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SOC 3305

Term Project Paper

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Crime at The University of Texas at Dallas

My focus was the crime that occurs here at UT Dallas. I have a few reasons to why I chose this specific topic. The first reason was because I am interested in crime and therefore, I thought it would be interesting to know what crime occurs at a university with the reputation of being an academic and safe school. A second reason for researching this topic, is because I am not from Dallas/Richardson. I come from a small town called Hutto that sits 40 minutes northeast of Austin. My town is relatively safe. For two years, in a row, it was named one of five of the safest towns in Texas. I usually did not have to worry about falling victim to a crime there, but I was not sure of how safe the Dallas-Richardson area was once I moved here for school. I have had an experience of being followed in a store here last year by three older men, so I wanted to find out what really goes on around me. Not to mention, being a common traveler to Mexico, I know it is best for a foreigner to be aware of their surroundings and environment, because those who are not aware, are normally the ones that become a victim to crimes. Finally, the last reason to review the crimes here at UT Dallas was because I live on-campus, and obviously have classes at UT Dallas, so I thought it would be better to know what kinds of crimes occur so that I can take the necessary precautions. My aim is to find out various information in my data analysis. I want to know what crimes occur on-campus with a higher frequency, if the crime is solved (meaning if there is an arrest or not in the end), whether the type of crime is significant to an arrest being the result, and finally what months have the most amount of crime here at UT Dallas.

The article that I decided to use, speaks on a study done that took five years to complete (January 2003-December 2007). This study looked into the “criminality of college students and nonstudents on the campus of a large southeastern university” (Nobles, et al. 2012). The researchers start off by explaining the Clery Act, which is a law that requires public universities to report crimes that occur on campus. They then went on to stress that although crimes are being reported, the information on university crime reports are not as reliable as we would like to think. They explain how the university police department tend to report crimes that are reported in the national Uniform Crime Reports (UCR). Crimes in the UCR tend to be violent crimes due to the fact that a “hierarchy rule” is put into play. The Hierarchy Rule basically means that if a person is a victim of two crimes, or if a person commits more than one crime, the officer can and must only report the crime that is considered more serious by the law. Aside from the reporting issues that come with the Clery Act, there is the issue of little research being done on those crime reports, in order to find out what is happening on-campus. There were a few things the researchers did bring to our attention in the article. The first was that prior research has indicated that there are higher crime rates in universities when there were higher unemployment rates in the surrounding community (McPheters 1978). Secondly, they stated that where there were larger universities with higher quality education, there was a higher crime rate (Fox and Hellman 1985). The researchers did multivariate analyses to figure out which “factors [were] predictive of on-campus and student arrests” (Nobles, et al. 2012). They also looked into the differences between students and nonstudents by looking into crime reports from other police departments at the city, county, and state level (Nobles, et al. 2012).

In order to test for all the different variables used, the researchers created a lot of dummy variable for each category. The coded nonstudents as “0” and students as “1.” These were the

dependent variables. Then the independent variables were also made into more dummy variables. For instance, different crimes (drug arrest, alcohol arrest, violent arrest and other) were given a number from 0 to 3, days of the week were given dummy variables as well, the researchers even had dummy variables made for certain time periods. And of course, there were dummy variables for demographic variables; race was white “0” and non-white “1,” and gender was coded female “0” and male “1” (Nobles, et al. 2012). After the multivariate analyses, the researchers came to the following conclusions: “Whites, females, and younger arrestees were significantly more likely to be college students than nonstudents... college students were more likely to be arrested on-campus” (Nobles, et al. 2012). They also found that student arrests were significant to alcohol, drugs, and violent crime, however, there is a slight difference. If the arrest was regarding drugs and violent crimes, it was a negative relationship whereas if the arrest was regarding alcohol, it was a positive relationship. Lastly, students tend to commit crimes when it is closer to the weekend (Nobles, et al. 2012). This data is the largest sample taken regarding this area of study, and this study is the largest study done on campus crimes. This study is just the beginning on beginning to understand what crimes occur in universities, and not only why these crimes are committed, but also who these crimes are committed by.

When explaining my data, it can get hard to understand, I did not get my own data, but I also did not get data that was already analyzed and entered into a table or spreadsheet. My data came from the University of Texas at Dallas Police Department website. On their page, they have crime reports that date back to many years. I had to physically and electronically go through all 10 crime reports from August 2017 to May 2018 in order to create my data set so that I could then analyze the data. Each crime report was at least 7 pages long ranging to about 15 pages. The crime reports had very basic and general information such as the time, location, description, result and

the crime committed. I had to take each report and input all of the information under my variables in an Excel spreadsheet. Because the data that I was able to extrapolate from the crime reports was little, I had only three variables. The first variable “month” was coded per each month. August was “1” and May was “10.” The second variable “type” was coded by the different types of crime. I picked the most prevalent crimes (the top 5) and coded them as follows: Possession of Drug paraphernalia “2,” Possession of Marijuana “3,” Burglary “4,” Trespass “5,” and Theft “6.” Then all the other crimes, that had a frequency of less than 15 in total, were grouped together in the “Other” category that received the code “1.” The last variable “arrest” indicated whether the certain crime resulted in an arrest or not; no arrest was coded as “0” and an arrest was coded as “1.” Here is a correlation table to explain the relationship between the three variables:

	arrest	type	month
arrest	1.0000		
type	-0.5419	1.0000	
month	0.0808	-0.1100	1.0000

As you can see from the correlation table, the type of crime and whether there is an arrest are negatively correlated. This means that as the type of crime goes up by one unit, the chance of an arrest goes down one unit. Which makes sense since possession of drug paraphernalia and possession of marijuana are typed as “2” and “3” while theft is typed as “6.” Arrest occurred mostly in drug related crimes. These two variables are also hard to describe as significant or not through this table. It is a relatively strong relationship, since (-0.5) is in between -1 and 1. On the other hand, the month and whether there is an arrest, are positively weakly correlated. This means that there is not a strong correlation between them (0 means no correlation) and as the unit in month goes up, so does the possibility of an arrest being made. Lastly, month and the type of crime are

weakly ((-0.1) is close to 0) and negatively correlated. As a unit in month increases, the unit in type of crime decreases.

The method that I used was the logistic regression model. The reason I used this method is because I thought, “Sure, many crimes occur everywhere, but whether there is justice at the end is what truly matters.’ Because of this, I was interested whether specific crimes indicated whether or not there would be an arrest at the end of the day, or if the month predicted an arrest or not. Here is the regression model:

```
Iteration 0:  log likelihood = -274.2887
Iteration 1:  log likelihood = -209.28978
Iteration 2:  log likelihood = -207.33695
Iteration 3:  log likelihood = -207.32607
Iteration 4:  log likelihood = -207.32607
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Logistic regression               Number of obs   =       412
                                LR chi2(2)         =      133.93
                                Prob > chi2         =       0.0000
Log likelihood = -207.32607       Pseudo R2        =       0.2441
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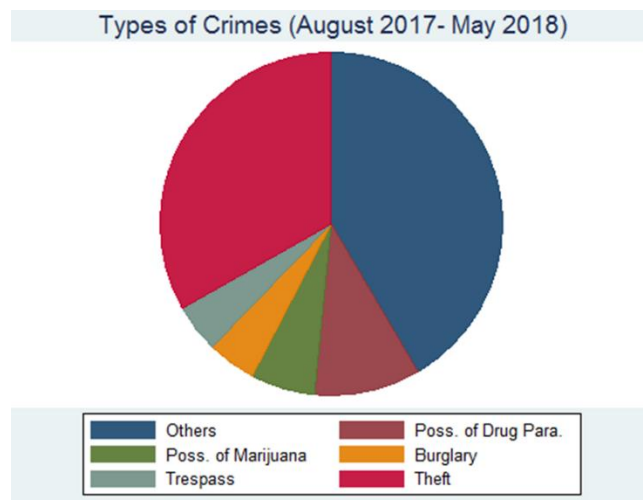
arrest	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
month	.026426	.0424902	0.62	0.534	-.0568532	.1097053
type	-.618269	.0635911	-9.72	0.000	-.7429052	-.4936328
_cons	1.239009	.3030569	4.09	0.000	.6450285	1.83299

As you can see from the model, the month is not a significant predictor of whether there is an arrest since $P>|t|$ is indeed greater than 0.05. However, the type of crime is a significant indicator of an arrest because $P>|t|$ is less than 0.05. The coefficient for the constant is also pretty high. This means that other variables not named are responsible for whether or not there is an arrest after a crime occurs. The constant is also significant, since $P>|t|$ is less than 0.05. This means that those variables not listed significantly impact the dependent variable of “arrest.” If you look at the

F-statistic (Prob > F) you can see that it is less than 0.05. This means that the coefficients of the two independent variables, “type” and “month” are not equal to 0, which indicates that each of those two independent variables have an impact on the dependent variable “arrest” (this does not include the constant). Even though these independent variables have an impact on the dependent variable, there are still many other variables that factor into an arrest being made. This is proven by the R-squared value. The type of crime, and the month, only account for 24.4% of the dependent variable’s variance. That means that about 76% of the time, an arrest is dependent on other independent variables not listed in the logistic regression model. If you tried to predict the chance of an arrest, you would use the following formula:

$$\text{Predicted Y} = 1.766 + (-0.6183) (\text{type}) + (0.0264) (\text{month}) + e$$

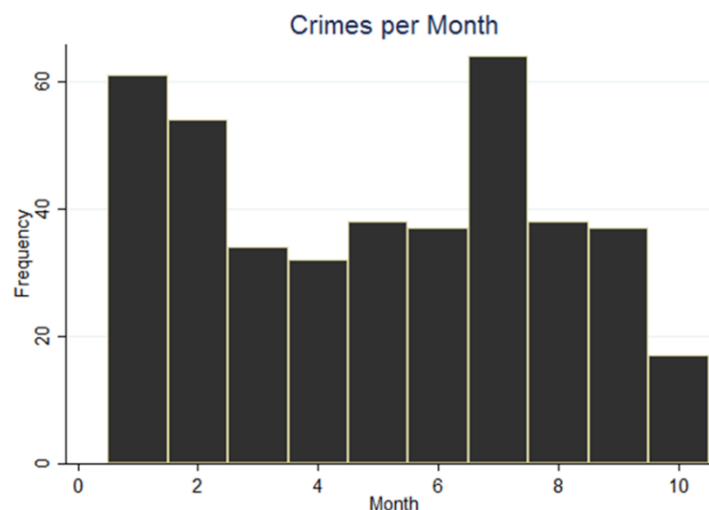
I also tested a few other things, but it did not require any type of regression, I just created graphs, or tabulated the data.



This pie chart does a good job at showing the major types of crimes that occur at UT Dallas. Although “Other” seems to be the greatest piece of the pie, it can be deceiving. The “Other” category includes many (as much as 15) crimes that had lower frequencies than the other five listed. In reality, theft is the number one crime committed in the university, and bikes, backpacks, and electronics are the top items stolen. Possession of drug paraphernalia is the next greatest crime followed by possession of marijuana. Burglary and trespassing are very close in numbers but burglary occurs most. Many cars have been broken into in order to steal something of value. But what the next table shows is quite disappointing.

Arrest	Freq.	Percent	Cum.
No	254	61.65	61.65
Yes	158	38.35	100.00
Total	412	100.00	

This table shows that more than half of all the crimes that occur on campus, do not end in and arrest being made. If there is an arrest, majority of the time it is due to alcohol and drug related offenses, as well as if there is a warrant out for an arrest. The last graph I have shows the frequency of crimes during each month. I thought a histogram would depict this the best.



It is clear to see that February is the month with the most amount of crime. This month is followed by August and then September. I could not think of a reason for why these three months would have the most amount of crime than the other months. May however, was the month with the least amount of crime. This can be due to the fact that in May, most people are moving back home.

I know that my work is not one hundred percent valid nor reliable. I have a few weaknesses that can help further research. The first problem starts with the source of the data. Like mentioned in the literature, university crime reports are already unreliable because they are prone to reporting errors. I got all of my data from the UT Dallas Police Department Crime Reports. The most important weakness is the lack of data, and variables. I think that numbers would be more significant if there was more data. With more information in the crime reports, I would have been able to come up with more independent variables to better explain and predict an arrest.

In conclusion, though the crime reports are not reliable as they can be, I was able to extract good information from it. I have learned that specific crimes, those that are related to drugs and alcohol, are significant in defining whether there will be an arrest. I also learned that most of the crimes do not end in an arrest. And most importantly, I have learned to be extra careful with my property in February, August, and in September.

References:

Fox, J. A., & Hellman, D. A. (1985). "Location and other correlates of campus crime." *Journal of Criminal Justice*, 13, 429-444.

McPheters, L. R. (1978). "Econometric analysis of factors influencing crime on the campus." *Journal of Criminal Justice*, 6, 47-51.

Nobles, M. R., Fox, K. A., Khey, D. N., & Lizotte, A. J. (2013). "Community and Campus Crime: A Geospatial Examination of the Clery Act." *Crime & Delinquency*, 59(8), 1131–1156.