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# First-Year Students' Perspectives on Reasons for and Prevention of Their Own Alcohol Overdose

Janet Reis

*Boise State University*

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**Janet Reis, Ph.D.**

Professor, Family Medicine

Department of Family Medicine

College of Medicine at the University of Illinois, Urbana-Champaign

## Abstract

Two hundred twenty six first year students enrolled at a large, public Midwest University and deemed to require an emergency transport for a potential alcohol overdose completed a brief questionnaire on the student's perceptions of why the event occurred, what might have happened to prevent the overdose situation and personal assessment of experience with alcohol. The explanations for the event revolve around personal decision making (made decision to drink too much, absence of drinking control behaviors) as opposed to peer influence. Similarly, factors selected as preventing an alcohol overdose focused on knowing one's own tolerance, plus having a buddy system to slow down consumption. Other external interventions whether in a drinking establishment or emanating from the University were generally not subscribed to. Regardless of self assessment as an experienced or inexperienced drinker, students felt that knew how to intervene, would intervene and know the signs of an alcohol overdose and personal risk.

Many first year college students are in a phase of major personal change as they transition from home to living independently, often for the first time. Among the developmental issues facing new students is the choice of alcohol consumption. Although illegal for individuals under the age of 21, use of alcohol is known to occur widely on many campuses. First year students typically evidence the highest level of alcohol consumption as a group, with drinking levels falling off as the students' progress through their programs of study (Sher & Rutledge, 2007).

Equally well documented are a range of dire consequences for excessive collegiate drinking (Hingson, Zha & Weitzman, 2009; Perkins, 2002). Students who over consume may put themselves in peril in terms of their safety, health, academic performance, and personal relationships. Universities and colleges have responded to the phenomenon of students' drinking with a multitude of preventive programs and interventions for students observed to have difficulties handling alcohol (Barnett, 2005; Larimer & Cronce, 2007). Within the second category, schools have implemented assessments for possible addiction to alcohol, educational programs on drug abuse and motivational interviewing aimed at helping students clarify their personal goals. Also included in this intervention portfolio are mandatory transports to a local emergency department for a potential alcohol overdose.

An emergency transport for a potential case of acute alcohol intoxication as a life threatening condition is done when emergency medical personnel observe some subset of the following symptoms: unconsciousness or semi-consciousness, slow respiration of eight or less per minute, lapses in respirations of more than 10 seconds, strong odor of alcohol and/or cold clammy, pale or bluish skin (Adinoff, Bone, & Linnoila, 1988). Emergency transport with a hospital based evaluation for a life threatening overdose has the potential to save lives. However, in the voluminous literature on college drinking, there are relatively few descriptions of who gets transported (Wright & Slovis, 1996; Wright, Norton, Dake, Pinkston & Slovis, 1998) and these descriptions are limited to analysis of the incidence of transport and the socio-demographic characteristics of transported students. These analyses provide limited insight as to the reaction of students to a potential overdose experience and how the experience might be parlayed into "lessons learned" for either individual students or campus level programming.

The purpose of the current study is to provide a profile of transported first year college students according to their assessment of why the potential alcohol overdose event occurred, what actions or policies they believe in retrospect could have prevented the event, and how they view themselves after the event. Of particular interest is the student's perceptions of their use and mastery of drinking control strategies. The set of behaviors constituting drinking control strategies is thought to be a mediator in various preventive interventions (Carey, Henson, Carey & Maisto, 2007;

Neal & Carey, 2005; Larimer & Crounce, 2007). The behaviors examined here are specific actions recommended in various responsible drinking training programs for regulation of alcohol intake (Training for Intervention Procedures (TIPS); <http://www.gettips.com/university.shtml>).

Characterization of the potential alcohol overdose event from the student's perspective gives voice to one of the most dangerous situations students may experience with alcohol use. The student views may not always be accurate, or make sense from an older adult's view point. However, the relatively modest impact of alcohol preventive programming and the mixed results according to the endpoint or outcome measure used over many years of testing interventions suggests that it is important to gather more descriptive information about how students themselves define dimensions of alcohol use in extreme circumstances (Amaro, Ahl, Matsumoto, Prado, Mule, Kemmeyer, Larimer, Masi & Mantella, 2009; Wood, Fairlie, Fernandez, Borsari, Capone, Laforge, & Carmona-Barros 2010; Wood, Capone, Laforge, Erickson, & Brand, 2007).

## Methods

**Sample.** All students in the sample had been transported to a local medical center's emergency department for evaluation for a possible alcohol overdose. The University's Student Health Center is notified by the receiving medical center of the occurrence of a student's emergency transport for potential alcohol overdose. Students deemed to require follow-up are in turn informed by the director of the Student Health Center of the University's mandatory assessment policy and are requested to make an appointment.

The sample was recruited from students who came to the Student Health center for a required assessment and motivational interview shortly after their transport. Students were given a brief written explanation of the purpose of the survey and a University Institutional Review Board approved statement of the terms of participation as being anonymous and voluntary. Completion of the two page survey signified that the student voluntarily responded to the survey. Completed surveys were placed in a blank envelope and left with the receptionist. Surveys were collected from the beginning of the 2007 Fall to the end of the 2010 Spring semester. Although not formally recorded for exact response rate, the majority of students completed the survey.

All 226 students were in their first year (238 second, third and fourth year students were not included in the analysis). Students were categorized according to their self description as experienced drinkers (138) and inexperienced drinkers (88). The sample divided between 136 males and 90 females with no difference in experience with drinking according to gender. Experienced drinkers reports an average of 6.59 (SD = 5.06) per week as compared to a weekly average of 3.09 (SD = 3.29) for inexperienced drinkers ( $t = 5.76, p < .000$ ).

**Survey.** A 45 item survey was constructed to assess the student's perceptions of why the event occurred (12 items with yes or no response) what might have happened to prevent the overdose situation (13 items with yes or no response) and personal assessment of experience with alcohol (12 items measures with 4 point Likert scale). These questions were generated from observations of student behavior and from components to the Training for Intervention ProcedureS (<http://www.gettips.com/university.shtml>). The six items from TIPS included: didn't know how to pace self, drank more per hour than usual, couldn't say no to another drink, know own tolerance for safe drinking, know own tolerance for pace of drinking, and having chance to try alcohol in place with responsible serving.

## Results

Table 1 summarizes the student's selection of the reason(s) for the potential overdose event. A comparative analysis was done for self described inexperienced drinkers versus experienced drinkers. As a group, the students believing themselves to be inexperienced were more likely to agree that they did not know how to pace themselves (41% versus 28%,  $p < .04$ ) and made a stupid decision to drink too much (86% versus 67%,  $p < .001$ ). None of the inexperienced group thought they ended in the situation because of expectations from friends ( $p < .01$ ) or that alcohol was necessary for a good time ( $p < .02$ ). The majority of students (80% or more) did not think their friends had let them drink too much or made them overconsume, that they lacked the skills to say no to another drink, needed to drink to relate to friends or relax. Bad luck as an explanation for the event was dismissed by approximately two-thirds of the students.

Insert Table 1 about here

Two statistically significant associations were found between student status with experience with alcohol and actions or policies the students would support for preventing the potential alcohol overdose. Inexperienced drinkers as compared to experienced drinkers were more likely to agree that the event could be prevented by knowing own tolerance for alcohol according to pace of consumption (59% versus 44%,  $p < .02$ ) and having a better understanding of personal reaction to the overdose (43% versus 29%,  $p < .03$ ). Overall the students were roughly split as to the merits of having a buddy system to slow the pace of drinking. There was nearly unanimous disagreement (80% or more) across the two groups as to the effectiveness of that stricter enforcement of drinking age at the bars, having more nonalcoholic events, knowing about the mandatory assessment program, learning about the consequences of alcohol overdose, learning how to handle stress, or receiving more information either from the University or from another students who had the same experience.

Insert Table 2 about here

With regards to self perceptions around issues of alcohol use, there was almost universal agreement (80% or more) that the students knew the signs of alcohol overdose, knew when to intervene with someone and a friend who has drunk too much and have the skills to do so, planned to share lessons from the alcohol overdose with friends, can accurately judge risk for self and manage own drinking to avoid an overdose, and would accept help from a friend if observed to be drinking too much. At least half of the students were planning to talk with their parents about the alcohol overdose experience and were willing to talk with other students.

Two dimensions of alcohol drinking control were analyzed according to designation of the behavior being partially responsible for the alcohol event and selected as a possible factor for preventing the event. The first behavior, knowing how to pace one's consumption, had concurrence for 110 out of 136 students citing this factors as being a missing element but one which might have precluded the potential overdose (chi square = 98.55,  $p < .000$ ). Less agreement was seen regarding knowing the number of drinks one could safely consume as a contributory factor but one which could have prevented the situation with 120 (55%) out of 220 students citing both (chi square = 5.71,  $p < .01$ ).

## Discussion

This study first provides an update on the frequency of transport within an academic year for students from a large public Midwest university found and transported to a local Emergency Department. The rate of transport was approximately the same in number for an academic year as students for from a private East coast institution over 25 years ago (Wright & Slovis, 1996).

Second, this study gives greater voice to a potentially life threatening event from the student's own view. The explanations for the event for the current sample of students revolve around personal decision making (made decision to drink too much, absence of drinking control behaviors) as opposed to peer influence. Similarly, factors selected as preventing an alcohol overdose focused on knowing one's own tolerance, plus having a buddy system to slow down consumption. Other external interventions whether in a drinking establishment or emanating from the University were generally not subscribed to. Regardless of self assessment as an experienced or inexperienced drinker, students felt that knew how to intervene, would intervene and know the signs of an alcohol overdose and personal risk.

Several important methodological issues must be acknowledged in thinking of the implications of student feedback for future campus policy. First, the students found and transported are a subgroup of all students who experience a potential alcohol overdose. Some unknown number of students are not detected because they are a part of a group which tries to manage themselves and shields group members from authority figures, or, they simply are not discovered. The profile of dangerously inebriated but unfound students may differ from those students reported on here by level of risk taking and related factors (Cyder, Flory, Rainer & Smith, 2009). Second, accuracy of self report is always a concern for a personally sensitive issue such as alcohol use and over consumption. The validity of the weekly number of drinks and statements of personal skills are of special concern. A longer, more detailed questionnaire would provide more information, but given the circumstances it was thought best to keep the survey brief.

Recognizing that self-selection of a certain type is operating in the identification of students requiring an emergency transport, what does student feedback tell us? From the perspective of designing an intervention, this profile suggests that students' feeling of independence and mastery should be recognized along with the power of their peer group in redirecting behavior. The importance of pacing, etc for this group of students underscores self-control as an important mediator of achieving safe levels of alcohol consumption (Neal & Carey, 2005; Sugarman & Carey, 2009).

In the context of college campus life, self-control can be thought of in several ways against the timing and sequence of events culminating in an alcohol overdose. Starting at the beginning of the chain, recognizing the signs of excessive intoxication and ways to intervene as taught by TIPS or other hospitality interventions might give students more tools to pace themselves. Students claim they know how to execute such interventions. Review of how people in various social settings can be taught to recognize the signs of over consumption and shown brief, specific behaviors which interrupt patterns of excessive drinking might further reinforce this confidence.

Moving further into a problematic situation, students could also be given additional instruction on the signs and symptoms of alcohol poisoning. Again, students generally claim to know these signs and symptoms. However, the evidence is mixed as to what college student really understand about alcohol poisoning and how to intervene (Oster-Aaland, Lewis, Neighbors, Vangsness & Larimer, 2009). The incidence of transports reported here suggest that there are at least some students who might benefit from further discussion on the topic.

Concepts of pacing, observing and decreasing consumption might be topics that undergraduate students would be willing to listen to concerning alcohol consumption. These suggestions for further education however would require that administrators acknowledge that students, underage as well as of legal age, drink alcohol and that educational messages should address more than abstinence from alcohol. Further, the feedback from the students surveyed here suggest communication be crafted to acknowledge salience of student's desire for drink-specific self-control and disinterest in outside interference.

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Table 1. Students' Explanation of Alcohol Overdose According to Self-Report of Drinking Experience.

N = 138      n = 88

	Experienced	Drinker	Inexperienced	Drinker	
Reason for Event	Agree (%)	Disagree (%)	Agree (%)	Disagree (%)	
Didn't know how to pace self	38 (28)	100 (72)	36 (41)	52 (59)	.04
Friends let me drink too much	24 (17)	114 (83)	18 (20)	70 (80)	
Made stupid decision to drink too much	92 (67)	46 (33)	76 (86)	12 (14)	.001
Did what friends expected	10 (7)	128 (93)	0	88 (100)	.01
Drank more per hour than usual	76 (55)	62 (45)	38 (43)	50 (57)	.08
Alcohol necessary for good time	8 (6)	130 (94)	0	88 (100)	.02
Couldn't say no to another drink	10 (7)	128 (93)	10 (11)	78 (89)	
Needed to drink to relate to friends	2 (1)	136 (99)	0	88 (100)	
Really stressed out	28 (21)	106 (79)	10 (11)	78 (89)	.07
Needed drink to relax	12 (9)	126 (91)	4 (5)	84 (95)	
Friends made me drink too much	4 (3)	134 (97)	4 (5)	84 (95)	
Bad luck- could happen to anyone	50 (36)	88 (64)	28 (32)	60 (68)	

Table 2. Students' Subscription to Preventive Measures for an Alcohol Overdose According to Self-Report of Drinking Experience.

N = 138      n = 88

	Experienced	Drinker	Inexperienced	Drinker	
Preventive Factor for Overdose	Agree ( )	Disagree ( )	Agree ( )	Disagree ( )	
Having buddy system to slow down	60 (44)	78 (57)	44 (50)	44 (50)	
Knowing own tolerance for safe drinking	66 (48)	72 (52)	52 (59)	36 (41)	.09
Bars better monitor and stop over consumption	10 (7)	128 (93)	0	88 (100)	
Knowing own tolerance for pace	60 (44)	78 (57)	52 (59)	36 (41)	.02
Bars enforce underage drinking	0	138 (100)	0	88 (100)	
Having more nonalcoholic events	10 (7)	128 (93)	4 (4)	84 (96)	
Knowing about mandatory assessment program	26 (19)	112 (81)	10 (11)	78 (89)	
Having chance to try alcohol with responsible serving	10 (7)	128 (93)	4 (4)	84 (96)	
Learning how to handle stress	22 (16)	116 (84)	14 (16)	94 (84)	
Better understanding of medical & legal consequences of overdose	26 (19)	112 (81)	20 (23)	68 (77)	
Better understanding of how badly would feel if lost personal control because of an overdose	40 (29)	98 (71)	38 (43)	50 (57)	.03
Having more information from University about alcohol overdose	0	138 (100)	4 (4)	84 (96)	
Having chance to talk/listen to students surviving overdose	2 (1)	136 (99)	6 (7)	82 (93)	



Table 3. Students' Description of Themselves and Use of Alcohol According to Self-Report of Drinking Experience.

N = 138      n = 88

	Experienced	Drinker	Inexperienced	Drinker	
Personal assessment	Agree	Disagree	Agree	Disagree	
Know signs of alcohol overdose	122 (88)	16 (12)	78 (89)	10 (11)	.05
Know when to intervene with someone who has drunk too much	132 (96)	6 (4)	78 (89)	10 (11)	
Have skills to intervene with someone who has drunk too much	120 (87)	18 (13)	70 (80)	18 (21)	
Would plan to intervene with friend who has drunk too much	138 (100)	0	84 (96)	4 (5)	.01
Would plan to intervene with fellow student who has drunk too much	100 (73)	38 (38)	64 (73)	24 (27)	
Plan to share what I have learned from this experience with my friends	118 (86)	20 (14)	70 (80)	18 (20)	
Plan to talk with my parents about this experience	94 (68)	44 (32)	68 (77)	20 (23)	
Would be willing to talk with other students about this experience	72 (52)	66 (48)	36 (41)	52 (59)	
Able to accurately judge risk for alcohol overdose for self in specific settings	122 (88)	16 (12)	78 (89)	10 (11)	
Able to manage own drinking to avoid alcohol overdose	122 (88)	16 (12)	78 (89)	10 (11)	
Would be receptive to friend(s) trying to intervene if I seem to be drinking too much	126 (91)	12 (9)	78 (89)	10 (11)	