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Alcohol Policy and Student Welfare

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Alcohol policies at dry campuses are often stringent and severe. Such policies are aimed at enforcing the rules of the university and attempt to increase student welfare by discouraging unsafe consumption on campus. While the goal of these policies is to promote student welfare, the policies create powerful incentives to not seek help when dangerous alcohol incidents arise, which can lead to a decrease in student welfare. This study looks at the incentives to seek help when dangerous incidents arise and to exercise care which reduces the likelihood of such incidents, particularly in the context of events hosted by a student organization or fraternity.

Introduction

Universities and colleges are often dry campuses, prohibiting all alcohol consumption on campus premises. Presumably this is to prevent individuals below the age of twenty-one from drinking and to promote a better academic environment for students. Another goal that is a top priority for institutions of higher learning is keeping students safe, protecting their life and property. These two priorities, restricting alcohol consumption and promoting student safety, can run opposite each other. If a university's policies prohibit all alcohol consumption it can be difficult to promote safe consumption. This would not be a problem if students were in fact fully deterred from drinking on campus, but in reality students will drink underage, and they will drink on campus. Given that this is the case, a university may seek to promote consumption when it occurs. Unfortunately, the incentives to drink safely and act responsibly may be undermined at most dry campuses by precisely those policies that are established to deter alcohol consumption.

When students first come to college most are under the legal drinking age of twenty-one, and presumably have limited experience with alcohol. They have received little instruction on safe consumption, and do not know the amount of alcohol they can safely consume. Many will also not be able to recognize when their friends have had too much to drink. In this period of experimentation and learning students may make bad choices, and due to the harsh punishments levied against them should they be caught

while intoxicated, or merely with a drink in their hand, they are not encouraged to act responsibly.

The majority of this paper will be dedicated to modeling the decision making process involved in determining the level of care students (or student organizations such as fraternities) will exercise when hosting an event where alcohol is present, and finding how to encourage student decision makers to act responsibly at such incidents, particularly looking at how to encourage decision makers to contact proper authorities if events escalate beyond their control.

Literature Review

While literature dealing with student leaders' decision making process is scant in respect to alcohol policy on college campuses, other areas have principles or observations which are helpful to the question at hand. Basic models of enforcement have insights which are relevant; studies of zero tolerance policies also have interesting additions to the model.

One point to take from Polinsky and Shavell's (2000) review of public enforcement law is that, generally speaking, "accidental harms" can be deterred in the same way as calculated harms. That is, a crime which might be committed out of negligence can be deterred in the same fashion as one committed out of malice. This is relevant to alcohol policies at universities because student groups hosting a party will rarely encourage students to drink to dangerous levels in hopes that they will die of alcohol poisoning. Because this is the case, such accidental crimes can be punished the same as the crime of having alcohol on a dry campus, almost certainly a willful violation of the law. Another insight of Polinsky and Shavell is that such sanctions can be levied as act based, or harm based. An act based sanction is based on the amount of precautions an entity took to prevent the harm from happening; a harm based sanction will be levied by the harm done by it. If student groups are to be punished for alcohol violations, the punishing authority (most often the university) must determine if sanctions are based on the student group having alcohol, and therefore committing an act which makes harm more likely, or if the sanction will scale depending on the precautions the group took, which could make the harm more or less likely.

Zero tolerance policies, where a minor violation of a policy receives the same punishment as a major violation, have a bearing on the topic of alcohol policies and student welfare as well. If a student who has had one drink will be punished the same as a student who is found passed out in front of his dorm, the university's policies do little to encourage more moderate, responsible behavior. While supporters claim that zero tolerance policies are the best form of deterrence, Skiba (Skiba 2000) concludes that this is not the case. Zero tolerance policies are not an effective form of deterrence, and can even lead to further policy violations by students.

Methodology

In the process of developing the models for the decision making process it is useful to develop a hypothetical situation. In this situation a freshman student has been drinking heavily, though no one is sure how much. The student is unconscious and barely responsive, and the decision maker (the party responsible for the student, e.g. the president of a fraternity, the host of a party, etc) is unsure as to whether proper authorities should be contacted to render aid to the student. The decision maker knows he cannot accurately gauge the student's condition. Let the student's actual condition be denoted by $c \in [0,1]$. This parameter represents how severely affected the student is; if $c<.5$ the student will recover without medical aid. Otherwise the student will require treatment and will suffer serious adverse consequences (including possible death) if aid is not obtained. The parameter c is a random variable drawn the uniform distribution on [0,1]. The decision maker cannot ascertain the affected student's condition with perfect accuracy. Let the decision maker's best estimate of the student's condition be denoted by $\hat{c}$, such that $\hat{c}=c+\varepsilon$. The parameter ε captures the error in ascertaining the student's condition and is assumed to be drawn from a uniform distribution on [-.5,.5]. Given these assumptions, $\hat{c}$ also represents the perceived probability that the student's true condition c exceeds .5, and the student will become seriously ill or die of alcohol poisoning if aid is not obtained.

When choosing whether to seek aid the decision maker evaluates the expected costs of the two alternatives (seek aid or not). Assume that if the decision maker contacts authorities he will suffer penalty y; if he does not seek help and the student becomes severely ill or dies he will suffer penalty x, where x>y. There is also a chance that the

event will be detected. The probability of the event being detected is denoted by p. If the event is detected the fraternity will suffer penalty T(k), where penalty T is a function of the amount of care (k) put into the event. Variable k can represent prior planning to prevent students from drinking too much alcohol, having other students or individuals watching to make sure no one drinks too much, or any other form of care or precaution. Depending on the university, T may be more or less responsive to k, but it is assumed to be (weakly) decreasing in k. Note that if aid is sought or the student becomes severely ill the event will be revealed and T(k) will be incurred.

With these variables established the student's cost if he seeks aid is $y + T(k)$ and he does not seek aid his expected cost is $\hat{c}(x + T(k)) + (1 - \hat{c})pT(k)$. The critical value at or above which aid will be sought is found at the point where the expected cost is identical whether or not aid is sought. This is obtained by finding the value of ĉ for which the following expression equals zero.

(1) $\hat{c}(x+T(k))+(1-\hat{c})pT(k)-(y+T(k))$

By solving for zero, one can find the value of ĉ, shown below.

(2) $$\hat{c} = \frac{y+(1-p)T(k)}{x+(1-p)T(k)}$$

This optimal value of ĉ, denoted as ĉ*, is the point at which the costs to the decision maker are the same whether he chooses to seek medical attention for an ill student or not.

Another variable pertinent to improving student welfare is the choice of care k which will be chosen by the decision-maker to minimize his cost of hosting an alcohol event. In order to find the optimal value of k a decision maker must consider the costs of care, denoted as Φ(k); it is also assumed that the more care is shown it is less likely that a student will become critically ill. Denote this relationship as q(k), where q'(k)<0. Given these two new variables the decision maker can accurately assess the optimal value of k.

The cost of the event as a function of care is shown below:

(3) $$(1-\hat{c}^*)(y+T(k))+\hat{c}^*\left\{\frac{\hat{c}^*}{2}(x+T(k))+\left(1-\frac{\hat{c}^*}{2}\right)pT(k)\right\}$$

The first term is the cost should a student be taken to the hospital multiplied by the percent chance that this is necessary. The second term is the sum cost of not taking a student to the hospital should the student fall ill or die (the first bracketed term) and the

cost should this not happen, multiplied by the percent chance that a student is not taken to the hospital, represented in this case by ĉ*.

Given the above cost structure, the decision maker will attempt to minimize the expected cost function with respect to his choice of k, as shown below. The expected cost function is denoted V.

$$\min_k V \equiv \phi(k) + (1 - q(k))pT(k) + q(k)\left\{(1-\hat{c}^*)(y+T(k)) + \hat{c}^*\left\{\frac{\hat{c}^*}{2}(x+T(k)) + \left(1-\frac{\hat{c}^*}{2}\right)pT(k)\right\}\right\} \quad (4)$$

As one can see, the above equation is the sum of all costs multiplied by the chance of the cost being relevant. In the case of Φ(k) it is certain that at a given level of care one will have to pay the full price for it, and so no multiplier is present. To find the optimal value of k one must take the derivative of the above function with respect to k and set it equal to zero. The first order condition, rearranged in the fashion of MC(k)=MB(k) is shown below.

$$\phi'(k) = -q'(k)\{z - pT(k)\} - T'(k)\left\{p(1-q(k)) + q(k)\left\{\left[(1-\hat{c}^*) + \frac{\hat{c}^*}{2}\right] + p\left(\hat{c}^* - \frac{\hat{c}^{*2}}{2}\right)\right\}\right\} \quad (5)$$

Equation (5) indicates the marginal benefit of care, and therefore the optimally chosen degree of care, increases with the magnitude of penalty, $T(k)$, with the responsiveness of penalties to the care exercised, $T'(k)$, with the probability of detection of an event p, and with the responsiveness to care of the probability a student becomes ill, $q'(k)$.

Discussion

Given the above cost structures, and that universities do indeed want to raise student welfare, there are two variables universities should attempt to change. The variable ĉ*, the point above which a decision maker will contact authorities or seek medical help, should be as low as possible. Variable k, the care which a decision maker will put into an event, should be as high as possible. By changing these variables appropriately an ill student will receive the appropriate amount of attention, while decision makers will do their best to prevent the problem from arising at all.

By changing several policy variables university officials can create an environment where decision makers benefit from choosing a low ĉ*. As shown in

formula 2, lowering y and raising x will result in a lower $\hat{c}^*$. This means that by lowering the penalty for carrying a dangerously intoxicated student to the hospital university officials can encourage students to do so; conversely, by raising the penalty should a student die from alcohol poisoning officials can do the same. By lowering T(k), the punishment if an event involving alcohol is detected relative to the amount of care shown at the event, decision makers will be more likely to voluntarily suffer that punishment rather than face punishment x. Interestingly, a final way university officials can promote a low $\hat{c}^*$ is to raise the probability of detection. This could be accomplished by encouraging more police scrutiny or more random walkthroughs of fraternity houses and such.

As shown in formula 5 university officials can encourage a high amount of care (a high value k) through several methods. As seen, -q(k) and term multiplied by it are both greater than zero. This signifies that the relationship between the amount of care taken and the likelihood that a student will succumb to alcohol poisoning can affect a higher level of k. By encouraging q(k) to be more responsive to k university officials can raise the marginal benefits of care, leading decision makers to be willing to invest more of the costs associated with care. This could be done by offering (or requiring) alcohol education classes, classes which teach decision makers how to tell a student has drank too much and cut them off before a problem arises, teaching them how to encourage safe drinking.

A more concrete way to promote a higher amount of care is to make punishment T(k) more responsive to k. If students receive a lesser punishment (possibly reaching zero if enough care is shown) for taking precautions to prevent a student from drinking too much they will be more likely to do so. If showing more care greatly decreases their punishment it will be much more beneficial to do so than it if only marginally reduces their punishment. For instance at a true dry campus, where any amount of alcohol or drunkenness is found is given the same punishment, then T(k) does not depend on k at all, and T'(k) will be zero. This would eliminate the second half of equation 5 and, *ceteris paribus*, would reduce care.

Conclusion

It has been shown that policy makers at dry campuses have several options to increase student welfare. By changing the cost structures students face for seeking help for dangerously intoxicated students they can make students more likely to do so; there is also much a university can do to encourage decision makers which may be hosting an event involving alcohol to show more care and precaution at the event. There is also much left which can be done to improve and test the models above.

One step would be to simply test the thesis. While it would be difficult to coerce university officials to change their policies in order to test them, an easier method of testing may be conducting surveys. These surveys might try to divine how accurately students can perceive an intoxicated individuals' condition, at which point a decision maker might seek help for such an individual, and whether any of the punishments listed above would influence their decisions.

Alternatively, scholars could survey the alcohol policies at different universities and attempt to measure how severe various punishments were, and try to isolate changes to one punishment to measure its affects on decision makers' choices.

Finally, the model itself could be refined. A variable that could be added is the size of the events at which students become seriously ill. If the number or condition of dangerously intoxicated students correlates with the size of parties or gatherings it could be that there is an "optimal party size", where the risks and costs find an acceptable compromise with the benefits of such.

Whatever the course of future research, it is important that the academic community take a hard and honest look at the alcohol policies of colleges and universities. The loss of even one student's life is an unforgivable travesty if the cause is outdated policies.

References

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