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Binge Drinking And Non-Consensual Drug Intoxication

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BINGE DRINKING AND NON-CONSENSUAL DRUG INTOXICATION

by

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ABSTRACT

Sexual violence towards women on a college campus has remained an issue the past few decades, with about one out of every four female students becoming a victim of it (Rosoff, 2018). Coupled with high rates of binge-drinking on college campuses (Substance Abuse and Mental Health Services Administration, 2021), now, more than ever, that attention needs to be drawn to how females can try to be aware of strategies to help combat such predators. Previous research also shows a link between functionally inhibiting drugs referred to as "roofies" that can be slipped into the drink of an unsuspecting victim (Crawford & Birchmeier, 2008). There is a gap in knowledge in how frequently these roofieing events occur in situations that do not lead to sexual assault and examine the types of behaviors study participants may be implementing to protect themselves. Researchers were able to recruit 156 participants, with a group of 128 participants who had not experienced non-consensual drug intoxication before and 28 participants who had in their perceptions and behaviors of binge-drinking and alcohol use disorder, risk-taking and risk assessment, safeguarding against alcohol and drug intoxication, and perceptions of participants towards non-consensual drug intoxication. Independent sample t-tests of each variable demonstrated that there was a relationship between being non-consensually drugged and risk-taking and risk assessment behaviors, but no relationship was found between non-consensual drug intoxication experience and binge-drinking, safeguarding against drug and alcohol intoxication, and perceptions towards non-consensual drug intoxication.

Keywords: non-consensual drug intoxication, roofie, drug-facilitated sexual assault, binge-drinking, social and behavioral sciences

TABLE OF CONTENTS

INTRODUCTION

As they continue their journey into university, female-identifying students find themselves in a new, unfamiliar territory with many dangers. Statistics state that as high as 23 percent of college women will experience some form of sexual assault during their tenure. There has been increased attention and dedication to educating both men and women on sexual assault and methods to proactively protect themselves from such crimes since the 1980s (Rosoff, 2018). A possible explanation as to why about one out of every four female college students may become the unfortunate victim of sexual assault is their ability to perceive risk in dangerous situations. Hertzog and Yeilding (2009) found that there is a severe disconnect between a person's understanding of the risks and dangers of the sexual assault and their own internalization of such risks. This is especially true in cases of drug-facilitated sexual assault. There has been conflicting data on the pertinence and frequency of drug-facilitated sexual assault. This is especially true when comparing evidence rooted in the toxicology demonstrating lower frequencies of drugging (Weiss & Colyer, 2010; Quigley et al., 2009; Burgess et al, 2009) when compared to self-reporting of victims (Crawford & Birchmeier, 2008). However, there is almost no research done on college students being 'roofied', which will be referred to interchangeably with non-consensual drug intoxication for the purposes of this study, where the victim was not sexually assaulted in cases where they involuntarily ingested some form of drug. This niche needs to be explored further, as it may provide more insight as to why there is a dispute in the level of risk that drug-facilitated sexual assault actually presents in a highly populated college environment such as that of the University of Central Florida.

University Binge Drinking Habits

Binge drinking in a college setting is often researched and well-documented. Binge drinking can be defined as having at least five drinks in the case of a male; for females, it is four drinks (Krieger et al., 2018). The National Survey on Drug Use and Health (NSDUH) in 2020 found that 51.5% of college-aged individuals had some form of frequent drinking in the past month, with 31.4% being classified as binge drinkers (Substance Abuse and Mental Health Services Administration, 2021). When compared to the same survey in 2011, the values were 60.8% and 39.1% respectively. Other studies have depicted similar results, with the Core Alcohol and Drug Survey showing 43.9% of college students had binge drank in the past two weeks in 2013 and the National Epidemiologic Survey on Alcohol and Related showed that, as of 2001, 57% of college-aged individuals binge drank in the past year, with 40% having done it more than 12 times in the past year (Krieger et al., 2018). College students are also more likely to binge drink more than their non-collegiate peers of the same age (McBride et al., 2014). The underlying trend of these statistics show a steady, marginal decline in binge drinking among college students from 2001 to 2021. Overall, binge drinking frequency is still very much a prevalent and perilous issue in college campuses.

As expected, a lot of the explanation for the abundance of this behavior, especially when compared to their peers, is the college student's perception on binge drinking. One possible correlation is who a student surrounds themself with. This makes sense, as college drinking is often seen as a social activity done with friends. Weschler and Kuo (2000) showed that participants who engaged in binge drinking activity more frequently were more likely to report that their friends were binge drinkers as well. They also found that 47% of students underestimated the frequency of binge drinking at their schools when compared to empirical

evidence. This, in part, can be explained by the normalization of binge drinking on college campuses (Haines & Spear, 1996). Students who identify themselves as actively a part of school activities showed a higher correlation with binge drinking trends (Berger et al., 2022). Thus, there is some credibility to the idea that involvement with a college environment can promote dangerous habits such as the excessive consumption of alcohol. It can also be reasonably claimed that a student's perception of campus drinking frequencies is an indication of their own drinking habits, even more so than self-reported drinking frequencies (Bellis et al., 2020). When thrust into an environment where constant excessive drinking is welcomed and celebrated, students are prone to become desensitized not only to the habit but the dangers it can cause.

The level of risk associated with binge drinking by college students is also a crucial factor to consider. An increased understanding of perceived risk correlates with a decreased positive alcohol expectancy (LaChance et al., 2009). This means that college students who were more aware of the dangers associated with alcohol consumption were less likely to consume it than those who aren't educated or ignore these facts. There is also a positive association with alcohol use and engaging in risky behavior, despite acknowledgment of that behavior being risky, such as in cases of copious alcohol use and unprotected sex (Klein et al., 2007). Chen (2018) found that when considering both perceived probability and seriousness of the negative consequences of binge drinking, undergraduate college students who scored higher in their understanding of the consequences of binge drinking had a lower frequency of binge drinking themselves. Another risk associated with binge drinking and excessive alcohol use involves unintentional overuse. There has been evidence of the commonality of people mixing or purchasing drinks for others in addition to either spiking non-alcoholic drinks with alcohol or adding additional alcohol to an alcoholic beverage without the victim's knowledge according to

one study done in Australia (McPherson, 2007). When taking into consideration the lack of accuracy in self-reported alcohol consumption, exploring the relationship of perceptions of binge drinking in relation to risk for sexual assault is of scholarly interest. In addition, it may be relevant to highlight how cognizant young women may or may not be of the amount of alcohol they are consuming on a given night (Moreton, 2003). This represents one of the purposes of this study.

Alcohol consumption, especially in copious amounts, has an adverse effect on both the human brain and body. Even after one drink, there is a noticeable, albeit slight, effect on your reaction time and behavior. By the time a person has reached a blood alcohol content of 0.09, which is in the range of binge drinking and alcohol intoxication for most people, they may show signs of blurred vision, lack of control, and some sensory loss (Northwestern Medicine, 2021). Most importantly, alcohol inhibits the ability to behave appropriately in response to social cues. This is a part of an effect known as alcohol myopia, which will be discussed in-depth in later sections (Broach, 2004, Gross et al., 2001).

Drug-facilitated Sexual Assault

Drug-facilitated sexual assault can be defined as a sexual act where at least one party, male or female, is incapacitated due to intoxication from drugs and/or alcohol (Grela et al., 2018). Given the ambiguity and stigma that can sometimes surround the term, evidence has shown that different cohorts may define date rape differently. Girard and Senn (2006) found that it was difficult for men to identify if a rape had occurred in "gray area" situations, especially when the woman in the given scenario did not specifically say no. They were also less likely to support criminal charges being enforced in such a situation when compared to women being asked the same questions. A recent survey of 181,752 college students focusing on sexual assault

in a college environment reported that 26% of undergraduate women reported nonconsensual sexual contact, with most perceiving sexual assault as either very or somewhat problematic (Cantor et al., 2019) In addition, 60% of women who have had an experience that could be classified as sexual assault do not realize or acknowledge that what they went through is classified as rape (Jaffe et al. 2021). These studies emphasize the importance of understanding and educating others on the different levels and classifications of sexual assault. The likelihood of a college woman to be the victim of sexual violence is almost three times that of any other demographic of women. They are also even less likely to report an incident of sexual assault to police compared to women not in college of the same age group, with a 12% discrepancy between the two (Spohn et al., 2017).

Women are at risk for sexual assault due to a variety of factors, of which one is personal risk perception. It is much easier for a person to apply a risk to a general situation than it is to the one that they are currently experiencing. They also may find it more difficult to identify a threatening situation if it is with someone they know or are familiar with. There is a likelihood that those who underestimate their ability to control the outcome of certain situations are less likely to offer resistance or engage in necessary precautions (Nurius, 2000).

Most importantly, the presence of inebriation in either the victim or the perpetrator increases the chances of sexual assault occurring (Monks et al., 2010). Some of the cognitive impairments mentioned previously, such as lack of control and inability to judge cues correctly (Northwestern Medicine, 2021), can lead both to the misinterpretation of sexual advances and inability to defend oneself from such advances. In fact, it has been reported that about one-third of all sexual victimization cases involved the consumption of alcohol by at least one party (Monks et al., 2010). Of course, the victim is not at fault here, and should not be blamed for

actions taken on by the perpetrator. However, educating potential victims on various risk factors may help them mitigate such risks (Anderson & Cahill, 2015). The most important effect of alcohol, especially when binge drinking is involved, is the peripheral narrowing of the mind, also known as alcohol myopia. It describes how, in a drunken state, a person is more likely to focus on environmental signs that affirm their pre-conceived notions and desires (Broach 2004). This phenomenon is officially defined as alcohol myopia theory and it plays two important roles. First, for the perpetrator, they may read cues that are not necessarily there, such as assuming that the girl they are talking to wants to have intercourse with them even if the woman is doing nothing of the sort to support that notion. For the victim, it may be harder for them to recognize the potential danger they are currently in because they are focused on other things in the environment that they are deriving pleasure from (Monks et al., 2010).

Toxicology of Commonly Used 'Roofies'

While alcohol is by far the most encountered substance in cases of drug-facilitated sexual assault, followed by cannabis, it is often not the one that college students are wary of (Grela et al., 2018). Instead, 'roofies', slang for various illicit narcotics that are placed unknowingly into a victim's drink, are what is commonly associate with the crime (Crawford & Birchmeier, 2008). The three major contributors are: Ketamine, Rohypnol, and gamma-hydroxyburate (GHB). To a lesser extent, methamphetamine/MDMA can also be placed into this group because it has some associations with increased engagement in risky sexual behaviors (Britt & McCance-Katz, 2005). However, the properties of the drug do not really align with some of the more powerful cognitive and behavioral effects of other substances on this list, so it is generally not considered to be used in cases of drug-facilitated sexual assault (Jansen & Theron, 2006).

GHB and Rohypnol are very similar in their intended purpose. Both are odorless and colorless, dissolve rapidly in liquid, fast-acting, and can cause loss of consciousness in addition to memory loss, also known as anterograde amnesia. Ketamine acts as an anesthetic and hallucinogenic. Its dissociative properties can leave the user very vulnerable, unable to fend off a would-be attacker (Britt & McCance-Katz, 2005). Ingesting any of these compounds, especially unknowingly, can leave the victim unaware of their surroundings and defenseless from a potential advance.

The frequency of these date-rape drugs in sexual assault cases is something that is constantly disputed in research. Crawford et al. (2008) demonstrated that female participants were able to recognize the risk of certain situations, such as someone else pouring the drink, whilst not as easily in others, like leaving their drink with a male acquaintance they came with. Most were likely to go home with said acquaintance as opposed to leaving a party alone, a situation commonly seen in date-rape. A series of interviews conducted in Australia found that their subjects, for the most part, were not fully aware of the potential dangers of their drink getting spiked. This included them mentioning being less careful the more they drank and being willing to trust total strangers after only ten to fifteen minutes of conversation (Moreton, 2003). However, these studies do nothing beyond prove that college students may be susceptible to drug-facilitated sexual assault. This also parallels the statement that college students engaging in more social college events tend to binge drink more and be put at a higher risk for drug-facilitated sexual assault.

Looking at the forensic and toxicological evidence of this form of drug-facilitated sexual assault demonstrates that it isn't very prevalent at all. A study of 97 participants found only 9 instances of drink spiking, of which only 4 could possibly have a connection to a substance other

than alcohol (Quigley et al., 2009). Another study attributes their own results of self-reported drink spiking to a multitude of factors. This includes periods of blacking out from excessive alcohol consumption, which may mimic what victims could perceive drink spiking to feel like (Burgess et al., 2009). A third study of 1000 participants who believed they had been drugged found only 5.9% of cases involving GHB and 0.5% of causes involving ketamine, with none containing Flunitrazepam (Rohypnol). The three most common substances were alcohol (30.9%), cannabinoids (28.8%), and methamphetamines (16.5%) (Fiorentin & Logan, 2020). Additional studies using drug testing found similarly low percentages of drink spiking occurrences through drug testing (Swan et al., 2017). In comparing the toxicology of drug-facilitated sexual assault across many different studies globally, it was found that ethanol (alcohol) was by far the most detected drug in cases of drug-facilitated sexual assault (Anderson et al., 2017; Skov et al., 2022).

To verify this information all potential errors must be accounted for, including the reliability of the testing completed. Drug testing is not always the most accurate. Depending on the age of equipment used and its sensitivity, the accuracy of these tests may be called into question. It is also important to look at the drugs themselves and how long they stay in a person's body (Jenkins & Schuller, 2007). Doses may not be in large enough quantities to be detected (Papadodima et al., 2007). The short half-lives of GHB and Rohypnol make it so that they may completely pass through the body within a 72-hour span (Dinis-Oliveira & Magalhães, 2013). If testing is not completed in due time, drink spiking can go completely unrecorded and alter the understanding of its prevalence. Combined with the understanding of a low likelihood of college women reporting sexual assault, drink spiking cases may be more prevalent than what these studies ascribe (Spohn, 2017).

History

It is important to recognize that the propagation of non-consensual drug intoxication is a national issue that has deep historical roots. Although the actual origin of incapacitating a victim unwillingly with some form of drug cannot be directly placed, some evidence points to a form of this behavior existing as early as the late 1800s, where the mythos and legend surrounding non-consensual drug intoxication started to flourish. There were many different tales of thieves and robbers using sedative drugs to make their targets vulnerable. By the early 1900s, the phrase "slipping a mickey" was created to give the act a name. However, it is important to note that these stories just-so-happened to have coincided with the beginning of the prohibition era and could have possibly been used as a political tool to push policymakers to support their cause. This was soon followed by similar campaigns against other substances, such as marijuana and cocaine, with depictions of users committing violent crimes and hurting innocent people, among other things (Weiss & Coyler, 2010).

It wasn't until the 1990s that the date-rape drug narrative known today started to form. As a cheap, addictive, and at the time, easy drug to access, Rohypnol became very popular with the club scene (Gorin, 2000). Along with Ketamine and GHB, it became a favorite amongst the partygoers to consume alongside alcohol to quickly feel the effects of a drunken or blacked out state. With the potential of these drugs as a predatory weapon, it wasn't long before major news outlets spoke about the dangers of drug-facilitated sexual assault and started to give advice to watch one's drink (Weiss & Coyler, 2010).

By the late 1900s and early 2000s, government policy soon reflected the media scare that Rohypnol had caused. Two separate bills were passed adding Flunitrazepam and GHB respectively to the list of Schedule 1 drugs, allowing for more severe punishment of the two

substances. The movement of the later specifically brings up in interesting case, as it was almost in direct response to the death of 16-year-old Hillory Farias. She died after a night out with friends, with eye-witness reports claiming she had only consumed two drinks and trace amounts of GHB identified in her system. She, along with Samantha Reid, another girl whose name was used to pass the change in GHB's classification into law, had ingested GHB unwillingly. However, neither case had any evidence or testimony of a sexual assault occurring (Weiss & Coyler, 2010). This is a very important detail, as it further demonstrates the portrayal of these substances as being commonly used for drug-facilitated sexual assault despite the lack of evidence to support such as claim.

However, a recent study focusing on the behavior of non-consensual drug intoxication, rather than solely as a conduit to sexual assault, raises new questions about potential oversights in previous research. Various university researchers conducted a survey on drink spiking and found that 1 out of 13 students had reported being drugged or suspected as much. These participants also mostly attributed their drug intoxication to Rohypnol despite toxicological reports stating otherwise, something that can possibly be attributed to the history of media attention towards the drug (Swan et al., 2017). This study is significant, as it identifies the possibility of non-consensual drug intoxication being a prevalent issue when it is dissociated from its connection with sexual assault. This principle is something that will be further explored in this study.

PRESENT STUDY

It is important to note, as was mentioned previously in this study, that the goal of this research is in no way to blame the victim for harm done against them. Common stigmas surrounding non-consensual drug intoxication contribute to the ever-present and growing issue of silencing victims (Kennedy & Prock, 2018). Rather, through this research, there is hope to further identify what makes some of these populations vulnerable (Spohn & Wright, 2017) and focus those efforts towards credibly creating more awareness and attention to how they can best protect themselves from future sexual violence. Drug-facilitated sexual assault, especially in the domain of a college campus, has been researched thoroughly over the span of decades (Northwestern Medicine, 2021). However, as it currently stands, there is very little information out there on cases of non-consensual drug intoxication that did not lead to sexual assault. Thus, it is a curiosity of this study to determine whether there is potentially a larger frequency of such cases than what may be documented due to this lack of information, and further explore their behavior and perceptions in comparison to other groups as a means of establishing potential discourse and awareness towards supporting this population. The goal is to identify two separate cohorts: those who have never been drugged against their will, those who have experienced some form of non-consensual drug intoxication. Then, once they are identified, there are several different variables that will be used to compare these two groups. Firstly, as discussed prior in this paper, binge drinking can be a major contributor to being drugged non-consensually and even drug-facilitated sexual assault. Binge-drinking is also one part of the larger issue of alcohol use disorders. The act of being drugged consensually or otherwise, especially in a case that leads to sexual assault, has proved to make victims more likely to develop an alcohol abuse disorder, likely due to unresolved trauma and unhealthy psychological adjustment (Rosoff, 2018). This

will be studied in this paper as a means of possibly identifying if this correlation exists between participants who have been non-consensually drugged and their drinking behavior as a whole amongst female-identifying students at the University of Central Florida. A more comprehensive instrument, instead of just a single question asking about frequency of drinking, was deemed more appropriate for this study to understand if there are more severe differences between the two groups. Overall risk assessment and risk-taking behaviors for victims, especially when inebriated, is another possible exposure that could have some rationale towards how these horrendous acts can occur. Although a victim should not be blamed for "inviting" unwanted solicitation, perception of risk is usually a strong indicator of behavior and vice-versa (Klein et al., 2007). Prior studies have dictated that the ability to assess risk properly while intoxicated is more difficult and increases with the level of intoxication of the individual (Monks et al., 2010). It makes sense to assess these behaviors generally, then follow up with a separate questionnaire in how that pertains specifically to the subject matter. This transition will be done through participant response to "safeguarding" behavior, which essentially identifies ways they may attempt to mitigate risk in a college party environment associated with alcohol and drug intoxication. Lastly, a general understanding of how the group that has been non-consensually drugged and the group that has never been non-consensually drugged perceive non-consensual drug intoxication, as significant findings here could establish a possible relationship in how those perceptions may have a role in vulnerability towards non-consensual drug intoxication or identify the lasting effects such a traumatic experience could have. After all, a historical context of non-consensual drug intoxication supports the idea that its perception does not necessarily align with its actual frequency and level of danger, and it is something worth exploring further (Weiss & Coyler, 2010). There are also some explanatory analyses that will be conducted,

mostly comparing the frequency of other variables of interest, such as a comparison of participants who were non-consensually drugged and sexually assaulted as a result of non-consensual drug intoxication and participants who were non-consensually drugged but not sexually assaulted from that instance in addition to comparisons based on race and ethnic characteristics.

After identifying the frequency of each of these groups, they will each be asked to rate their perceptions or frequency of the following: binge drinking behavior and indications of alcohol use disorder, risk-taking behavior, safeguarding behavior against both alcohol and drug intoxication, and their perception of the frequency and seriousness of non-consensual drug intoxication.

This study tests the following hypotheses:

I. Women who have been non-consensually drugged will have more symptoms of alcohol use disorder than those who have never been non-consensually drugged.

II. Women who have been non-consensually drugged engage in more risk-taking behaviors than those who have never been non-consensually drugged.

III. Women who have been non-consensually drugged will not assess risk as highly as those who have never been non-consensually drugged.

IV. Women who have been non-consensually drugged do not engage in safeguarding behaviors as frequently as those who have never been non-consensually drugged.

V. Women who have been non-consensually drugged will rate their perception of towards non-consensual drug intoxication lower than those who have never been non-consensually drugged.

METHODS

Participants

Of the participants who took part in the study from September 2022 to February 2023, 156 valid responses were received. Participants selected were current, female-identifying, college students between the ages of 18 and 25. Participants were directed to the University of Central Florida's Qualtrics website, https://ucf.qualtrics.com/ to complete all aspects of the research participation. By agreeing to participate in this research, UCF students will gain the ability to be rewarded with extra credit points for their efforts.

When looking at the demographic results, 17.2% of the sample had experienced non-consensual drug intoxication, with 28.6% of that group having been sexually assaulted as a result of the instance and 71.4% having been non-consensually drugged but not sexually assaulted. More interestingly, 38.7% of the sample population had experienced some form of sexual assault, even if it was not in the context of non-consensual drug intoxication. 24.5% of the sample identified as ethnically Hispanic. Racially, an overwhelming number of Caucasian-identifying participants were a part of the study, at 71.2%, followed by 14.1% African-American, 8% Mixed Race, and 3.7% Asian.

Materials

Demographics Questionnaire

The demographics questionnaire is a 10-item instrument created for the purposes of this study, split into two main focuses. The first half includes questions concerning a participant's history with non-consensual drug intoxication, sexual assault, and sexual assault as a result of non-consensual drug intoxication. The latter half of the questionnaire is designed to get general demographic data on the participants, such as their ethnicity, race, age, years completed of

undergraduate and graduate education, and most importantly, gender identity, as this study intends to focus only on female-identifying students to serve as its sample.

Alcohol Uses Disorder Identification Test (AUDIT)

To study the seriousness of a participant's drinking habits and possible signs of alcohol use disorder in comparison with experiences with non-consensual drug intoxication, the English version of a 10-item instrument created by the World Health Organization called the Alcohol Use Disorder Identification Test will be used. Participants will be asked questions such as "How often do you have a drink containing alcohol?" with responses being converted to and assessed on a 5-point Likert Scale. The only exceptions are the last two items being used, which will only correlate to scores of 1, 3, and 5. This test is seen to be very reliable with an internal consistency of 0.96 (Noorbakhsh et al., 2018). Further reliability testing for this instrument done in this study also proved reliable ($\alpha = .84$).

Risk Taking-18 (RT-18)

As a way of comparing both risk-taking and risk assessment behaviors in the participants to their experience with non-consensual drug intoxication, the Risk Taking-18 instrument will be used. It is split up into 18 total items, with two scales of 9 items pertaining to risk assessment and risk-taking behaviors respectively. Each item will be answered on a 5-point Likert scale with a score of 1 being "Strongly Disagree" and a score of five meaning "Strongly Agree." Participants who score higher on each of the domains of this test will exemplify higher risk-taking and lower risk assessment behaviors respectively. This test shows a high reliability score with $\alpha = .8$-$.88$ across a range of different study groups (de Haan et al., 2011). This study's reliability testing was also valid for the risk assessment ($\alpha = .73$) and risk-taking ($\alpha = .85$) scales.

Attitudes Towards Safeguarding Behavior Questionnaire

As stated previously, both an inebriated state and intoxication via drugging increase susceptibility for a victim to be assaulted (Monks et al., 2010). Students will be asked to answer questions directly comparing their awareness and attitudes towards safeguarding themselves against drinking intoxication and non-consensual drug intoxication. This 28-item survey was created for the purposes of this study with scores being compared on a 5-point Likert scale ranging with 1 being "disagree strongly" and 5 being "strongly agree". When factor analysis was run, the total number of items became reduced to 21 items, with a 6-item scale for peer pressure ($\alpha = .79$), a 5-item scale for environmental awareness ($\alpha = .69$), a 5-item scale for recognition ($\alpha = .73$), and a 5-item scale for alcohol intoxication awareness ($\alpha = .71$).

Comparison of Perceptions of Non-Consensual Drug Intoxication Questionnaire

To examine both the experiences and attitudes of participants towards non-consensual drug intoxication in cases that both do and do not result in sexual assault, a 20-item instrument was created. Participants will be asked to rate their perceptions of the frequency and seriousness of non-consensual drug intoxication, including instances that have and have not led to sexual assault. The questions in this section are focused on the behaviors mentioned above on a 5-point Likert scale (1 being "strongly disagree" and 5 being "strongly agree"). These 20 items were reduced to a total of 11 items, with a 6-item scale reporting non-consensual drug intoxication ($\alpha = .89$) and a 5-item scale for awareness ($\alpha = .49$).

Procedure

Participants will gain access to the survey via the aforementioned link, where they will be directed to the Qualtrics platform. They will initially be met with the demographic questionnaire pertaining to their history of non-consensual drug intoxication, if any, and other descriptive

statistics. Participants who are not female-identifying UCF students between the ages of 18 and 25 will be directed to the end of the survey and thanked for their participation. The participants will then complete the Alcohol Use Disorder Identification Test. Then, they will complete the RT-18 assessment. Afterwards, they were asked to respond to a survey created for the sake of this study focusing on the differences in safeguarding behavior against alcohol and drug intoxication called the "Attitudes Towards Safeguarding Behavior Questionnaire". Upon completion, they will be asked to fill out another survey created in this study to examine perception of frequency and seriousness of non-consensual drug intoxication, titled "Comparison of Perceptions of Non-Consensual Drug Intoxication Questionnaire."

ANALYSIS

Before conducting any analysis of the hypotheses, it was first important to do a factor analysis on the scales created for the purpose of this study, "Attitudes Towards Safeguarding Behavior Questionnaire" and "Comparison of Perceptions of Non-Consensual Drug Intoxication Questionnaire" to determine if there were any underlying scales. For the Attitudes Towards Safeguarding Behavior Questionnaire, scales existed for peer pressure, environmental awareness, recognition, and alcohol intoxication awareness, while for the Comparison of Perceptions of Non-Consensual Drug Intoxication Questionnaire scales for reporting non-consensual drug intoxication and awareness were found.

The first hypothesis, that women who have been non-consensually drugged will have more symptoms of alcohol use disorder than those who have never been non-consensually drugged, will be studied with the results of the Alcohol Use Disorder Identification Test to the demographic data gathered through comparative analysis. A higher score on the AUDIT is expected for participants who have been non-consensually drugged compared to those who have not been non-consensually drugged.

The second hypothesis, which compares risk-taking behaviors, will be done so by correlating demographic information with the Risk-Taking-18. From the RT-18, we expect to see a higher positive correlation between total scores and participants who have been non-consensually drugged as opposed to those who have never been non-consensually drugged.

The third hypothesis, which compares risk assessment behaviors, will be done so by correlating demographic information with the Risk-Taking-18. From the RT-18, we expect to see a higher positive correlation between scores and participants who have been non-consensually drugged as opposed to those who have never been non-consensually drugged. It is important to

state here that the higher the risk-taking score, the more likely the person filling out the questionnaire is to engage in that behavior, and the higher the risk assessment score, the less likely the participant is to assess risk.

To examine the fourth hypothesis, we compared scores of safeguarding attitudes toward both binge-drinking and non-consensual drugging in a college environment for participants who have and have never been non-consensually drugged. This was done using the Attitudes Towards Safeguarding Behavior survey. This hypothesis is proven true if women who have never been non-consensually drugged rate their behavior in safeguarding against being drugged and binge-drinking (at least four drinks for females and five drinks for males) higher as opposed to those who have been non-consensually drugged (Krieger et al., 2018).

The fifth hypothesis was tested by looking at perceptions of non-consensual drug intoxication for participants who have been non-consensually drugged and participants who have never been non-consensually drugged. This will be proven by determining if women who have never been non-consensually drugged score higher for the Comparison of Perceptions of Non-Consensual Drug Intoxication survey.

Each individual instrument underwent reliability and validity testing using measures of Cronbach's alpha. Then, independent t-tests for hypothesis testing were used to determine statistical significance. We felt that an independent samples t-test was the most fitting for this study because we wanted to look at the difference between two groups based on their answer to whether they had been non-consensually drugged to determine statistical significance. With the sample size of 156 total participants representing the population, we determined that we had a large enough sample to conduct an independent t-test. We then used a post-hoc power analysis of the variables to determine effect size.

To conduct an independent samples t-test, we will first be testing the assumptions. First, we converted the Likert scale ordinal variables for each scale into continuous variables (ranging from 10-28 items) based on the mean scores of each instrument. Next, to test the assumption of normality, the Shapiro-Wilks test (denoted as *SW*( ) in this paper) was used. Lastly, the Levene's test for equality of variances (Levene, 1960) to determine the homogeneity of the sample groups was implemented.

RESULTS

All data was collected from the Qualtrics system and converted into an SPSS file to be used within the SPSS interface. SPSS is a statistical tool used in behavioral sciences to analyze data. Originally, 163 participants began the survey. However, only 156 of those 163 results were found to be valid due to most or all the survey answers missing. Participants who were missing valid answers were removed from data analysis.

The current study examined the difference between the means of two groups, those who had been non-consensually drugged (HB) and those who had never been non-consensually drugged (NB) for the following scales: alcohol use disorder with a scoring range of 1-50 (HB: *M* = 19.28, *SD* = 6.70; NB: *M* = 15.41, *SD* = 4.86), risk-taking with a scoring range of 1-45 (HB: *M* = 27.89, *SD* = 6.71; NB: *M* = 26.10, *SD* = 7.15) risk assessment with a scoring range of 1-45 (HB: *M* = 25.39, *SD* = 6.45; NB: *M* = 22.38, *SD* = 5.31), peer pressure with a scoring range of 1-30 (HB: *M* = 14.57, *SD* = 6.28; NB: *M* = 13.91, *SD* = 5,14), recognition with a scoring range of 1-25 (HB: *M* = 16.04, *SD* = 3.79; NB: *M* = 16.26, *SD* = 4.13), alcohol intoxication awareness with a scoring range of 1-25 (HB: *M* = 17.50, *SD* = 4.00; NB: *M* = 16.14, *SD* = 4.65). and reporting non-consensual drug intoxication with a scoring range of 1-30 (HB: *M* = 21.36, *SD* = 6.68; NB: *M* = 25.40, *SD* = 4.72).

With the help of SPSS, variables were inputted to test for normality and other characteristics of t-tests (see Appendix D1).

Hypothesis Testing

Hypothesis I: Non-Consensual Drug Intoxication and Binge Drinking Habits

Researchers expected to find a higher average total score on the AUDIT for participants who had been non-consensually drugged than who have never been non-consensually drugged.

Based on the Shapiro-Wilks test, samples were not normally distributed for those who answered "No" to whether or not they have been non-consensually drugged (NB: $SW(128) = .903$, $p < 0.01$) and were normally distributed for the group that answered "Yes" (HB: $SW(28) = .934$, $p = .07$). The test for homogeneity ($F(155) = 5.04$, $p < .05$) proved significant, which means that the assumption of homogeneity of equal variances failed, and we would have to look at the values for unequal variances instead. We expected to see a higher average total score for the group who had been non-consensually drugged ($t(155) = 2.90$, $p = .003$), which was proven with a large effect size ($d = .742$), demonstrating that there is a difference in means between the two groups with higher average scores for the group who had been non-consensually drugged. Those who had been non-consensually drugged averaged a total score several points higher than those who had never been non-consensually drugged (HB: $M = 19.28$, $SD = 6.70$; NB: $M = 15.41$, $SD = 4.86$).

Hypothesis II and III: Non-Consensual Drug Intoxication and Risk-Taking/Risk Assessment Behavior

In order to prove our hypotheses, we expected to see a higher scoring for the HB group than the NB group for risk-taking and risk assessment behavior. We found the results had a normal distribution for risk-taking (NB: $SW(128) = .990$, $p < .468$; HB: $SW(28) = .971$, $p = .614$) and risk assessment (NB: $SW(128) = .970$, $p < .347$; HB: $SW(28) = .982$, $p = .538$). The assumption of homogeneity was also valid for the risk-taking ($F(155) = 0.004$, $p = .844$) and risk assessment ($F(155) = 0.046$, $p = .732$). The hypothesis was not confirmed for risk-taking ($t(155) = 1.22$, $p = .112$, $d = .254$), but was confirmed for the risk assessment scale ($t(155) = 2.62$, $p = .005$, $d = .545$) with a medium effect size. We can therefore confirm our hypothesis and determine that the HB group (HB: $M = 25.39$, $SD = 6.45$; NB: $M = 22.38$, $SD = 5.31$) scored on

average, several points higher than the NB group for risk assessment and establish a relationship between the two variables. It is important once again to point out that for risk assessment specifically, a higher score means that they are less likely to engage in behaviors that assess risk.

Hypothesis IV: Non-Consensual Drug Intoxication and Safeguarding Behavior

The fourth hypothesis focused on trying to prove that the HB group would score lower than the NB group in their rating of their own safeguarding behavior against alcohol and drugs. When looking at the scales, the environmental awareness scale proved unreliable ($\alpha = .69$), so no further analysis was conducted. The peer pressure scale was normally distributed for the HB group (*SW(28)* = .957, *p* = .299) but not the NB group (*SW(128)* = .964, *p* = .002), so the assumption of normal distribution fails in this case. The assumption of homogeneity was valid ($F(155) = 2.469$, $p = .192$). However, after conducting an independent sample t-test (*t(155)* = 0.60, *p* = .276, *d* = .124), we are unable to prove a correlation in measuring the two groups against each other for that scale. The *t* was not statistically significant, and the effect size was small. The recognition scale was normally distributed for both groups (HB: *SW(28)* = .942, *p* = .128; NB: *SW(128)* = .989, *p* = .128) and the assumption of homogeneity was valid (*F(155)* = 0.533, *p* = .467). The independent sample t-test for this scale (*t* = -0.27, *p* = .394, *d* = .056) showed no statistical significance and a negative effect size. Lastly, the alcohol intoxication awareness scale was normally distributed for the HB group (*SW(28)* = 0.941, *p* = 0.115) but not the NB group (*SW(128)* = 0.948, $p < 0.01$), meaning the "never been non-consensually intoxicated" group did not have a normal distribution. Equal variance was demonstrated ($F(155) = 0.917$, $p = .340$), but examining the t-test results (*t* = 1.44, *p* = .076, *d* = .300) shows a statistically significant result, but not one where much can be extrapolated from given the negative t-value and a small effect size from the post-hoc power analysis. The hypothesis could

not be confirmed and a relationship between non-consensual drug intoxication and attitudes towards safeguarding against alcohol and drug intoxication could not be established.

Hypothesis V: Non-Consensual Drug Intoxication and Comparison of Perceptions of Non-Consensual Drug Intoxication

Of the two scales we were able to identify through factor analysis, the awareness scale proved unreliable ($\alpha = .49$), so no further analysis was done. For the reporting non-consensual drug intoxication scale, the sample was normally distributed for the HB group ($SW(28) = .928$, $p = .055$) but not for the NB group ($SW(128) = .869$, $p < 0.01$), meaning the scale fails for the assumption of normal distribution. It also failed for the assumption of homogeneity of equal variance ($F(155) = 9.778$, $p = 0.02$). With the t-value for equal variances not being assumed, the test showed ($t(155) = -3.78$, $p < .001$, $d = 0.789$) that there was no statistically significant difference between the two groups and that the effect size being strong with a high, negative *t* shows that there is either no effect or that it could not be detected in this particular experiment. Therefore, the hypothesis could not be confirmed when comparing groups HB and NB in their perceptions of non-consensual drug intoxication in regards to reporting instances of non-consensual drug intoxication occurring.

Exploratory Analysis

As mentioned in the literature review, it was of interest to the researchers of this study the frequencies of the sample that had been non-consensually drugged and non-consensually drugged in an instance resulting in sexual assault. We found a that total of 20 participants (71.4% of the sample that had been non-consensually drugged) were not sexually assaulted as a result of that encounter, while 8 participants (28.6%) had been sexually assaulted as a result of being non-consensually drugged. We would've liked to compare mean scores between the sexual assault after the fact and non-consensually intoxicated group, but the sample size was too low to do such

an analysis. Looking at the ethnic and racial statistics, due to the low sample size it is also difficult to compare mean scores among Hispanics and Non-Hispanics in addition to the differently identified races.

DISCUSSION

This study is one of the first to observe non-consensual drug intoxication in a more objective setting. Typically studies of this nature focus solely on the sexual assault aspect of a victim being drugged against their will and seem to overlook cases where no violence is enacted after the fact. In doing so, we attempted to report the statistical significance between groups that had been non-consensually drugged and those that had never been non-consensually drugged regarding the four hypotheses involving binge-drinking and alcohol use disorder, risk-taking and assessment, safeguarding behaviors, and perceptions of non-consensual drug intoxication.

Researchers first attempted to establish a positive relationship between non-consensual drug intoxication and alcohol use disorder. While this relationship was found, giving credence to the idea that females who have been non-consensually drugged are more likely to show signs of alcohol use disorder, it is heavily limited by the distribution of the sample for this scale not being normally distributed. This is largely due to a small sample size and will be discussed further in the limitations section. However, symptoms of alcohol use disorder may be something that should be taken into consideration in future research pertaining to non-consensual drug intoxication as potential risk factor and preventable measure.

The second and third hypotheses attempt to establish a positive relationship between non-consensual drug intoxication and risk-taking and risk assessment behaviors. This relationship was found for the risk assessment scale, but not for risk-taking. This aligns pretty well with research that has already been conducted, especially when considering the difficulty that can be associated with assessing danger in a situation involving others when compared to oneself. A possible explanation (outside of the limitations that will be discussed) as to why there was no significant finding for risk-taking is the lack of control victims have when they may find

themselves in a situation where non-consensual drug intoxication is possible. As sad as it is, there is only so much women can do to try to protect themselves, nor should they be expected to shoulder that burden as the victim of the actions of someone else. What this may mean is that there is not an observable difference between the two groups when comparing risk-taking because risk-taking behavior is not as much of a factor that contributes to the occurrence of non-consensual drug intoxication.

The fourth and fifth hypotheses, comparing non-consensual drug intoxication to safeguarding behaviors and perceptions of non-consensual drug intoxication proved unfruitful in establishing any real significance. This is likely a result of those instruments being created for the sake of this study, as mentioned in the limitations section of the paper. However, although there may not be a relationship between those two variables and non-consensual drug intoxication, the preliminary research dictates that a more properly created series of instruments could help to establish a relationship where none was found here.

Lastly, additional comparisons between several variables were conducted, such as looking at populations of those who had been sexually assaulted because of non-consensual drug intoxication and participants who had not been sexually assaulted from such an instance in addition to comparing racial and ethnic demographic data, but the sample sizes were too small for us to find anything significant as a result.

Strengths

As mentioned prior, this study fulfilled an important gap in the understanding of non-consensual drug intoxication, especially in how it relates to a population of people who were not sexually assaulted as a result. This is especially true when it comes to the role risk-taking and assessment may have in the culmination of such events. The goal in conducting this research was

to hopefully find some type of new understanding surrounding this behavior and use that to learn how to better-protect the vulnerable populations from the potential dangers surrounding non-consensual drug intoxication, and this study shows signs of that with a medium effect size that participants who have been non-consensually drugged demonstrating that they have a lower likelihood to assess the risk in their environment.

As universities grow larger in population and more females enter the unfamiliar world of college for the first time, there is a real argument to be made for us to do more in educating them on how to try and mitigate the risk of becoming a victim of non-consensual drug intoxication so that society can work towards lowering the rate of instance. After all, they should have every right to be able to enjoy themselves on a night out without the stress of a face, familiar or unfamiliar, trying to take advantage of them for their own selfish reasons. It'll be interesting to see how the trend of non-consensual drug intoxication, especially in cases that do not lead to sexual assault, may become more or less frequent as the years continue on.

Limitations and Future Directions

There are several limiting factors to highlight in the conduction of this research that may have led to results that were not significant, the first of which the environment in which it was conducted. For example, all responses for this research study were self-reported, meaning that they could be inaccurate. In addition, choosing to limit participants to only female-identifying UCF students may not be an accurate representation given the ethnicity percentages and just general differences between our sample and the population as a whole in which the sample is representing. Most importantly, the study was limited by its sample size. While it can be argued that 156 valid participants can be suitable for a study in the behavioral sciences, the issue lies within the target population of participants who have been non-consensually drugged and non-

consensually drugged in an instance that has led to sexual assault. Given that there were only 28 participants among the 158 individuals originally in the sample who had been non-consensually drugged, this affected the ability to detect significant effects.

Another limitation was the perceived need to create original instruments in order to test the hypotheses of this survey. Although questions were attempted to be created similarly to other resources found during the literature review, it proved difficult to fully create something that could provide meaningful results. This is reflected in the reliability and actual useful data that could be extracted from the scales included in the fourth and fifth hypothesis. If the study were to be conducted again there would be more of an effort to refine these tools to create something that is viable for data analysis.

Lastly, the study is limited in what it actually proves. Given that the focus of this paper was just to establish a relationship between mean scores of variables, more could have been done to look at other quantifiable aspects such as comparing observed versus expected results with chi-square analysis and looking at statistical differences between and within groups with analysis of variance testing. Due to this research being retrospective, it is not possible to establish if an experience with non-consensual drug intoxication caused lower levels of risk assessment and higher scores of alcohol use disorders, or vice-versa.

There are a lot of future directions in which this research could be taken. One way to efficiently use the smaller sample size of the non-consensually drugged population would be to conduct interviews of participants with a more in-depth discussion of their experiences, as that may contribute to the knowledge and understanding of why such events happen, and by extension, how best to prevent them in the future. This same study could be reconducted with a larger sample size, which would likely lead to more statistically significant results. Although this

study did not focus specifically on Greek life on campus, there is a possibility that females in Greek life are affected a disproportionate amount by non-consensual drug intoxication compared to their non-Greek counterparts. Another direction is with the drugs commonly associated with non-consensual drug intoxication, assessing how they are acquired and with what ease one may do so. There is also little research done on the lasting effects of non-consensual drug intoxication on the victim in cases that do not results in sexual assault, which can open up a lot more questions regarding the field. Lastly, future research can look at the environmental and cultural impacts of non-consensual drug intoxication, such as comparing the incidence rates of non-consensual drug intoxication between universities of a different size or comparing rates between a females attending university and ones who are not but in that same 18-25 age range, or trying to see if there is some statistical significance or correlation between incidence of non-consensual drug intoxication and race or ethnicity of the victim.

APPENDICES

APPENDIX A: IRB APPROVAL LETTER

UNIVERSITY OF CENTRAL FLORIDA

EXPLANATION OF RESEARCH

Title of Project: Binge Drinking and Non-Consensual Drug Intoxication

Principal Investigator: Grace White, Ph. D.

Other Investigators: Jake Blendermann (Honors Undergraduate Thesis)

You are being invited to take part in a research study. Whether you take part is up to you.

This study aims to explore the differences among college-aged women who have experienced drug intoxication without consent, alcohol-related behaviors, and their association to experiences with sexual assault.

You will be asked about your perceptions and experiences with drug intoxication without consent and binge drinking. You will also be asked questions about other drinking behavior and drinking-related experiences. These surveys will include the Alcohol Use Disorder Identification Test (AUDIT), the Risk Taking-18 (RT-18) survey, a questionnaire about safeguarding behaviors, and demographic questions that include age, gender, race/ethnicity, and whether you have experienced a sexual assault. If you experience any kind of distress or the survey content makes you feel uncomfortable in any way, you can contact UCF Counseling and Psychological Services at (407) 823-2811.

This Qualtrics survey is expected to take approximately 30 minutes.

You must be a UCF student who identifies as a WOMAN between the ages of 18 and 25 years to take part in this research study.

Your participation in this study is voluntary. You are free to withdraw your consent and discontinue participation in this study at any time without prejudice or penalty. Your decision to participate or not participate in this study will in no way affect your relationship with UCF, including continued enrollment, grades, employment or your relationship with the individuals who may have an interest in this study.

If you are a UCF student, you will receive extra credit or course credit at the discretion of the faculty instructor of your courses. You will not be awarded credit if (1) you click on the study link but do not consent to participate (i.e. "no-show"), (2) you submit completely blank surveys, (3) submit multiple responses for the same survey, (4) you do not meet the inclusion criteria and/or (5) experience technical issues related to the submission of the survey. At the end of the survey, you will be provided with a survey code to confirm your participation and redirected to a separate survey where you will provide your UCF ID, the survey code, your course faculty instructor's name, their email address, and your course number to award your credit. Your UCF ID is shared with the faculty instructor to award your credit. This second survey is to separate the collection of any identifiable information (UCF ID) from research data collection relevant to the study. If you do not wish to participate in this research study, faculty instructors providing credit will provide an alternate assignment of equal time and effort for equal credit.

If you are a UCF student, your identifiable information (UCF ID) will be collected as part of this study. Identifiable data will be stored separately from the de-identified data on UCF Cloud Drive (K:/). All data will be stored for 5 years after study closure per Florida law. Your identifiable information cannot be connected to your responses. Only the principal investigator has access to UCF IDs. Data can only be accessed by researchers and is saved to a secure server: Raw data is stored on the encrypted UCF Qualtrics Cloud server and downloaded data is stored in UCF Cloud Drive (K:/) when exported from Qualtrics to SPSS. Access to the data is protected by multi-factor authentication for UCF Qualtrics under the single sign-on as is UCF Cloud Drives.

Study contact for questions about the study or to report a problem: If you have questions, concerns, or complaints, you may contact Jake Blendermann via email at jblendermann1@knights.ucf or Dr. Grace White at Grace.White@ucf.edu.

IRB contact about your rights in this study or to report a complaint: If you have questions about your rights as a research participant, or have concerns about the conduct of this study, please contact Institutional Review Board (IRB), University of Central Florida, Office of Research, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901, or email irb@ucf.edu.

APPENDIX B: MATERIALS

Materials B1: Demographics Questionnaire

1. Have you ever experienced non-consensual drug intoxication (drugged/roofied)?
   a) Yes
   b) No

2. How many times? _____

3. Were you sexually assaulted as a result of that instance of non-consensual drug intoxication?
   a) Yes
   b) No

4. Were you ever sexually assaulted?
   a) Yes
   b) No

5. What is your age? _____

6. Do you identify as Hispanic?
   a) Yes
   b) No

7. What is your race?
   a) White
   b) Black/African American
   c) Asian
   d) American Indian/Alaskan Native
   e) Native Hawaiian/ Pacific Islander
   f) Mixed Race

8. If you are a student, please indicate the number of years you have been enrolled in your current degree program (If not a student, type N/A) _____

9. What is your sex?
   a) Male
   b) Female

10. To which gender identity do you most identify?
    a) Female
    b) Male
    c) Transgender
    d) Gender variant/ nonconforming
    e) Not listed _____
    f) Prefer not to answer

Materials B2: Alcohol Use Disorder Identification Test

1) How often do you have a drink containing alcohol?
    a. Never
    b. Monthly or less
    c. 2-4 times a month
    d. 2-3 times a week
    e. 4 or more a week

2) How many drinks containing alcohol do you have on a typical day when you are drinking?
    a. 1 or 2
    b. 3 or 4
    c. 5 or 6
    d. 7 to 9
    e. 10 or more

3) How often do you have six or more drinks on one occasion?
    a. Never
    b. Less than monthly
    c. Monthly
    d. Weekly
    e. Daily or almost daily

4) How often during the last year have you failed to do what was normally expected of you because of drinking?
    a. Never
    b. Less than monthly
    c. Monthly
    d. Weekly
    e. Daily or almost daily

5) How often during the last year have you failed to do what was normally expected of you because of drinking?
    a. Never
    b. Less than monthly
    c. Monthly
    d. Weekly
    e. Daily or almost daily

6) How often during the last year have you needed a first drink in the morning to get you going after a heavy drinking session?
    a. Never
    b. Less than monthly
    c. Monthly
    d. Weekly

e. Daily or almost daily

7) How often during the last year have you been unable to remember what happened the night before you were drinking?
    a. Never
    b. Less than monthly
    c. Monthly
    d. Weekly
    e. Daily or almost daily

8) How often during the last year have you had a feeling of guilt or remorse after drinking?
    a. Never
    b. Less than monthly
    c. Monthly
    d. Weekly
    e. Daily or almost daily

9) Have you or someone else been injured because of your drinking?
    a. No
    b. Yes, but not in the last year
    c. Yes, during the last year

10) Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?
    a. No
    b. Yes, but not in the last year
    c. Yes, during the last year

Materials B3: RT-18

1) Do you often get into a jam because you do things without thinking?

2) Do you usually think carefully before doing anything?

3) Do you mostly speak before thinking things out?

4) Do you enjoy taking risks?

5) Would you enjoy parachute jumping?

6) Do you welcome new and exciting experiences and sensations, even if they are a little frightening and unconventional?
7) I often try new things just for fun or thrills, even if most people think it is a waste of time.
8) I often spend money until I run out of cash or get into debt from using too much credit.
9) I like to think about things for a long time before I make a decision
10) I usually think about all the facts in detail before I make a decision
11) I enjoy saving money more than spending it on entertainment or thrills.
12) I often follow my instincts, hunches, or intuition without thinking through all the details
13) I often do things on impulse
14) I enjoy getting into new situations where you can't predict how things will turn out
15) I sometimes like to do things that are a little frightening
16) I sometimes do "crazy" things just for fun
17) I prefer friends who are excitingly unpredictable
18) I like "wild" uninhibited parties

Materials B4: Attitudes Towards Safeguarding Behavior Questionnaire

1) I worry about getting roofied when I go out to drink
2) I fear that I will get too intoxicated when I go out to drink.
3) I would never ingest a drug if I don't know what's in it.
4) I always pour my drink myself
5) I never leave my drink unattended, even when going to the bathroom
6) I recognize the amount of alcohol equivalents that are in my drink

7) I believe that I can protect myself if I was roofied

8) I can keep myself safe when I am intoxicated

9) I can recognize if one of my friends gets roofied at a bar

10) I know how to handle one of my friends getting too drunk at a party

11) I will be roofied by the time I finish my undergraduate degree

12) I will get intoxicated at least once before I graduate

13) I can still get roofied even if I'm careful

14) I pay attention to how much alcohol I consume

15) I can recognize if my drink has been tampered with

16) It is easy for me to tell the alcohol content in mixed drinks or party juice

17) I don't realize how drunk I get

18) I wouldn't recognize if I got drugged non-consensually until hthes later

19) I forget to eat before going out to drink

20) I will accept a drink from someone I consider to be an acquaintance.

21) If I set a limit on how much I will drink in one night, I stick to it

22) If I tell myself not to be forgetful about my drink, I won't

23) I try to get drunk before going out in order to save money

24) I'll accept drinks when they are free

25) I get pressured easily into drinking more

26) I'll accept a drink from an acquaintance

27) I avoid any type of "jungle" or "party" juice

28) I avoid mixed drinks all together

Materials B5: Comparison of Perceptions of Non-Consensual Drug Intoxication Questionnaire

1) Roofieing does not occur as often as people think.
2) Most cases of someone being drugged leads to sexual assault
3) I know someone who has been drugged without their consent
    I. The next series of questions will be asked using the following prompt: "If I were to get roofied and believed I was sexually assaulted…"
4) I would report it to the police or other emergency services
5) I would report it to a superior such as an advisor or professor
6) I would seek out medical care
7) I would tell my friends about it
    II. The next series of questions will be asked using the following prompt: "If I were to get roofied but not sexually assaulted…"
8) I would report it to the police or other emergency services
9) I would report it to a superior such as an advisor or professor
10) I would seek out medical care
11) I would tell my friends about it
12) If the person I believed that drugged me was a friend, I wouldn't seek out emergency or medical help
13) People drugged against their will won't discuss it in order to not relive their trauma
14) There is not enough awareness surrounding non-consensual drugging
15) There is not enough awareness surrounding non-consensual drugging in cases where the victim was not assaulted

16) Getting roofied is a common occurrence at a college party

17) It is hard to get access to common date-rape drugs such as Rohypnol and GHB

18) Females are more likely to get roofied

19) Roofies are usually odorless and colorless

20) Modern college students have become desensitized to the threat of getting roofied

APPENDIX C: NOTICE OF DEFENSE

NOTICE OF DEFENSE

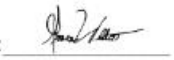
Announcing the Defense of Thesis
of Jake T. Blendermann
For Honors in Research
Psychology

Monday, March 20th, 2023
3:00 PM
Online
Zoom

Thesis Title: **Binge Drinking And Non-Consensual Drug Intoxication**

The intent of this thesis is to explore the frequency of non-consensual drug intoxication and its relationship with binge-drinking behavior, risk-taking and assessment, safeguarding behaviors against alcohol and drug intoxication, and perceptions towards non-consensual drug intoxication at a major public university. Currently, there is a lot of research that has been conducted on binge-drinking in a college environment and drug-facilitated sexual assault, but there is not much information on the act of a victim getting drugged, especially in cases where it does not lead to sexual violence. In order to better understand and defend against the possibility of non-consensual drug intoxication, it is important to look at the behavior and attitudes towards the crime and the risk factors that contribute to it.

Committee:
Dr. Grace White
Dr. Jessica Waesche

Approved By: 

APPENDIX D:TABLE

Table D1: Comparison of Mean Scores Using Independent Sample T-test Based on Responses to "Have you ever experienced non-consensual drug intoxication (drugged/roofied)?"

	Yes (HB)			No (NB)					
Scale	*n*	*M*	*SD*	*n*	*M*	*SD*	*t*(155)	*p*	*Cohen's (d)*
Alcohol Use Disorder	28	19.28	6.70	128	15.41	4.86	2.90	.003	.742
Risk-Taking	28	27.89	6.71	128	26.10	7.15	1.22	.112	.254
Risk Assessment	28	25.39	6.45	128	22.38	5.31	2.62	.005	.545
Peer Pressure	28	14.57	6.28	128	13.91	5.14	0.60	.276	.124
Recognition	28	16.04	3.79	128	16.26	4.13	-0.27	.394	.056
Alcohol Intoxication Awareness	28	17.50	4.00	128	16.14	4.65	1.44	.076	.300
Reporting Non-Consensual Drug Intoxication	28	21.36	6.68	128	25.40	4.72	-3.78	<.001	.789

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