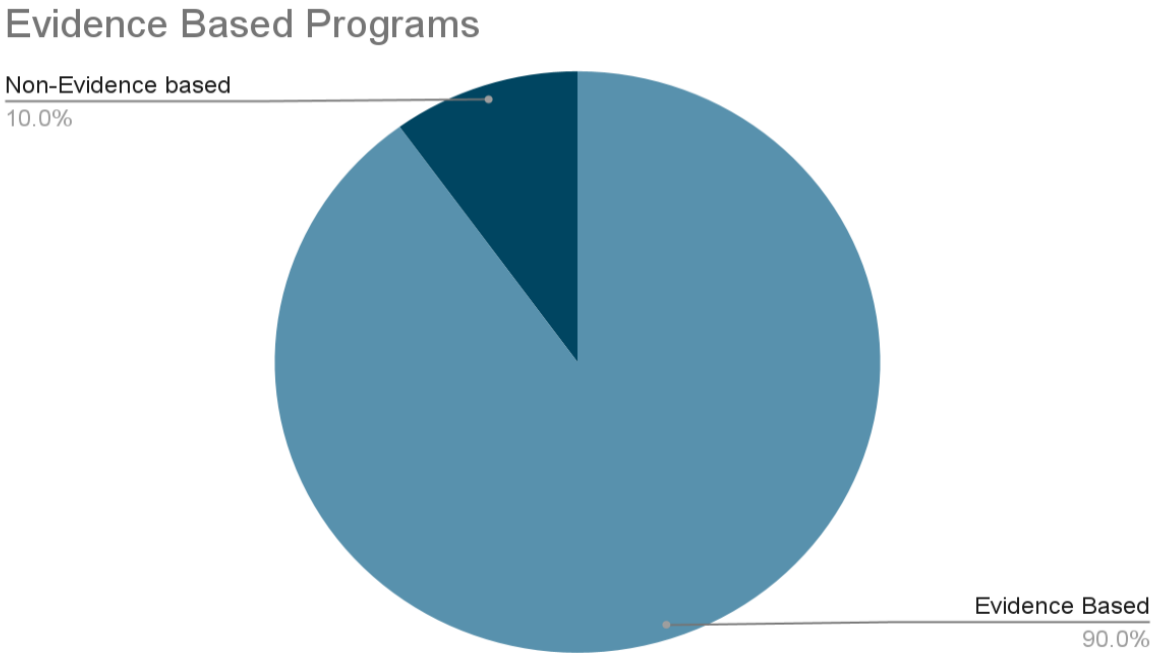
Graph 3: Ages of Youth Involved in Prevention Programs



*Because a lot of programs addressed multiple ages, they were counted for multiple ranges.

Many of the prevention programs focused on the ages of 11-13. More research needs to be done in order to understand whether or not programs need to be focusing on a larger range of youth ages or whether or not programs that target youth from ages 11-13 are more successful in lessening drug and alcohol use in youth.

Graph 4: Evidence of Non-Evidence-Based Prevention Programs



When coding, we wanted to provide sources that were evidence-based. We focused on peer-reviewed articles to provide the most science-based data possible. This is not to discount that there may be programs that are successful but have not been reviewed to have evidence to support those programs.

Discussion

Theoretical Implications

In reference to Graph 3, we can see that there is a focus on 11-13-year-old youth. Given this data, we should consider the age crime curve. DeLisi (2014) describes the age crime curve as a relationship between the crimes that youth commit and the age they are when they commit a crime. The age crime curve actually shows that crime in youth actually peaks at the ages of sixteen and seventeen. We then do not see a strong decrease until around the age of nineteen (DeLisi 2014, Pp. 1). Given this research, it could be suggested that we need to be focusing on a much broader range of ages than we see in Graph 3. Targeting youth when they are at the peak risk of offending may be a way that we could prevent drug and alcohol use in youth as well as other crimes. Using this theory, we could also consider focusing on younger youth in order to make this theory into prevention that is primary and is going to be upstream. In doing this, a prevention program might be able to prevent drug and alcohol abuse before the peak of the age crime curve.

Social Determinants of Crime

There is no one social determinant that can explain why youth are involved in drug and alcohol use. From a Distal, Intermediate, and Proximal level, there is an argument that each plays a significant role in youth involvement in deviant behavior. The prevention programs that we focused on related to education, family life, peer relations, and equal opportunities to try and understand which social determinants were relevant to the discussion on why youth are involved in drug and alcohol use. According to Shedd, we need to be looking at youths' school environment

and the access that youth have to resources, as well as the negative impact that youth have through social determinants, such as discrimination.

Many of the prevention programs that we reviewed were implemented midstream or downstream. Many of the youth who were involved in the prevention programs were already facing difficulties relating to social determinants of health. For example, Phoenix Academy focused on youth that had already been involved in the criminal justice system. Many of the youth were facing poor access to education, violence, and little access to resources (Edelen et al., 2010). Social determinants of crime were central to many of the prevention programs. Where the programs generally reached out to families who were at risk for negative social determinants such as economic difficulties, education or language barriers, and limited access to healthcare.

Limitations

As there are several limitations to this research, we would advise that further research would be done to look for patterns in prevention programs. We faced a limited time frame in which to conduct this research. This research was conducted in less than four months at an undergraduate level. It would be advisable that the same research be repeated with less of a time constraint. We also had limited resources as this research was unfunded and received little outside intervention. It would be advised that there was more content analysis done on prevention programs regarding the use of drug and alcohol abuse in youth in order to see if our findings can be repeated.

Implications for Wilmington & Recommendations

A recommendation for Wilmington, North Carolina, to reduce drug and alcohol use in youth could be to implement one of the successful programs from our study or a similar prevention program. These programs: Staying Connected with Your Teen, Strengthening Families Program, Lions Quest, and Project Toward No Drug Abuse, all had some level of success in decreasing drug and alcohol abuse. If Wilmington were to fund programs such as these, then we may see a reduction in drug and alcohol abuse in teens, as well as a reduction in youth arrests for drugs and alcohol. It should be acknowledged that the other three successful programs are not based in Wilmington and could therefore have different outcomes in the success of the program based on a difference in demographics.

Coastal Horizons in Wilmington already has a *Strengthening Families Program; it* is recommended that this program is funded more heavily. Furthermore, expanding this program could help to reduce drug and alcohol abuse in youth in Wilmington. The research for *Strengthening Families* showed not only a slight reduction but a strong reduction in drug and alcohol abuse. The fact that we have this program already established in Wilmington makes it easier than implementing a program from scratch. It is recommended that Wilmington should expand this program and implement other successful evidence-based prevention programs discussed in this paper. Additionally, Coastal Horizons is already a community-based outreach program that is recommended for building stronger communities.

Conclusion

Prevention programs play a vital role in lessening drug and alcohol abuse in youth. Through our research, there is promising data that shows that evidence-based programs can have positive effects on lessening youth drug and alcohol abuse. More research should be done in order to understand the implications of distal, intermediate, and proximal ideologies and their relation to

prevention programs. Overall extensive research needs to be done to better understand how the role social determinants of health play in youth drug and alcohol abuse.

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