How do College Students Subjectively Evaluate "Blackouts"?

Jennifer E. Merrill, Ph.D[a,b], **Mary Beth Miller, Ph.D**[c], **Angelo M. DiBello, Ph.D**[a,b,d], **Samyukta Singh, MPH**[a,b], and **Kate B. Carey, Ph.D**[a,b]

[a]Center for Alcohol and Addiction Studies, Brown University, Providence, RI

[b]Department of Behavioral and Social Sciences, Brown School of Public Health, Providence, RI

[c]Department of Psychiatry, University of Missouri School of Medicine, Columbia, MO 65212

[d]Department of Psychology, City University of New York (CUNY), Brooklyn College, Brooklyn, NY

Abstract

Blackouts (i.e., alcohol induced memory impairment) are common among college student drinkers, and they are associated with several additional harms. However, alcohol consequences are not perceived universally as negative by the students who experience them, and little is known regarding students' specific thoughts and feelings about blackouts. We conducted a series of single-gender focus groups (8 groups; 5–8 per group; *n*=50, 56% female) with college student drinkers. Questions focused on: (a) their subjective evaluations of blackouts and (b) factors influencing those evaluations (i.e., what determines whether a blackout is perceived as a negative/neutral/positive experience). Verbatim transcripts were content analyzed using applied thematic analysis with NVivo software. Evaluations of blackouts were primarily negative, with some notable positive, neutral and mixed reactions. Influences on blackout evaluations included those demonstrated as influential on broader alcohol consequences in prior work (e.g., normative perceptions, social context). However, some contextual influences on evaluations that may be specific to blackouts included pre-blackout events, the objective severity (extent/length) of memory loss, what participants later learned had happened during the blackout, and whether or not they had expected to blackout. Findings provide insight into why some students are not necessarily concerned with blackout experiences.

Correspondence concerning this article should be addressed to: Jennifer E. Merrill Ph.D, Assistant Professor, Department of Behavioral and Social Sciences, Center for Alcohol and Addiction Studies, Brown University, Box G-S121-5, Providence, RI 02912, Phone: (401) 863-5165, Fax: (401) 863-6697, Jennifer_Merrill@brown.edu.

1. Introduction

Heavy episodic drinking is prevalent among young adults and associated with a range of negative consequences (White & Hingson, 2014). One consequence associated with additional serious harm is alcohol-induced blackout – periods of anterograde amnesia in which a person actively engages in behaviors while drinking but does not retain memories for those events (Hingson, Zha, Simons-Morton, & White, 2016). Blackouts have been characterized as fragmentary ("off-and-on" memory loss, also referred to as "brownouts") or en bloc (complete memory loss) (Goodwin, Crane, & Guze, 1969). Consequences that co-occur with blackouts range from hangover to overdose and sexual assault (Hingson et al., 2016; Valenstein-Mah, Larimer, Zoellner, & Kaysen, 2015).

Surprisingly, blackouts are rated as only "somewhat" bothersome by students experiencing them (Barnett, Merrill, Kahler, & Colby, 2015; Merrill, Read, & Barnett, 2013), and 12% of young adults are not bothered at all by blackouts (White & Ray, 2013). In a series of qualitative interviews (White, Signer, Kraus, & Swartzwelder, 2004), college students' post-blackout emotions ranged from fear and embarrassment to indifference and amusement. Notably, those who endorsed feeling scared were more likely than those who were not scared to report changing their drinking as a result of the blackout. Within-person evaluations of blackouts may also differ from one occasion to the next. Evaluation of the broad range of alcohol consequences depends on social (e.g., normative perceptions), cognitive (e.g., attribution to alcohol), and internal contextual factors (e.g., intoxication level) (Merrill, Rosen, Boyle, & Carey, 2018; Merrill, Rosen, Walker, & Carey, 2018). However, influences specifically on evaluations of blackouts have not been studied.

Better understanding how drinkers subjectively evaluate blackouts can inform prevention and intervention efforts, as more negative evaluations may increase the likelihood of naturalistic reductions to one's drinking (Barnett et al., 2015; Merrill et al., 2013This study sought to extend prior work by qualitatively examining students' subjective evaluations of blackouts and factors influencing those evaluations. Based on prior research, we hypothesized that, for the most part, blackouts would be evaluated negatively (White et al., 2004). We also expected that factors that influence consequence evaluations generally (e.g., social norms) would remain relevant to blackouts, but that novel themes specific to blackouts would emerge.

2. Materials and Methods

2.1 Participants

Participants (*N*=50, 56% female; Table 1) were recruited from four-year colleges in the northeastern United States. Eligibility criteria included blackout in the past six months and ability to read and speak English.

2.2 Procedures

The university's Institutional Review Board approved all procedures. We conducted 8 focus groups, with 5–8 participants per group (Krueger & Casey, 2014). Groups were stratified by gender (4 male, 4 female) to facilitate open discussion of sensitive issues (Ulin, 2005). Upon

arrival, students provided informed consent and completed a baseline questionnaire. Groups (48–70 minutes) were led primarily by the second author, accompanied by a note-taker. Participants received $40.

The structured focus group agenda began with queries regarding how students define "blackouts" (Miller et al., in press). Questions relevant to this study were, "What is a person's typical reaction when he/she blacks out?" and "Overall, what makes a blackout a negative, neutral, or positive experience?" Groups were audio recorded, and recordings were professionally transcribed. Participants were given privacy/confidentiality reminders and encouraged to discuss general (as opposed to personal) experiences. The facilitator encouraged diverging viewpoints and equal participation. After eight groups, we reached saturation on topics of interest.

2.3 Data Analysis

We used applied thematic analysis (Guest, MacQueen, & Namey, 2012), a rigorous, inductive approach, to identify and examine themes from textual data. We examined data within each theme separately by gender, without hypotheses about gender differences. Methods used to enhance rigor of the analysis included deriving a preliminary coding structure from the focus group script; coding each transcript by a pair of the authors (MBM, JEM, SS); entering codes into NVivo10 (QSR International, 2008), with specific subtype coding applied inductively as themes and repetitions emerged; and reviewing prior transcripts for instances of that code as new codes emerged. Coders discussed differences and resolved discrepancies, bringing final coding for all transcripts into 100% agreement. Summaries of concepts/themes, including *a priori* and emergent themes, were generated from coded data.

3. Results

3.1 How are Alcohol-induced Memory Loss Experiences Subjectively Evaluated?

Negative, positive, and neutral evaluations of blackouts were described in each of the 8 groups, and no clear gender differences emerged in the overall valence. Alcohol-induced memory loss experiences were most frequently described as negative, such as *embarrassing, scary, annoying,* and *disgusting.* Much less frequent were positive descriptors, such as *funny, excitement, gives you an excuse to approach opposite sex,* and *respect.* Many references characterized blackouts as a neutral experience, or one that comes with a mixed reaction. See Table 2 for specific quotes among male vs. female groups.

3.2 What Influences Subjective Evaluations of Alcohol-induced Memory Loss?

3.2.1 Social Influences.—Three of the themes that emerged– all relevant to social influences – converge with prior work on contextual influences on consequence evaluations (Merrill et al., 2018a; 2018b). Specifically, we found evidence for an influence on blackout evaluations of perceived social norms, immediate social context, and discussions with friends. Female participants reported that the norms in one's specific social group (i.e., how common or acceptable blackouts are perceived to be among friends/peers) may influence personal blackout evaluations. Every group noted that the immediate social context (e.g.,

who you are with) influenced blackout evaluations. Unique to the context of blackouts, this had to do in part with one's perceived safety during the blackout, with participants evaluating blackouts less negatively if they were in a social context in which they felt safe. Finally, the way others reacted to one's blackout behavior during later discussions (e.g., if they thought it was funny versus shameful) also affected evaluations.

3.2.2   What happened during the memory loss.—Across groups, the most common influences on subjective evaluation, and one that was unique to blackouts, was what the individual later learned had happened during the blackout. If individuals found out that something negative or embarrassing had happened, they were more likely to evaluate the blackout negatively.

3.2.3   Location.—Aspects of the physical setting/location, both during the drinking event and where they work up the next morning, were also reported to play a role in how blackouts were evaluated, particularly among females. Specifically, unfamiliar locations and those that pose risk for dangerous events (e.g., a club versus dorm) increased the likelihood of negative evaluations.

3.2.4   Experience with/frequency of blackouts.—Participants, especially females, indicated that prior experience with blackouts and their frequency may influence the subjective evaluation of a given blackout experience. In particular, they suggested that the reaction to one's first blackout is typically more negative than that of subsequent blackouts and that evaluations become less negative with experience. However, one participant noted that blackouts may be evaluated more negatively if they occur more frequently than expected (e.g., "*a period of time where I was blacking out more than I ever had,*" female, 20y, ID707).

3.2.5   Expectancies.—Both men and women identified expectancies for the night as an influence on subjective evaluations of blackouts. Specifically, participants were less likely to evaluate the blackout negatively if they had expected to drink heavily and had reason to anticipate a blackout.

3.2.6   Pre-blackout events.—Male and female participants reported that, if the events that they could recall of the night were enjoyable, then they would not perceive the blackout itself to be particularly negative.

3.2.7   Severity/length of memory loss.—Participants in two groups (one female) indicated that the objective severity of the blackout mattered, as indicated by both the length of the blackout and the extent of memory loss. Overall, participants evaluated en bloc "blackouts" more negatively than fragmentary blackouts ("brownouts").

4.   Discussion

This study is the first qualitative examination of how college drinkers subjectively evaluate alcohol-induced blackouts and what influences the valence and strength of those evaluations. Survey research suggests that blackouts are rated as only "somewhat" bothersome, on average (Barnett et al., 2015; Merrill et al., 2013). The current findings revealed that most

students with a history of blackouts viewed their blackout experiences negatively, consistent with prior qualitative work (White et al., 2004). However, participants described many instances of neutral or mixed reactions to blackouts, and a minority of participants, both male and female, described blackouts positively. Some students were not troubled by the memory loss; instead it served as a signal for an enjoyable drinking event. This is one reason why individuals who experience alcohol-induced memory loss may do so repeatedly.

This study revealed influences on blackout evaluations of social factors, events that occurred both before and during the blackout, location, experience with blackouts, expectancies, and severity of the blackout. Across groups, what happened during the blackout consistently shaped how it was evaluated. If one's behavior and/or its consequences during memory loss were regrettable, an individual may view it more negatively than if his/her drinking event was otherwise harmless. Since positive consequences of drinking are more common than negative (Barnett et al., 2014), the reconstruction of what happened in a blackout will more often than not be benign. This speaks to the need to educate students about potential and unpredictable negative impacts of drinking to blackout levels, focusing on the impairment associated with high BACs.

In addition, aspects of the drinking event that *were* recalled – typically those that occurred at lower levels of intoxication, prior to memory loss – also influenced evaluations. In previous work, negative consequences are perceived less negatively if they co-occur with positive consequences of drinking (Merrill et al., 2018). Because blackouts tend to occur at higher BACs, individuals who have a blackout may be more likely to recall the positive consequences of drinking that occur at lower BACs (e.g., euphoria, relaxation) and less likely to recall the negative consequences of drinking that typically occur at higher BACs (e.g., arguments). Participants confirmed that their perception of a blackout operates at least in part as a function of their memory for pre-blackout events, which may be more positive. For such individuals, interventions might focus on increasing the perceived negativity of a blackout experience, so that it becomes a marker of risk rather than an indicator of a positive experience.

This study replicated the finding that social influences shape consequence evaluations (Merrill et al., 2018a, 2018b), with a specific focus on blackouts. Blackouts were perceived less negatively if they were also perceived to be normative (i.e., either experienced or accepted) among friends. Such normative influences sometimes play out in next-day discussions, when personal evaluations of a blackout may mirror friends' expressed reactions the following day. These findings have implications for intervention, in that they indicate room for correction of inaccurate normative perceptions of blackouts.

Notably, no apparent gender differences emerged on evaluations of blackouts, but we did observe some gender differences in what influences those evaluations. Female groups more often described norms, location, and prior experience as influential on their perceptions, a pattern consistent with the interpretation that female drinkers perceive themselves as more vulnerable to negative consequences when intoxicated (Nolen-Hoeksema, 2004). Thus, reassurance from peers, being in safer locations, and more experience with blackouts appear to lessen some women's concerns about alcohol-induced memory loss.

4.1 Limitations

It is important to note that our sample was small and relatively homogenous with respect to drinking behavior and demographics. Also, findings may not generalize to those with no blackout experience. Examining blackout evaluations across a range of drinking levels and blackout history, and over time, may clarify who will perceive blackouts negatively versus not, and how such evaluations may change with experience.

4.2 Conclusions

College students with a history of blackouts typically evaluate alcohol-induced memory loss negatively. However, contextual and individual-level factors influence the extent to which these experiences are perceived as negative versus neutral (or even positive). Our findings shed light on the conditions under which blackouts may not be viewed negatively and suggest ways to motivate behavior change. Assessment of college drinkers might include questions about blackout history and subjective evaluations of blackouts, which may help explain persistence of this problematic drinking outcome.

Acknowledgments

References

Barnett NP, Clerkin EM, Wood M, Monti PM, Tevyaw TOL, Corriveau D, . . . Kahler CW (2014). Description and predictors of positive and negative alcohol-related consequences in the first year of college. Journal of Studies on Alcohol and Drugs, 75(1), 103–114. [PubMed: 24411802]

Barnett NP, Merrill JE, Kahler CW, & Colby SM (2015). Negative evaluations of negative alcohol consequences lead to subsequent reductions in alcohol use. Psychol Addict Behav, 29(4), 992–1002. doi:10.1037/adb0000095 [PubMed: 26168225]

Buelow G, & Harbin J (1996). The influence of blackouts on alcohol use expectancies. Journal of Alcohol and Drug Education, 42, 25–34.

Goodwin DW, Crane JB, & Guze SB (1969). Phenomenological aspects of the alcoholic 'blackout.'. The British Journal of Psychiatry, 115(526), 1033–1038. doi:10.1192/bjp.115.526.1033 [PubMed: 5386992]

Guest G, MacQueen KM, & Namey EE (2012). Applied Thematic Analysis. Thousand Oaks, CA: Sage Publications.

Hartzler B, & Fromme K (2003). Fragmentary blackouts: their etiology and effect on alcohol expectancies. Alcohol Clin Exp Res, 27(4), 628–637. doi:10.1097/01.alc.0000062743.37558.c8 [PubMed: 12711925]

Hingson R, Zha W, Simons-Morton B, & White A (2016). Alcohol-Induced Blackouts as Predictors of Other Drinking Related Harms Among Emerging Young Adults. Alcoholism: Clinical and Experimental Research, 40(4), 776–784. doi:10.1111/acer.13010

Krueger RA, & Casey MA (2014). Focus Groups: A Practical Guide for Applied Research (5th ed.). Thousand Oaks, CA: Sage Publications.

Mallett KA, Bachrach RL, & Turrisi R (2008). Are all negative consequences truly negative? Assessing variations among college students' perceptions of alcohol related consequences. Addictive Behaviors, 33(10), 1375–1381. doi:10.1016/j.addbeh.2008.06.014 [PubMed: 18639384]

Merrill JE, Read JP, & Barnett NP (2013). The way one thinks affects the way one drinks: Subjective evaluations of alcohol consequences predict subsequent change in drinking behavior. Psychology of Addictive Behaviors, 27(1), 42–51. doi:10.1037/a0029898 [PubMed: 22985054]

Merrill JE, Rosen RK, Boyle HK, & Carey KB (2018a). The influence of context in the subjective evaluation of "negative" alcohol-related consequences. Psychol Addict Behav, 32(3), 350–357. doi:10.1037/adb0000361 [PubMed: 29658727]

Merrill JE, Rosen RK, Walker SB, & Carey KB (2018b). A qualitative examination of contextual influences on negative alcohol consequence evaluations among young adult drinkers. Psychology of Addictive Behaviors, 32(1), 29–39. doi:10.1037/adb0000339 [PubMed: 29355331]

Miller MB, Merrill JE, DiBello AM, & Carey KB (in press). Distinctions in alcoholinduced memory impairment: A mixed methods study of en bloc versus fragmentary blackouts. Alcoholism, Clinical and Experimental Research.

Nolen-Hoeksema S (2004). Gender differences in risk factors and consequences for alcohol use and problems. Clinical Psychology Review, 24(8), 981–1010. doi:10.1016/j.cpr.2004.08.003 [PubMed: 15533281]

Patrick ME, & Maggs JL (2011). College students' evaluations of alcohol consequences as positive and negative. Addictive Behaviors, 36(12), 1148–1153. doi:10.1016/j.addbeh.2011.07.011 [PubMed: 21855224]

QSR International. (2008). NVivo 8. Doncaster, Australia.

Saunders JB, Aasland OG, Babor TF, de la Fuente JR, & Grant M (1993). Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption: II. Addiction, 88(6), 791–804. doi:10.1111/j.1360-0443.1993.tb02093.x [PubMed: 8329970]

Schulenberg JEJ, L. D., O'Malley PM, Bachman JG, Miech RA, & Patrick ME (2017). Monitoring the Future national survey results on drug use, 1975–2016: Volume II, College students and adults ages 19–55. Ann Arbor: Institute for Social Research, The University of Michigan.

Ulin PR (2005). Qualitative methods in public health : A field guide for applied research (1st ed. ed.). Jossey-Bass: San Francisco, CA.

Valenstein-Mah H, Larimer M, Zoellner L, & Kaysen D (2015). Blackout Drinking Predicts Sexual Revictimization in a College Sample of Binge-Drinking Women. J Trauma Stress, 28(5), 484–488. doi:10.1002/jts.22042 [PubMed: 26401899]

Wetherill RR, & Fromme K (2016). Alcohol-Induced Blackouts: A Review of Recent Clinical Research with Practical Implications and Recommendations for Future Studies. Alcohol Clin Exp Res, 40(5), 922–935. doi:10.1111/acer.13051 [PubMed: 27060868]

White AM (2003). What Happened? Alcohol, Memory Blackouts, and the Brain. Alcohol Research & Health, 27(2), 186–196. [PubMed: 15303630]

White AM, & Hingson R (2014). The burden of alcohol use: Excessive Alcohol Consumption and Related Consequences Among College Students. Alcohol Research: Current Reviews, 35, 201–218.

White AM, Signer ML, Kraus CL, & Swartzwelder HS (2004). Experiential aspects of alcohol-induced blackouts among college students. Am J Drug Alcohol Abuse, 30(1), 205–224. [PubMed: 15083562]

White HR, & Ray AE (2013). Differential evaluations of alcohol-related consequences among emerging adults. Prevention Science. doi:10.1007/s11121-012-0360-8

Highlights

- Focus groups of college drinkers provided insight on blackout evaluations.

- Blackouts were most frequently evaluated negatively by college drinkers.

- A subset of participants described blackouts as positive or neutral events.

- Blackout evaluations depend on experience, social and other contextual factors.

Table 1

Participant characteristics (N = 50).

	n **(%) or** *M(SD)*
Age	19.90 (1.22)
Gender	
Male	22 (44%)
Female	28 (56%)
Year in School	
Freshman	18 (36%)
Sophomore	6 (12%)
Junior	20 (40%)
Senior	6 (12%)
Race	
White	28 (56%)
Black/African American	6 (12%)
Asian	12 (24%)
Native American or Native Alaskan	0 (0%)
Native Hawaiian or Pacific Islander	0 (0%)
Other	3 (6%)
Did not respond	1 (2%)
Ethnicity	
Hispanic/Latino	8 (16%)
Alcohol Use	
AUDIT score (past year)	12.76 (4.98)
Drinks per week (past month)	14.28 (10.11)
Drinks per drinking day (past month)	3.10 (1.15)
Consequences (past month)	9.14 (4.31)
Other drug use (past 30 days)	42 (84%)
Marijuana	36 (72%)
Other (e.g., cocaine, LSD)	18 (36%)
Blackouts	
Frequency (lifetime)	7.87 (7.69)
En bloc (past 30 days)	28 (56%)
Fragmentary (past 30 days)	49 (98%)

Note. AUDIT = Alcohol Use Disorders Identification Test (Saunders, Aasland, Babor, de la Fuente, & Grant, 1993). En bloc blackouts assessed using the item, "Not been able to remember large stretches of time while drinking heavily." Fragmentary blackouts assessed using the item, "Had memories that became clear only when people gave you cues or reminded you later.

Table 2.

Qualitative themes reflecting blackout evaluations and influences on blackout evaluations.

Blackout Evaluations	# groups	Representative Quotes
Negative	4 female	*When you're not in control, you don't know what's gonna happen to you, and it's kind of scary. People could do stuff to you that you don't want.* (female, 18y, ID 101)
	4 male	*When you see people that you might have met on a night out, but you can't remember what you did, then you're worried about what you might have done or said.* (male, 19y, ID 305)
Positive	4 female	*It's pretty natural, actually. If you black out, it feels like that means that you had a great friggin' time.* (female, 21y, ID 103)
	4 male	*I have videos on my phone from nights that I was blackout that just show me it was a great night. I got closer with my friends - as awful as it sounds, cuz I can't remember it - but it was something that happened, a memory that I don't remember but that we shared.* (male, 19y, ID 402)
Neutral/Mixed	4 female	*I would say I don't feel any negative emotion towards myself. I don't wake up feeling shameful. I'm sort of like, "Oh, ooh, there we go." [Laughing]* (female, 21y, ID 105)
	4 male	*You're a little nervous cuz you definitely could have done something really stupid, but you don't know and it's kind of like a little bit of fear, but at the same time, you're kind of excited that you did something awesome. It's kind of a balance. It's fear and excitement at the same time.* (male, 19y, ID 406)

Influence on Blackout Evaluations	# groups	Representative Quotes
Perceived social norms	4 female	*I think a lot of it can depend on your social scene or people you interact with a lot or kind of your place on campus. I know with one of my friends, her first time blacking out, she was crying. She was like, "I can't believe this happened." I have other friends who are involved in a different social scene... they're like "Oh, we finished our exam, time to blackout."* (female, 18y, ID 504)
Immediate social context	4 female	*I think it also depends a lot on who you were with at the time because, if you were drinking with a lot of your friends and they were with you the whole time and they didn't black out, then it's not quite as [bad]—cuz you can ask them what happened, and they can fill you in, and they know what you did. If you're alone or with other people or you left for some reason and you just have no idea what happened, that can be scary.* (female, 21y, ID 703)
	4 male	*I was... with a bunch of guys that I trusted a lot. I blacked out that night pretty solidly. I didn't worry that much the next day cuz I knew I was with them the whole time, and they would've— Anything that I did, they weren't gonna judge me for it or anything, so it was just my boys that wouldn't really care. It depends on who you're with and how comfortable you are with them and how much you trust them to look after you throughout the night, too.* (male, 19y, ID 803)
Later Discussions with peers	2 female	*Sometimes, obviously, people say things that are a little judgmental, and then you feel like it's something that you could have controlled and you should have controlled. Then I think that can cause a lot of embarrassment or shame moments.* (female, 20y, ID 606)
	1 male	*If you wake up and you're just told that you were normal and funny, then that's fine.* (male, 20y, ID 205)
What happened during blackout	4 female	*I think the negative feelings that I've had have been when I wake up in somebody else's bed, and I'm like, "Oh. Why did that happen?" Yeah. Not just from the blackout itself, but maybe from what I did or from what happened.* (female, 18y, ID 101)
	4 male	*If it happens and I was reasonably confident I was just hanging out with my friends the whole night and probably acting like an idiot, but a very controlled idiot, then that's usually- it's not any worse.* (male, 20y, ID 201)

Blackout Evaluations	# groups	Representative Quotes
Location during drinking event	4 female	*If I'm in a friend's room or in a friend's dorm, I feel different waking up versus if I was in a club. I don't know, being blacked out a club sometimes, there 's been instances where it 's after the fact and after I hear more about the night I'm like, wow, there's so many things that could have gone wrong that night. Luckily, they didn't.* (female, 20y, ID 501)
	2 male	*Even if you've blacked out a number of times at parties, in your dorm, or near your house, and then you black out somewhere where you're unfamiliar with the place, that 's gonna be a lot scarier the next day just cuz it's unfamiliar* (male, 20y, ID 801)
Location upon waking	3 female	*You kindajust wake up, and if I'm in my bed, okay, probably it was fine and then I'll ask my friends to fill in the pieces. That 's it."* (female, 20y, ID 501)
	1 male	*If you wake up in a place you're not familiar with, that would definitely make it- less positive, anyway. If you wake up in your own bed, Ifeel like there 's a comfort of that, knowing that you at least made it back to where you were supposed to be* (male, 21y, ID 403).
Experience with / frequency of blackouts	4 female	*If it's one of their first times drinking ever and they blackout, I think that could be a bit of a scarier circumstance versus if they've been drinking a while and eventually blackout at the tenth time drinking* (female, 20y, ID 502).
	2 male	*After a certain amount of drinking and blacking out experiences, I feel like you grow a certain comfort to knowing what kind of decisions you'll make when you're drunk, in the sense that you know you're not gonna do something terrible* (male, 18y, ID 306).
Expectancies	4 female	*If you've planned to blackout, and you do and nothing bad happened, I feel like that 's a good night out* (female, 18y, ID 503).
	1 male	*If you set limitations for yourself. Like, "Oh, I'm gonna have this many drinks and then go home," or whatever. If you wake up in the morning and you found out that you had blacked out the night before, you'd be probably pretty frustrated with yourself because you had expectationsfor yourself and then you broke them. Like setting or having limits for yourself and then not following through what you said you were gonna do* (female, 21y, ID 603).
Pre-blackout (remembered) events	2 female	*I feel it 's also the point up until you remember, if that is a positive experience, before your blackout time or memory loss time, if everything you do remember is positive, then Ifeel like I always kind of extend those positive feelings into the rest of the night, unless I hear otherwise.* (female, 20y, ID 502)
	2 male	*You can remember just the good things and it would feel like, oh, you had a really good night, as long as everything went smoothly.* (male, 19y, ID 203)
Severity/length of memory loss	1 female	*The longer, the scarier because more stuff could have happened to you or you could have done more stuff to yourself or to others during that time.* (female, 22y, ID 604)
	1 male	*When you brownout. It 's nothing too—it 's not nearly as bad as a blackout.* (male, 20y, ID 201)