

THE ALCOHOL BLACKOUT: A BOOK REVIEW

In 2003, Mnemosyne Press in Santa Barbara, CA published an important book that should be on the reading list of student conduct professionals. The book is called *The Alcohol Blackout: walking, talking, unconscious and lethal* by Donal F. Sweeney, M.D. and Robert A. Liston. The book promises to answer the questions:

- How to recognize the blacked out person is unconscious and has no idea what he or she is doing;
- How to cope with him or her;
- How to protect the blacked out person and yourself from harm;
- How to drink to prevent blackouts;
- Why blackouts are a huge, misunderstood and unrecognized problem for the law and society.

In this issue, Brett Sokolow reviews the book and its answer to these and other important questions.

In the 1980s, Dr. Sweeney realized that the literature of addiction had failed to explain the phenomenon of the alcohol blackout. As he researched, he learned that the advent of PET and MRI scanning had allowed brain researchers to make astounding insights into brain function, but no one had crossed disciplines to apply that research to the question of alcohol blackouts.

The main contribution of this book is the answer to what was previously a chicken and egg question: Is the individual experiencing a blackout conscious of what they are doing, but simply unable to remember afterward what they have done, or are they incapable of knowing what they are doing while doing it? Dr. Sweeney's answer is that blacking out is an unconscious state that renders the blacked out person incapable of knowing what they are doing. Therefore, memory is never formed, and amnesia—forgetting—is impossible. The blacked out person cannot remember afterward, not because they forgot what happened, but because they never knew. Recalling the events of a blackout through hypnosis or administration of a truth serum is impossible. Perhaps a better way to understand is to comprehend Dr. Sweeney's assertion that memory and consciousness are not different functions. Consciousness is a function of memory. If memory does not form, conscious intention cannot result. Thus, for example, a blacked out defendant accused of any crime requiring intent as an element could argue persuasively that they were unable to form the intent they were accused of possessing.

PASSING OUT v. BLACKING OUT

Dr. Sweeney draws a meaningful distinction between being passed out—falling asleep in an alcohol-induced stupor—and blacking out, which leaves one awake

and operative physically. The physical operation of a person in blackout is described as being wholly impulsive, with no capacity for rational thought or considering the consequences of actions. It is literally an unconscious state, in the true meaning of unconscious as lacking consciousness, and not of the more common association of unconscious as equating to being passed out. Dr. Sweeney underlines that passing out and blacking out are entirely different brain dysfunctions, even though we tend to associate them in non-medical observation of the behavior of others.

NATURE AND FREQUENCY OF BLACKOUTS

Dr. Sweeney believes this association of passing out and blacking out arises from the fact that fatigue is a contributing factor in blackouts. He also believes that the pace of alcohol consumption influences the onset of a blackout more than quantity of alcohol consumed. Blackouts, says Dr. Sweeney, can last for several days depending on how long a drinking episode lasts, but are more likely to last a few hours. He even chronicles one blackout claimed to have continued for four weeks. How frequent an occurrence are blackouts? Dr. Sweeney cites an oft-cited study that showed about 15% of drinkers self-admitted to experiencing blackouts, which does not account for those who had them without knowing.

Other studies indicate, not surprisingly, that this rate climbs to 25% when college students are studied, with women more likely than men to experience blackouts. Dr. Sweeney also describes what he calls a fadeout, which is not a full-on blackout because with help or time, the person does regain quickly some or all of the details which at first they could not recall. It may be similar to (or another term for) what students commonly refer to as a “brownout,” meaning something less than a full-on blackout.

SHORT-TERM MEMORY IS THE KEY

Dr. Sweeney gives some illuminating discussion of the varying types of memory—episodic, semantic, procedural, immediate, and working. Remembering all the significant events of your life is episodic memory. Everything you learn and your education are part of your semantic memory. Procedural memory is all that you have learned to do often through repetition—drive a car, ride a bike, etc. Immediate memory is your impressions or thoughts, and those blacked out continue to have immediate memory, but it is simply replaced by the next fleeting thought. It is impulsive and superficial. The link between current and past knowledge is called working (or more commonly “short-term”) memory.

While we tend to view memory as a single construct—you either do remember something or you don’t—memory functions are much more sophisticated. This sophistication explains why a blacked out person might seem to be responsive to

you (immediate memory) and could even continue to consume alcohol (procedural memory), but could be severely impacted by working memory dysfunction. This accounts for pilots who have flown cross-country and surgeons who have operated successfully, all in blackouts. Their procedural and semantic memories were intact. Does this strain credulity or tell us instead that our ignorance or misunderstanding of memory and its functions is dramatic?

Because working memory cannot form, a blacked out person is not oriented spatially to time or place. Many have tried to analogize blackouts to sleepwalking, but Dr. Sweeney makes a distinction in that if you wake a sleepwalker, they reorient as memory suddenly returns. You cannot do this with someone who is in a blackout.

THE HIPPOCAMPUS

Where does working memory exist? Scientists have traced it to the interaction of two C-shaped sections of the brain--referred to as the hippocampus--with the temporal lobe. Apparently, the hippocampus can be incapacitated. *"Just start swilling alcohol at a rapid rate on an empty stomach while in a state of fatigue,"* writes Dr. Sweeney. Sound like any students we know? Though the exact mechanism is unknown, alcohol keeps the hippocampus from receiving the chemical signals that make memory formation possible. One of Dr. Sweeney's more interesting theories is that blackouts occur not necessarily based on how much someone drinks, but how fast they drink. He cites as critical the possibility that food, fatigue, mood and even medicines ingested also play important roles. While they are more common among alcoholics, blackouts can happen to moderate and even first-time drinkers, as well.

RECOGNIZING BLACKOUTS

Dr. Sweeney suggests, contrary to conventional wisdom, that we may be able to recognize blackouts. He starts by stating something obvious, but often overlooked. The blacked-out person is not falling down drunk. They are passable. They are not passed out. If they sharply consumed great quantities alcohol, they must have also at some point thereafter sharply curtailed their intake, or they would wind up obviously drunk or passed out. He actually conjectures that the act of blacking out itself may curtail or start to curtail consumption.

That could be a sign, but more than curtailing consumption, Dr. Sweeney suggests the answer is in a short-term memory test. If working (short-term memory) is impaired, we have a clue that a blackout may be taking place. Let me use my own example, rather than Dr. Sweeney's. In my program for students, "Drunk Sex or Date Rape: Can You Tell the Difference?" a key issue in the case study is whether the female student, Amy, is incapacitated. She claims incapacitation as a result of an alcohol blackout. At one point in the morning,

Amy runs to the bathroom to vomit, leaving her date Todd sitting on the couch in her room. She comes back to the couch smelling of toothpaste. Let's assume good intentions on Todd's part, such that he wants to know if Amy might be blacked out. As Todd and Amy resume fooling around on the couch, Todd could test Amy's short-term memory, either by asking her if she remembers running to the bathroom to vomit, or by questioning her about brushing her teeth.

Dr. Sweeney argues that a student like Amy, experiencing a blackout, CANNOT remember running to the bathroom or throwing up or brushing her teeth (though procedural memory may have allowed her to physically act to do so). A simple interview should reveal this short-term memory loss. Amy may remember talking with Todd earlier in the evening (episodic memory), or may taste toothpaste in her mouth and conclude she did brush her teeth (semantic memory), but actually having a memory of brushing (did you use mouthwash, brush, just put toothpaste in your mouth?) will not be possible, nor will Amy be able to remember, several minutes later, that Todd even asked her about brushing her teeth as a follow-up to running to the bathroom (working memory).

Dr. Sweeney suggests that interrupting or distracting someone repeatedly, then returning to the subject to see if they can follow is also an easy test of working memory. If they repeatedly cannot follow, they may be blacking out. Or test them overtly, he suggests. Give them three words to remember five minutes from now, and then check back in five minutes. How did they do? Sweeney encourages police, bartenders and others trying to detect blackouts to use this simple approach. If the person being tested can't remember the words, that may be sign of blackout. If they cannot even remember that you said you were going to test them, that is a sure sign. The test must be of working memory, so asking them where they live, or asking their phone number is not testing the correct locus of memory. And, Dr. Sweeney gives us a good reminder that whomever is giving this test needs to be sober or close to it, because "drunks aren't too reliable in testing other drunks."

WHAT LIES AHEAD

Dr. Sweeney calls the medical research field to action. PETs, MRIs and EEGs can offer tremendous insight into what the blacked out person is experiencing or not experiencing. Testing the effects of alcohol with these scans will teach us much about this public health problem, and whether the apparent logic of Dr. Sweeney's arguments is able to withstand the scrutiny of the scientific method.

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