Add Health Research Paper: Juvenile Chronic Offenders

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INTRODUCTION

This research project seeks to understand what causes juveniles to become chronic offenders. I will propose three theories that aim to contribute to this understanding: Control theory, strain theory, and exposure to deviant peers. I hypothesize that I) High control will be negatively associated with chronic delinquency, II) Presence of strain (failure to achieve goals) will be positively associated with chronic delinquency, and III) Greater exposure to deviant peers will be positively associated with chronic delinquency. Levels of control will be measured through assessment of juveniles' maternal attachment, presence of strain will be measured through assessment of juveniles' hobbies (apparent boredom), and exposure to deviant peers will be measured via assessment of juveniles' number of friends that smoke and drink. I will carefully define each relevant theory to provide context for my hypotheses and will provide an in-depth review of how data was collected and analyzed. Finally, I will circle back to my hypotheses and assess whether or not they are supported.

Control theory argues that different levels of control exist among individuals and that this affects whether or not they choose to engage in delinquency; those who are high in control refrain from committing delinquent acts and those who are low in control are more likely to commit delinquent acts. Agnew & Brezina (2018) describe individuals who are low in control: "They do not care what their parents think about them, their friends would not leave them, they have no scholarship to lose, and they have no plans for going to law school" (p. 151). Those who are high in control, on the other hand, believe that delinquency is dishonorable and that the risk of ruining opportunities and relationships is too high to ever engage in such behavior. While there are several major types of control such as direct control, belief, and self-control, stake in conformity is what will be focused on for this assignment.

Stake in conformity is a major type of control and focuses on what a person has to lose by engaging in delinquency. Attachment to conventional others is a key component of an individual's stake in conformity. When a teen has adults in their life that they look up to, they are less likely to engage in delinquency out of fear of upsetting that person or losing their respect. Agnew (2018) states, "...many of the students in my juvenile delinquency class report that they do not engage in delinquency because they do not want to hurt their parents or cause their parents to think badly of them" (p. 155). A teen who has meaningful relationships with parental figures is less likely to engage in delinquency than a teen who feels that their parents do not care about them or do not seem concerned with what they do. In other words, kids with poor parental relationships often feel that they have nothing to lose by doing bad things. This is why control theorists believe that having close and meaningful relationships with parental figures often leads to high control and less delinquency.

The next theory relevant to this paper is strain theory. Strain theory argues that frustrating circumstances can compel individuals to engage in delinquency and that such responses to strain are predictable. A basic strain model identifies a source of strain and attaches negative emotions to it (anger, frustration, depression, or anxiety). Delinquent adaptations such as aggression, theft, or use of substances are then recognized as reactions to negative emotions that one experiences (Agnew & Brezina, 2018). One major type of strain is failure to achieve one's goals. While there are a variety of understood goal blockages within strain theory, blockage of excitement and thrills is most relevant to this project. Individuals often engage in delinquent behavior for the "thrill" of it, or because they have a hard time finding excitement in daily activities and suffer boredom. Agnew & Brezina argue, "...many individuals discover that they have trouble satisfying this desire through legal channels" (p. 119). Through the eyes of strain theorists, boredom can be

a frustrating circumstance which predicts delinquency, especially when a teen highly prioritizes excitement in their life.

Finally, the effect of peers on delinquency is an important theory relevant to this project. According to Agnew & Brezina (2018), "Several longitudinal studies have found that associating with delinquent peers leads to an increase in subsequent delinquency, even when other variables are controlled" (p. 291). Peer influence is known to play a crucial role in shaping the actions and attitudes of juveniles. This influence is greatest when all members of a friend group are delinquent and not just some. It is also greatest when these members "...hold beliefs conducive to delinquency, approve of the adolescent's delinquency, and pressure the adolescent to engage in delinquency" (Agnew & Brezina, 2018, p. 291). This theory is simple; greater exposure to deviant peers leads to more delinquent behavior.

DATA & METHODS

Add Health Access

This project relies on data collected from the National Longitudinal Study of Adolescent Health, also known as Add Health, which is a nationally representative study of adolescents in grades 7-12. Adolescents from 132 randomly selected schools participated in the study. Students enrolled in SOC 438 at the University of Portland were given access to Waves I and II of the Add Health data; Wave I data will be used for the purpose of this assignment. Wave I survey data was collected between 1994 and 1995 and Wave II survey data was collected in 1996. The Add Health design consisted of an in-school, in-home, and parent survey. A total of 20,745 adolescents and 17,670 parents participated in the in-home administration of the Wave I survey. Useful information surrounding family dynamics, interests, hobbies, and peer relationships are contained in the Add Health dataset.

Variables

Chronic Offender Variable

Chronic offenders serve as the dependent variable for this project. A chronic offender can be defined as those who fall within the top 20% of the Wave I delinquency index. Fifteen questions were pulled from Section 29 of the Wave I in-home survey data in order to create this index. These questions looked at frequency of criminal, violent, and delinquent behavior. Before creating the delinquency index variable, the data was cleaned to account for missing and incomplete responses. From there, a dichotomous measure variable called 'chronic' was created, which would identify chronic offenders as being a value of 1.

Control Variable

The control variable for this project looked at whether or not a respondent was close with their mother. A maternal attachment variable was constructed using questions from Section 16 and 18 of the Wave I in-home survey data. Questions looked at whether or not respondents felt that they had a good relationship with their mother. For example, Section 18 asked respondents to agree or disagree with statements such as "Most of the time your mother is warm and loving towards you." The data was cleaned so the invalid responses were recorded as missing. Values 1 through 5 were recoded so that a value of 1 indicated a poor relationship with a juvenile's mother and a value of 5 indicated a good relationship. Responses to the five chosen questions were added together to compute the maternal attachment variable; a value of 5 indicates lack of closeness and a value of 25 indicates that a juvenile is very close with their mother.

Strain Variable

The strain variable for this project looked at whether or not a respondent was bored. A boredom variable was constructed using seven questions from Section 2 of the Wave I in-home

survey data. Questions assessed the frequency of respondents' participation in common hobbies such as cooking, reading, and playing a musical instrument. A response value of 0 indicated that a respondent had not at all engaged in the activities and a response value of 3 indicated that they had engaged in the activity five or more times. The data was cleaned to remove invalid responses. Response values were combined to construct a variable called hobbies. From there, a dichotomous measure of boredom called 'lowest 10% in hobbies' was constructed where a value of 1 indicates the respondent is bored and a value of 1 indicates high interest in hobbies (not bored).

Peer Variables

Two peer variables were created for the purpose of this assignment. The first was created using Section 28, Question 9 from the Wave I in-home survey: "Of your 3 best friends, how many of them smoke at least 1 cigarette a day?" A variable called 'friends smoke' was then constructed where a value of 0 indicates 0 friends and a value of 3 indicates 3 friends. The second variable was created using Section 28, Question 29 from the Wave I in-home survey: "Of your 3 best friends, how many drink alcohol at least once a month?" A variable called 'friends drink' was constructed where, again, a value of 0 indicates 0 friends and a value of 3 indicates 3 friends. For both variables, the data was cleaned to account for invalid responses.

Demographics

The demographic variables used in this project include age of the respondent, gender of the respondent, and whether or not the respondent was white. All data was cleaned to check for invalid responses. Age of the respondent was recorded as the respondents age; values ranged from 11 to 21. A gender variable was created so that a value of 1 would count as male and a value of 2 would count as female. Finally a white dummy variable was constructed using Section

1, Question 6A from the Wave I in-home survey; a value of 1 indicated that the respondent was white and a value of 0 indicated that they were not white.

Method

After figuring out which dependent and independent variables were going to be used, three separate statistical analyses were run: Descriptive statistics, a correlation matrix, and a binary logistic regression. Descriptives simply tell us the proportion of people we see with the characteristics we are concerned with. The correlation matrix shows us if and how the independent variables correlate with our dependent variable (chronic offending); each correlation value is assessed according to its level of significance. Finally, a binary logistic regression is used to predict a dichotomous dependent variable (chronic offending) via analyses of our several independent variables in a model summary. Exp (B) is known as an odds ratio and these values tell us the change that is predicted for a single unit increase in the independent variable. If an Exp (B) value is greater than 1, this means that increasing the value of the independent variable will increase the odds of the dependent variable. The Nagelkerke R Squared value helps determine the proportion of variance that is explained by the variables together. Levels of significance within the bivariate regression model tells us how confident we can be that the change in probability is not zero (that an association exists).

RESULTS

Descriptive Statistics

Descriptive statistics (refer to Table 1) reveal a mean value of .1728 for the dependent variable (chronic offending), which means only a small fraction of respondents fall within the top 20% of the delinquency. Again, a value of 0 indicates non-chronic offenders and a value of 1 indicates chronic offenders. The age of respondents ranged from 11 to 21; the mean age of

respondents was 15.5 years. For gender, the mean value of 1.51 indicates that the sample contains a slightly higher number of female respondents than male (1 indicates male and 2 indicates female). Descriptive stats for the white dummy variable reveal a mean of .66, which indicates that a majority of respondents are white (1 is white and 0 is not white).

Apart from basic demographic information, descriptives helped analyze maternal attachment, boredom, and exposure to peers who drink and smoke. Maternal attachment values ranged from 7 to 25, with the lowest values indicating low levels of maternal attachment and the highest indicating high high levels of maternal attachment. The reported mean value for the 'close with mom' variable was 22.18, which indicates that most respondents reported being close with their mom. Descriptive statistics revealed a mean value of .3968 for the dichotomous variable boredom, which means a majority of respondents did not fall within the lowest 10% in hobbies (1 is lowest 10% and 0 means not in the lowest 10%). The mean values for number of friends who smoke and number of friends who drink were .79 and 1.09 respectively. This means that on average, respondents had about 1 friend that smoked or drank. For both variables, values ranged from 0 to 3 (0 indicated no friends and 3 indicated 3 friends).

Correlation Matrix for Variables

The correlation matrix (refer to Table 2) revealed that gender, maternal attachment, boredom, number of friends who smoke, and number of friends who drink all correlated significantly with the dependent variable (chronic offending). Gender, maternal attachment, and boredom were negatively associated with chronic offending, while number of friends who smoke and number of friends who drink were positively associated. For gender (-.128), the correlation matrix indicates that being a female decreases the likelihood of being a chronic offender. For maternal attachment, a correlation value of -.178 indicates that higher maternal attachment

decreases the likelihood of being a chronic offender. The correlation value for boredom (-.048) reveals that boredom decreases the likelihood of chronic offending. Finally, the correlation values for number of friends who smoke (.225) and number of friends who drink (.282) indicate that having a greater number of friends that smoke and drink increase the likelihood of being a chronic offender.

Binary Logistic Regression

The binary logistic regression shows that age, gender, maternal attachment, boredom, number of friends who smoke, and number of friends who drink are significant and thus we can be confident that a change in probability is not zero. Friends who smoke and friends who drink seemed to have the greatest effect on change in probability. In Model 7, the Exp (B) values for friends who smoke and friends who drink were 1.345 and 1.746 respectively. These Exp (B) values were the largest in the model by far. This means that those who have friends who smoke are 1.345 more likely than others to fall into the chronic offender category. Similarly, those who have friends who drink are 1.746 times more likely than others to fall into the chronic offender category. Age (.856), gender (.397), maternal attachment (.869), and boredom (.749) all have Exp (B) values that are less than 1 in Model 7. This means that these variables decrease the odds of chronic offending. As previously presented in the correlation matrix, higher maternal attachment decreases the likelihood of being a chronic offender and boredom decreases the likelihood of chronic offending. Finally, Table 3 reports a Nagelkerke R Squared value of 0.22 for Model 7, which indicates that 22% of variance can be explained by all variables.

CONCLUSION

Results from statistical analyses reveal that gender, maternal attachment, and boredom are negatively correlated with chronic offending (top 20% of delinquency), while number of friends

who smoke and number of friends who drink are positively correlated. A negative correlation between gender and chronic offending reveal that being a female decreases the likelihood of one falling within the top 20% of delinquency. Next, higher levels of maternal attachment, or juveniles being close with their mothers, can be a sign of high control which is theorized as decreasing rates of delinquency. Given that maternal attachment was significantly negatively associated with chronic offending, aspects of control theory previously discussed are supported. Presence of strain (boredom), however, did not appear to increase the odds of chronic offending. In fact, boredom was negatively associated and appeared to decrease the odds. With that said, previously discussed aspects of strain theory (failure to achieve goals) cannot be supported. Finally, what appeared to be most impactful on chronic offending was exposure to deviant peers. Number of friends who smoke and number of friends who drink were both positively correlated with chronic delinquency, suggesting that having a greater number of friends who smoke or drink increases the likelihood of a juvenile being a chronic delinquent. Effect of peers on delinquency can thus be supported as a theory.

In conclusion, the presented data supports both control theory and peer delinquency theories, but fails to support discussed aspects of strain theory (failure to achieve goals). Statistical analyses in support of control and peer theories provide insights that are valuable in understanding causes and roots of chronic offending among adolescents. Data also highlights what seems to reduce chronic offending, such as close maternal relationships.

Bibliography

Agnew, R., & Brezina, T. (2018). *Juvenile Delinquency: Causes and Control*. Oxford University Press.

Table 1. Descriptive Statistics

	Min	Max	Mean	Standard Deviation
Chronic Offender: Top 20% of Delinquency (1 is top 20%)	0	1	0.1728	0.37817
Age	11	21	15.5414	1.78017
Gender (1=Male, 2=Female)	1	2	1.51	0.5
White (1=White, 0=Not white)	0	1	0.66	0.473
Close with Mom (5=Not Close, 25=Very close)	7	25	22.1845	3.14918
Boredom (1=Bored, 0=Not bored)	0	1	0.3968	0.48932
Friends Smoke (0=No friends, 3=3 friends)	0	3	0.79	1.055
Friends Drink (0=No friends, 3=3 friends)	0	3	1.09	1.165

Table 2. Correlation Matrix for Variables

Chronic Offender	1							
Age	0.021	1						
Gender	-0.128**	-0.04	1					
White	0.009	-0.017	0.009	1				
Close with Mom	-.178**	-.115**	-.119**	0.01	1			
Boredom	-.048**	.205**	.113**	-0.01	-0.081	1		
Friends Smoke	.225**	.197**	-0.007	.152**	-.110**	.082**	1	
Friends Drink	.282**	.326**	-.044*	.087**	-.150**	.037*	.505**	1

*p<.05; **p<.01

Table 3. Binary Logistic Regression

Exp (B) values for:	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Age	1.035	1.027	1.027	0.99	1.005	0.951	.856**
Gender		.478**	.478**	0.394**	.405**	.399**	.397**
White			1.043	1.072	1.07	0.86	0.8
Close with Mom				.856**	.855**	.861**	.869**
Boredom					.773*	.716**	.749*
Friends Smoke						1.705**	1.345**
Friends Drink							1.746**
Nagelkerke R square	0.001	0.032	0.032	0.092	0.095	0.163	0.22

*p<.05; **p<.01