

Rational Choice Theory and Alcohol and Marijuana Use: A Test Among College Students  
During the COVID-19 Pandemic

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## Introduction

The purpose of this research was to explore if there was a significant change in marijuana and alcohol use from before COVID and during COVID (March-present). The study would also seek to determine if negative consequences, such as hangovers, influence repetitive drug and alcohol use using Rational Choice (RC) perspective.

Alcohol and drug use can be dangerous and extremely harmful to a person's health. According to the Center for Disease Control and Prevention (CDC), excessive alcohol use is the cause of more than 93,000 deaths each year in the US (2020 June 12). Excessive alcohol use is defined as five or more drinks in the span of two hours for men, and four or more for women (CDC, 2020 June 12). In a recent study, the CDC found that excessive drug and alcohol use may be a response to the COVID-19 pandemic, and that there is an influx in contaminated drug products due to the illicit drug supply being disrupted which increases the risk of overdose. They also found that because of social distancing guidelines and stay at home orders, more people are using drugs by themselves, without anybody there to perform life saving measures like calling for help or giving them naloxone. If there is someone there, they might not perform life-saving maneuvers due to fear of exposure to the virus (CDC, 2020).

Along with the CDC, the Advocacy Resource Center from the American Medical Association found that there is a rise in overdoses due to COVID-19. They stated that more than 40 states have reported increases in overdoses (Advocacy Resource Center, 2020). In New Jersey, the Attorney General's office announced in January that drug use overdoses were down 3% in 2019 but reported a 20% increase through the month of May due to social isolation, grief and job loss caused by the pandemic (Serrano, 2020).

For this study, a survey was administered through email to a sample of undergraduate students and included questions about marijuana and alcohol use, along with negative consequences they might have experienced. The author sought to evaluate whether the RC perspective had any impact on future drug use by asking the students if they have had any negative consequences in the past from drinking alcohol/doing drugs. The author wanted to determine whether the RC perspective was associated with an increase or decrease in alcohol/marijuana use. The author believed that finding a link between RC perspective and alcohol and marijuana use would help explain the increase or decrease in usage before COVID and during COVID, as well as explaining whether negative consequences would be a deterrent for future use. The audience of this study was college students and stakeholders.

### **Theoretical Framework**

RC perspective banks on maximizing pleasure and minimizing pain. According to Cornish and Clarke themselves, RC perspective states that all crime is based off a decision to commit after weighing the costs and benefits (Cornish & Clarke, 1986). RC perspective contains a necessary two-step process. The first stage is known as the initial involvement stage, where an individual decides whether to commit the crime or not due to their needs. Whatever they choose is heavily influenced by previous learning and experience, and how others perceive them (Cornish & Clarke, 1986). The individual enters the second stage when they acknowledge they are ready to commit the crime, and they must choose the offense they will be committing, which is known as the criminal event model (Cornish & Clarke, 1986). This decision is influenced by the immediate need of the individual. For example, if an offender is short on money, they may decide to burglarize a wealthy home. In making this decision, the individual must consider if

anybody will be home, the neighbors who might see the crime take place, the level of expertise needed to pick the locks, the time needed inside the home, and the risk of apprehension. The RC perspective exists to state whether the benefits outweigh the risk of the crime.

### **Literature Review**

Wardell et al. (2020) examined why people were drinking during the COVID-19 pandemic and to then identify factors that are relevant for coping. Wardell et al., surveyed 320 Canadian people, 54.7% being male with a mean age of 32 years. The subjects completed an online survey that addressed work and home related factors, psychological factors, and alcohol-related outcomes over the past 30 days, covering a time period beginning within 1 month of the initiation of the COVID-19 emergency response. Wardell et al. discovered that increased alcohol use, increased solitary drinking, and greater coping motives for drinking were all independently associated with pandemic stress in an individual's life within 30 days. They also found that indirect paths to alcohol problems stemmed from having children at home, depression, social connectedness, income loss, and living alone. The research suggests that the findings provide insight into coping-motivated drinking early in the COVID-19 pandemic and highlight the need for longitudinal research to establish longer term outcomes of drinking to cope during the pandemic.

Cohen and Rabinovitch (2005) examined different factors to explain why people are more likely to quit using drugs, such as heroin. The authors approached 180 young adult males from Narcotics Anonymous in northern Israel and asked them a series of questions about their drug use using a self-report survey, and the results were then corroborated by a “knowledgeable

professional.” The average age of the entire sample was between 33 and 34; had on average less than a ninth-grade education; and most have been using drugs since age 16. Approximately one-third were married, and the sample includes 137 Jews at 76.1% and 43 Arabs at 23.9%. After looking at the population, the authors hypothesized that drug addicts would be more likely to quit and have the highest probability of success if their decision to quit was made because of a traumatic event, such as a drug overdose. They also looked at how long these offenders had been suffering with more arrests, prison time and unemployment.

Cohen and Rabinovitch (2005) also hypothesized that because of this, the offenders would make the rational choice to quit using drugs. In order to determine whether the results of their study were statistically significant, the authors determined that the findings and the basis for evaluating the study’s hypothesis was the differences in the scores between the user and nonuser groups on the nine-item instrument. Furthermore, the participants report being addicted since age 19 and they have spent about three years in prison. Cohen and Rabinovitch (2005) concluded that the members of the group who had successfully quit heroin reached their decision to quit because of an extreme event like an overdose and had made a rational choice to give up their drug abuse. From this study, they found that RC perspective plays a large part in an individual quitting using drugs.

Goldstein et al. (2013) examined adolescent alcohol use within the context of youth involvement and reinforcement from alternative leisure activities and to determine whether perceived reinforcement from alcohol impacts this relationship. The participants in this study were 956 7th-9th grade students, 44.2% of participants were male and 55.8% were female who willingly participated in the Project on Adolescent Trajectories and Health. This was a three-year longitudinal study where adolescents self-reported substance use, aggression, risky sexual

behavior, and general health. This study measured alcohol use by asking questions such as when they last drank alcohol (i.e., never, over a year ago, in the past year, in the past month, in the past week), when they last got drunk, and how many drinks they consume on a typical drinking session. To clarify the results, they measured alcohol use as one standard drink: a bottle of beer, a glass of wine, a shot of liquor etc.

After three years, the percentage of students moving from nonuse to heavy use changed substantially across the study. According to Goldstein et al. (2013) after the first survey, the results concluded that there were 56.2% nonuse, 12.6% light use, 14.9% moderate use, and 16.3% heavy use. At the final survey, 25.8% of participants reported nonuse of alcohol, 13.7% reported light use, 15.5% moderate use, and 44.9% heavy use. On top of this alcohol use, participants were asked about their leisure activities, and this is what determined the relationship between alcohol use and nonuse. Goldstein et al. (2013) concluded that involvement and reinforcement from family and home-related activities reduces the likelihood of alcohol use, as well as spending and enjoying more time with family. Being involved with hobbies and extracurricular activities seems to make alcohol use less desirable as well.

Wirojkul (2017) studied drug use behavior and causal factors influencing drug use behaviors of children and juveniles in the Juvenile Observation and Protection Center and the Juvenile Training Schools. The sample consisted of 739 males from the Juvenile Observation and Protection Center and from the Juvenile Training Schools. This study utilized cluster sampling due to the fact this study was completed in four regions, as well as simple random sampling of those in the cluster sampling. Wirojkul (2017) measured drug related behavior, reasoning factors, behavior control and moral reasoning. Wirojkul (2017) discovered that

behavior and attitudes towards drug use could explain why children and juveniles resort to using drugs.

Smith et al. (2011) examined alcohol use in college students and provided interventions to try and reduce this in conjunction with RC perspective. There were 191 individuals that participated in this study. Smith et al. (2011) explains that these 191 students who violated the University's alcohol policy were cited and were told they either had to pay a fine or attend a group meeting. Of the 93 individuals who were in the RC perspective group, 59% were female, and of the 98 individuals who were in the Motivational Intervention group, 55% were female. All students completed a 12-week online survey that followed up the intervention that consisted of drinking and related consequences post intervention. The survey consisted of questions such as how many drinks did they consume on a daily basis of the week before, negative consequences such as having a hangover or missing a class in the past month.

Smith et al. (2011) found that RC perspective intervention participants reported a 68% reduction in average weekly drinking from pre-intervention to postintervention and 8% decrease in the experience of past month alcohol consequences, whereas Motivational Intervention participants reported a 58% reduction in weekly drinking from pre-intervention to post-intervention and 10% reduction in alcohol-related negative consequences. The independent variable of this study was to see how negative consequences impact a student's choice on continuing to drink. The dependent variable of this study was to see if there was a change in alcohol use before and after the intervention. Smith et al. concluded that no matter the intervention style, participants reported significantly lower levels of alcohol consumption when compared from pre-intervention to postintervention follow up.

## **Current Study**

### **Research Questions and Hypothesis**

The purpose of this research was to explore if there was a significant change in marijuana and alcohol use from before COVID and during COVID (March-present). This study also sought to determine if negative consequences such as hangovers influence repetitive drug and alcohol use using RC perspective. Therefore, the current study was driven by the following research question: Was there a significant change in marijuana and alcohol usage by college students due to the COVID-19 pandemic, and how did negative consequences effect their decision to use.

The author hypothesizes that negative consequences of marijuana and alcohol use will influence a negative change in the amount of alcohol/drug use pre/post COVID.

### **Research Design and Methods**

#### **Sample**

The author was interested in studying the population of Georgian Court University (GCU) undergraduate students for this survey. The conclusions that will be drawn will be from this population.

To obtain the sample, a self-report survey was sent out through GCU email to undergraduate students from Dean Jennings. The sampling frame was from September to December, and the survey was sent out three times through email. The sampling method was convenience because the author attends GCU and has access to GCU email, so the population was easy to reach. The author also posted the link to the survey to multiple social media platforms, asking only for undergraduate students at GCU to respond.



This study was an explanatory study, as it sought to find a cause for social trends and phenomena. This study was also a cross-sectional survey because it measured time periods from before COVID and during COVID.

### ***Subject Risk/Harm***

Research on human subjects is subject to harm, especially in the criminal justice field. Two risks of subject harm in this survey would be the participant's illegal activities, as well as a risk of discussing emotionally distressing topics.

While the survey discussed illegal activity, such as drinking underage, doing illegal drugs, or driving under the influence, participants were informed that the survey will be anonymous- with the results only being shared with those in the research group. To better ensure anonymity, participants were not required to place their name or signature on the informed consent. This guaranteed that no information will be able to be traced back to the participants and every participant will be assigned a number.

To further maintain low risks to the participants of the survey, if a participant felt that the survey discussed emotionally distressing topics, they had the option to not take the survey or end it early. The informed consent statement (see Appendix A) at the beginning of the survey lays out in detail what the survey is about, what the survey asks the participants to do, outlines the risks and benefits of participation, and also explains how the survey will be anonymous.

### **Instrument**

For this study, the author selected questions from the College Student Lifestyle Inventory (Durkin et al., 2005) for negative consequences for alcohol and drug use to explore RC perspective with.

The survey (Appendix B) sought to measure undergraduate students' offending behavior such as alcohol and drug use, as well as factors that increase or decrease these behaviors by using RC perspective.

### ***Observations***

The independent variable in the research question is negative consequences which are: Hangovers, performing poorly in classes, getting into trouble with the law, damaging property, getting into an arguments or physical fights, experiencing nausea or vomiting, missing class, being criticized for using alcohol/drugs, having memory loss, doing something that was something later regretted, and being hurt or injured due to intoxication. The dependent variable is a change in the amount of drug and alcohol use before and after COVID. The questions that were asked on the survey are further outlined in Appendix B.

### **Design**

The study was conducted from September to December, and the author measured variables that were ratio. As well as mean and standard deviation, an ANOVA was calculated from the results to determine whether the differences among the means collected were statistically significant.

## **Results**

### **Response Rate**

The survey went out to 1,642 undergraduate students at Georgian Court University. There were 163 students who completed the survey. The response rate of the survey was about 10%.

## Descriptive Statistics

Table 1 shows the sample demographics of the survey. A total of 126 students took the survey, 111 (88.1%) students were full time and 15 (11.9%) that were part time. Class year was also reported among a total of 125 students, 26 (20.8%) were first years, 11 (8.8%) were sophomores, 40 (32%) were juniors and 48 (38.4%) were seniors. Of the 94 students who chose to report their race/ethnicity, 67 (71.3%) were White/Caucasian, 8 (8.5%) were Black/African American, 10 (10.6%) were Hispanic, and 9 (9.6%) identified as others. There were 18 (19.1) men who took the survey and 73 (77.7) women, with 3 (3.2%) identifying as others. The mean age of the people that took the survey was 22.8 (SD= 8.4).

**Table 1**

### *Sample Demographics*

Student Status	n	%
Full-time	111	88.1
Part-time	15	11.9
Total	126	100.0
missing	37	
Class Year		
First Year	26	20.8
Sophomore	11	8.8
Junior	40	32.0
Senior	48	38.4
Total	125	100.0
missing	38	
Race/Ethnicity		
White/Caucasian	67	71.3
Black/African Am.	8	8.5
Hispanic	10	10.6
Others	9	9.6
Total	94	100.0
Missing	69	

Gender		
Man	18	19.1
Woman	73	77.7
Others	3	3.2
Total	94	100.0
missing	69	
Age		
	Mean	SD
	22.8	8.4
Range= 18-70		
	n	%
18	15	16.0
19	11	11.7
20	23	24.5
21	13	13.8
22	8	8.5
23	6	6.4
24+	18	19.1
Total	94	100.0
missing	69	

Table 2 describes the independent variable of this study; negative consequences of alcohol and marijuana use before and after COVID among 159 students. When asked how often the students experienced hangovers Pre-COVID, there was a mean of 2.4 (SD=8.5), while Post-COVID the mean decreased to 1.7 (SD= 5.3). When asked how often students performed poorly on a test or important project, the mean Pre-COVID was 0.7 (SD= 5.7), while Post-COVID the mean decreased to 0.4 (SD= 3.3). When asked how often students got in trouble with the police, students reported Pre-COVID a mean of 0.2 (SD= 2.2), while Post-COVID the mean increased to 0.3 (SD= 3.2). Students were then asked how often they got into arguments, and the mean Pre-COVID was 1.6 (SD= 7.5), while Post-COVID the mean decreased to 1.2 (SD= 5.9) When asked how often students experienced nausea or vomiting, the mean Pre-COVID was 1.7 (SD= 7.0), while Post-COVID the mean decreased to 1.5 (SD=6.8). When asked about missing class, students reported a mean of 1.5 (SD=8.9) Pre-COVID, and a mean that decreased to 0.7

(SD=4.4) Post-COVID. When asked how often students experienced injuries due to use, the mean Pre-COVID was 0.1 (SD=0.6), while Post-COVID the mean increased to 0.2 (SD=1.0).

When asked if the campus had alcohol and drug policies, 16 (9.8) students said they were not sure, while 88 (54%) said yes. When asked if these policies were enforced, 44 (27%) of students said yes, 32 (19.6%) said they were unsure and 5 (3.1%) said no. The mean age of first alcohol use was 17.0 (SD= 2.9), while the mean age of first marijuana use was 17.8 (SD= 5.9).

**Table 2**

*Descriptive Statistics of Independent Variable: Negative Consequences*

	Mean	SD
Pre-COVID: How often experienced hangovers (n=159) range 0-83	2.4	8.5
Post-COVID: How often experienced hangovers (n=159) range = 0-36	1.7	5.3
Pre- COVID: How often experienced performing poorly on test (n=159) range = 0-70	0.7	5.7
Post-COVID: How often experienced performing poorly on test (n=159) Range = 0-40	0.4	3.3
Pre-COVID: How often been in trouble with police (n=159) Range = 0-28	0.2	2.2
Post-COVID: How often been in trouble with police (n=159) range = 0-40	0.3	3.2
Pre-COVID: How often gotten into argument (n=159) Range = 0-66	1.6	7.5
Post- COVID: How often gotten into argument (n=159)	1.2	5.9

Range = 0-50		
Pre-COVID: How often gotten nauseated/vomited (n=159)	1.7	7.0
Range= 0-50		
Post-COVID: How often gotten nauseated/vomited (n=159)	1.5	6.8
Range= 0-50		
Pre-COVID: How often missed class (n=159)	1.5	8.9
Range=89		
Post-COVID: How often missed class (n=159)	0.7	4.4
Range= 0-50		
Pre-COVID: How often gotten hurt/injured (n=159)	0.1	0.6
Range= 0-5		
Post-COVID: How often gotten hurt/injured (n=159)	0.2	1.0
Range= 0-12		
Control Variables		
Does GCU have alcohol and drug policies?	n	%
Not sure	16	9.8
Yes	88	54.0
Total	163	100.0
Are policies enforced?		
No	16	9.8
Not Sure	32	19.6
Yes	163	27.0
Total	163	100.0
Age at first alcohol use	Mean	SD
Range= 3-25	17.0	2.9
Age at first marijuana use		
Range= 13-50	17.8	5.9

Table 3 describes the dependent variables of this study, alcohol and marijuana use. The mean times students binge drank in the past 2 weeks was 2.1 (SD= 3.5) Pre-COVID the mean number of drinks were 5. (SD= 9.6), whereas Post-COVID the mean increased to 6.0 (SD= 8.4). The author compared the amount of alcohol pre and post COVID and created a nominal variable to measure whether there was an increase, decrease, or no change. There were 22 (13.5%) students who reported a decrease in their alcohol use, 30 (18.4%) students who reported an

increase, and 106 (65%) students that reported there were no changes to their alcohol habits. The author also compared the amount of marijuana use pre and post COVID and a nominal variable was created to measure whether there was an increase, decrease, or no change. There were 9 (5.5%) students who reported a decrease in marijuana use, 9 (5.5%) students who reported an increase in marijuana use and 131 (80.4%) students who reported no change in marijuana use. Marijuana use Pre-COVID had a mean of 3.2 (SD= 15.2), with a standard deviation of 15.2, while Post-COVID the mean increased to 3.5 (SD= 15.7).

**Table 3**

*Descriptive Statistics of Dependent Variable: Alcohol & Marijuana Use*

	Mean	SD
Binge Drink in past 2 weeks (n= 66) range 0-20	2.1	3.5
Pre-COVID: average drinks/week (n=75) range = 0-56	5.0	9.6
Post-COVID average drinks/week (n=67) range = 0-39	6.0	8.4
Change in Alcohol use Pre- Post COVID (n=106)	n	%
Decrease	22	13.5
Increase	30	18.4
No change	106	65
	Mean	SD
Pre-COVID: average marijuana use/month (n=149) Range= 0-100	3.2	15.2

Post-COVID: average marijuana use/month (n=149) Range= 0-100	3.5	15.7
Change in marijuana use Pre-Post COVID (n=163)	n	%
Decrease	9	5.5
Increase	9	5.5
No Change	131	80.4

### Multivariate Analysis

Because both the independent variable (negative consequences) and dependent variables (alcohol and marijuana use) were ratio, a one-way analysis of variance (ANOVA) was conducted to determine whether the differences among the means were statistically significant. Table 4 shows an ANOVA of the three measures of alcohol use (binge drinking in the past two weeks, average number of drinks per week Pre/Post-COVID, average number of times per month Pre/Post-COVID), a measure of marijuana use per month Pre/Post-COVID and the level of negative consequences the respondents experienced. As shown, average drinks per week Pre-COVID ( $F= 5.1, p < 0.001$ ) and number of times used per month Pre/Post-COVID ( $F= 14.9, p < 0.001, F= 7.8, p < 0.001$ ) were statistically significantly associated with negative consequences. Binge drinking in the last two weeks was close to being statistically significant ( $F= 1.7, p < 0.06$ ). Marijuana use per week Pre/Post-COVID ( $F= 18.1, p < 0.001, F= 14.6, p < 0.001$ ) was also statistically significantly associated with negative consequences. The number of drinks per week Post-COVID was not statistically significantly associated with negative consequences. The measure of association revealed that all negative consequence variables were positively associated with alcohol and marijuana use.



**Table 4**

*ANOVA: Alcohol and Marijuana Use and Negative Consequences*

Alcohol Use	F	df	p
Binge Drink in past 2 weeks	1.7	24	.06
Pre-COVID: avg drinks/week	5.1	27	<0.001
Post-COVID: avg drinks/week	1.2	26	0.3
Pre-COVID: number of times used per month	14.9	27	<0.001
Post-COVID: number of times used per month	7.8	27	<0.001
<b>Marijuana Use</b>			
Pre-COVID: number of times used per month	18.1	27	<0.001
Post-COVID: number of times used per month	14.6	27	<0.001

### **Discussion**

The objective of this study was to determine whether there was a significant change in alcohol and marijuana use from before COVID and during COVID (March-present). The study also measured negative consequences, such as becoming ill, missing class or doing poorly on exams, and getting into fights or arguments with others to determine whether they would influence and have a deterrent effect on repetitive drug and alcohol use, applying the RC perspective. The author hypothesized that negative consequences of alcohol and drug use will influence a negative change (i.e., have a deterrent effect) on usage behavior. After analyzing the data, the author fails to support the hypothesis. There was a statistically significant association between experiencing negatives consequences due to alcohol and drug use and the amount and frequency of alcohol and drug use, however, this association was positive. These positive associations remained consistent, pre and post COVID. An increase in the number of negative consequences was statistically significantly positively associated with binge drinking in the last

two weeks. In other words, the number of negative consequences one experiences does not appear to have a deterrent effect when deciding to binge drink.

## **Conclusion**

This study sought to determine the usage of alcohol and marijuana use among college students, and whether there was a significant change in the specific time period of before COVID and after COVID. The RC theory explains that all actions and crimes start with a decision on whether the benefit will outweigh the risk, and from that decision, a choice is made to commit the action. In this study, despite experiencing negative consequences, students persist in binge drinking and drug use. According to the results, this means that the benefits of binge drinking and drug use outweigh the negative consequences one experiences.

This research is important because college students and stakeholders need to interpret these results to see the potential dangers of excessive marijuana and alcohol use. Assessing the results of the survey however, just warning students of these consequences will not be enough to stop this behavior. A possible area of future research would be to implement disciplinary actions upon students that possess multiple infractions due to negative consequences (i.e., missing classes, performing poorly on tests, etc.) and see if drug and alcohol use continues.

Despite the findings of this study, no social science research is without limitations. One limitation would be maturation, which occurs when the participant became tired from the length of the survey and stopped. Another limitation would be mortality, which occurs when the participants drop out of the survey for any reason. These two limitations are considered threats to internal validity because the results of the survey will not measure the concept the survey states it will measure. Internal validity describes the ability of an experiment/study to record the causal

relationship between the independent variable and dependent variable. External validity describes the ability in which experiment/study findings can be used in other settings. A limitation that is a threat to external validity is reactivity. Reactivity is a cause of change in behavior of subjects, which could occur if the students considered, they were being measured as they could lie about their answers to benefit what they believed the researchers wanted to hear.

Another area of future research would be to replicate the survey with both the undergraduate population and the graduate population of Georgian Court University. The reason for this being that not all the participants would be 21 or older, meaning that the underage participants might not have responded accurately due to a fear of getting in trouble. Another reason might be because the participants who just turned 21 during the period of quarantine due to COVID would not have had the opportunity to go out to bars to get drinks, as they were closed for months due to social distancing concerns.

### References

Advocacy Resource Center. (2020, September 8). Issue Brief: Reports of increases in opioid related overdose and other concerns during COVID pandemic.

<https://www.amaassn.org/system/files/2020-09/issue-brief-increases-in-opioid-related-overdose.pdf>.

Center for Disease Control and Prevention. (2020, June 12). Alcohol and substance use.

<https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/stress-coping/alcoholuse.html>.

- Cohen, B., & Rabinovitch, R. (2005). Outcomes of the decision to terminate drug abuse: An application of rational choice theory. *Journal of Social Work Practice in the Addictions*, 5(4), 47-62. [https://doi.org/10.1300/J160v05n04\\_04](https://doi.org/10.1300/J160v05n04_04).
- Cornish, D. & Clarke, R.V. (1986). *The reasoning criminal: Rational choice perspectives on offending*. New York, NY: Springer –Verlag.
- Durkin, K. F., Wolfe, T. W., & Clark, G. (2005, April). College students and binge drinking: An evaluation of social learning theory. *Sociological Spectrum*, 25(3), 255-272. <https://doi.org/10.1080/027321790518681>.
- Goldstein, A. L., Wall, A. M., Wekerle, C., & Krank, M. (2013). The impact of perceived reinforcement from alcohol and involvement in leisure activities on adolescent alcohol use. *Journal of Child & Adolescent Substance Abuse*, 22(4), 340-363. <https://doi.org/10.1080/1067828X.2012.735190>.
- Serrano, K. (2020, July 9). Is the COVID-19 pandemic fueling a 20% rise in NJ overdose deaths? *New Jersey Herald*. <https://www.njherald.com/news/20200709/is-covid-19-pandemic-fueling-20-rise-in-nj-overdose-deaths>.
- Smith, B., Kenney, S. R., Sessoms, A. E. & Labrie, J. (2011). Assessing the efficacy of a choice-theory based alcohol harm reduction intervention on college students. *International Journal of Choice Theory and Reality Therapy*, 30(2). 52-60.
- Wardell, J. D., Kempe, T., Rapinda, K. K., Single, A., Bilevicius, E., Frohlich, J. R., ... Keough, M. T. (2020). Drinking to cope during COVID-19 pandemic: The role of external and internal factors in coping motive pathways to alcohol use, solitary drinking, and alcohol problems. *Alcoholism*, 44(10), 2073–2083. <https://doi.org/10.1111/acer.14425>.

Wirojkul, R. (2017). Drug use among juveniles in the observation, protection centers and training schools in Thailand: An analysis of causal factors. *International Journal of Criminal Justice Sciences*, 12(2), 168-181. <http://doi.org./10.5281/zenodo.1034654>.

## Appendix A

### Informed Consent

Students in CJ331 are requesting the participation of Georgian Court Undergraduate students 18 years of age or older, to measure students' alcohol and drug use, factors that may increase these behaviors use and other factors that influence their decision to use and to drive after drinking. The objective is to determine whether these factors contribute to the understanding and research of substance use pre and post COVID-19 among college students.

What the study is about: This study seeks to measure college student's alcohol and drug use and other factors that influence their decision to use and to drive. The objective is to determine what factors contribute to the understanding and alcohol and drug use and driving under the influence.

What we will ask you to do I will ask you to complete a survey that includes questions about family, community, and school connections, questions about alcohol and other drug use, and attitudes towards alcohol and other drugs. There are also demographic questions (e.g., age, race, gender, education, etc.). These questions are important in order to make comparisons regarding alcohol and other drug use, and attitudes towards alcohol and other drugs. The survey has 52 questions (some questions have multiple parts), and the entire survey should take about 13 minutes to complete.

Risks and Benefits of Participation Because this is an anonymous survey, we do not anticipate any significant risks from participating in this research. It should not take

more than 13 minutes of your time. The information will be useful in measuring the prevalence of alcohol and drug use, and DUI among GCU students and what factors prevent these behaviors.

## Appendix B

1. Which best describes your class status at GCU?
2. Does your campus have alcohol and drug policies?
3. If yes, are they enforced?
4. Think back over the PAST 2 WEEKS. How many times have you had five or more alcoholic drinks\* at a sitting? \*drink as a “twelve-ounce beer or wine cooler, a shot of liquor, or a six- to eight-ounce glass of wine.”
5. Prior to COVID (mid-March): What was the average number of alcoholic drinks you consume a week
6. Post Covid (mid-March-present): What is the average number of alcoholic drinks you consume a week
7. Prior to Covid (mid-March) on average, indicate how often have you used the following  
PER MONTH: (mark one for each line)
8. Since Covid (Mid-March-present), on average, indicate how often have you used the following PER MONTH (mark one for each line) 0 = never used

9. At approximately what age did you first use (mark one for each line)

10. 6 months Prior to COVID- (Sept 2019- March 2020): Please indicate how often you have experienced the following due to your drinking or drug use (mark one for each line)

11. Post COVID- (mid-March-present) Please indicate how often you have experienced the following due to your drinking or drug use (mark one for each line)

12. How old are you in years?

13. What is your gender identity? (if transgender, select the gender you identify)

14. What is your race/ethnicity? (you may select more than one)