The beliefs people have about the effects of alcohol, known in the field as alcohol expectancies, contributes to the decision to drink as well as the amount consumed when drinking. Simply put, an expectancy is a belief a person holds about events in the world. Expectancies are held about nearly every situation a person encounters. When a person goes to church, he or she may expect that it’s appropriate to dress nice, speak in hushed tones, and avoid profane language. These beliefs will then dictate how a person would act in church. She or he would dress up in their “Sunday Best,” not raise their voice, and speak more politely than normal. A person learns expectancies from their families, their peers, and exposure to media.

Expectancy theory has emerged as a viable explanation for a wide variety of psychological phenomena (see Goldman, 1999). In all applications, expectancy refers to information stored in memory of a systematic “if-then” relationship between events in some upcoming situation. For example, “IF I run this red light, THEN I may get a ticket” or “IF I drink this beer, THEN I will be more outgoing.” One advantage of these models is that they refer to processes across the full domain of behavior, and not just to pathological behavior. Hence, they can accommodate processes that influence both episodic excessive drinking and associated problems as might be found in young individuals, and more chronic drinking and problems of alcohol abuse and alcohol dependence. While application of such models eventually might serve to guide prevention and treatment efforts at any level of problem drinking, the present application is addressed solely to targeted prevention with middle and high school students.

An extensive construct validation network has evolved that supports expectancies as an important influence on drinking (see Goldman et al., 1999). Expectancies correlate with drinking; they appear in children before drinking begins; change in a direction that encourages drinking as children enter adolescence (e.g., Dunn & Goldman, 1996, 1998, 2000); predict drinking prospectively over periods as long as nine years (e.g., Newcomb et al., 1988; Stacy et al., 1991); and measured during treatment, expectancies predict post-treatment outcomes (e.g., Connors et al., 1993). Consistent with their theoretical status as cognitive representations of experiences with alcohol, expectancy changes parallel changes in drinking behavior (e.g., Sher et al., 1996). Most consistent with their inferred causal status, expectancy manipulation in experiments results in both increases and decreases in drinking (e.g., Darkes & Goldman, 1993, 1998; Dunn et al., 2000; Stein et al., 2000). And, despite some controversy over methodology, expectancies rather than chemical effects appear responsible for some behavioral effects of alcohol ingestion (see Martin & Sayette, 1993).

Recently, statistical models of expectancy/cognitive processes have been developed. These models have treated expectancies as information nodes in memory that represent direct and vicarious experiences with alcohol as a consequence of both individual biological characteristics and environmental exposures (see Dunn & Goldman, 1996, 1998, 2000; Goldman, 1989; 1994; 2000; Goldman, et al., 1991). Nodes may represent images, memories of sensorimotor and affective experiences, specific behavior patterns, and verbal representations of these concepts, acquired from sources including family members, media, peer groups, as well as inherited biological reactions to alcohol. Activation of particular nodes occurs in a predictable fashion once the individual encounters stimuli that match previously encoded material relevant to drinking, and influence onset and pattern of drinking. Figure 1 illustrates this concept in a simplified manner. If a person has the expectation that drinking would make them friendly, it is then likely that drinking would also be associated with an expectancy of being outgoing, happy and having fun.
To elaborate this approach, several studies empirically modeled expectancy memory networks in college students and suggested differences in the memory networks of heavy and light drinkers (Dunn & Earleywine, 2001; Dunn & Goldman, 1998, 2000; Rather et al., 1992; Rather & Goldman, 1994). Heavy drinkers appear to first associate arousing and social effects with drinking, whereas lighter drinkers first associate sedating effects. Information networks of children who have not yet begun to drink have also been modeled; as they approach adolescence, their high-alcohol associates appear to shift from negative expectancies to arousing and social expectancies similar to those in heavy drinking adults (Dunn & Goldman, 1996, 1998, 2000). Furthermore, clearly relevant to the present application, young children’s expectancy activation patterns can be shifted toward positive expectancies by exposure to alcohol advertising that is commonly broadcast during daytime hours (Dunn & Yniguez, 1999) and away from positive expectancies by expectancy-based intervention strategies (Cruz & Dunn, 2003). These findings and others suggest that the most potentially useful target for expectancy-based interventions for middle and high school students is these same social and arousing expectancies.

Efforts to support expectancy theory by experimentally manipulating positive expectancies led directly to the development of an “expectancy challenge” that successfully decreased alcohol use in heavy drinking college students (Darkes & Goldman, 1993, 1998; Dunn et al., 2000) and has been successfully extended to elementary school students (Cruz & Dunn, 2003). Because expectancies are more malleable than other drinking antecedents, they represent an ideal foundation for psychological inoculations by altering cognitive processes to provide a protective effect that individuals would carry with them into all drinking situations. Experiments challenging expectancies most strongly support the inference that an expectancy memory system or information processing system can influence drinking. These studies have shown that consumption can be increased over the short term by manipulating expectancies. Longer-term increases would strengthen confidence in an inference of causality, but would be unethical.
As reported by NIAAA (1995; 1997), alcohol education and awareness programs may “raise students’ awareness of issues surrounding alcohol use, (but) these programs appear to have minimal effect on drinking and on the rates of alcohol problems” (Flynn & Brown, 1991; Gonzalez, 1991). The expectancy challenge procedure is listed as one of only three empirically supported interventions endorsed by NIAAA (2002) for the effective treatment of problematic drinking behavior among college students. This approach allowed participants in a bar laboratory experience to see first hand that students could act and feel drunk regardless of whether or not they actually consumed alcohol. Once students realized that it was their beliefs about what would take place when they drank, not the alcohol consumed that caused most of the pleasurable associations they had with drinking, they consumed significantly less alcohol and vastly reduced incidences of binge drinking.

Delivering such an experience to younger children, however, is impractical (as you need a bar setting), illegal (as the drinking age is 21) and unethical (giving kids alcohol). This is why a classroom format for challenging alcohol expectancies for middle and high schools students is required. The goal of such an approach is not to necessarily erase former expectations, but rather introduce new information about the negative effects of alcohol that may compete with pre-existing positive expectations for influence over the individual’s behavior (Goldman, 1999b).

Although previous expectancy challenge studies have been successful in modifying expectancies and reducing subsequent alcohol use, the focus of those challenge studies has been primarily on college students. In order to facilitate the widespread use of curriculum-based prevention strategies, it was necessary to develop an effective approach that could be delivered in typical classroom settings and in a minimum amount of time. Moving in this direction, Cruz and Dunn (2003) successfully implemented a single-session, classroom-based strategy with elementary-level children. An interactive classroom exercise was designed to alter the associations of these students, such that they demonstrated a higher likelihood of forming negative associations to alcohol following exposure to the challenge exercise. The modified, classroom-based challenge protocol was then administered to a high school population and succeeded in addressing positive expectations associated with alcohol use and in significantly decreasing alcohol consumption (Cruz & Dunn, 2005).

The effectiveness of challenging expectancies in a classroom-based lesson was tested in a pilot study in 2006 targeting the reduction of alcohol consumption among college students. This lesson used an educational, media literacy approach designed to increase negative expectations and decrease positive associations to alcohol consumption. The program was infused into the curriculum of specific courses targeted towards academically at-risk first year students. Fifteen class sections composed of approximately 400 first year students participated in this initial study. The program was administered by trained undergraduate Peer Educators. Results of the 2006 pilot study demonstrate significant reductions in alcohol consumption among students in class sections randomly assigned to receive the curriculum as compared to those in a wait-list control condition. Specifically, students that received the curriculum indicated a lower mean number of drinks per sitting during the follow-up period compared to wait-list control subjects (F(1, 116) = 4.177, p < .05) and reported a lower peak number of drinks in one sitting compared to their peers (F(1, 116) = 4.998, p < .05). These findings support the potential effectiveness of the proposed program in reducing alcohol consumption, increasing awareness of expectancies, and increasing media literacy. Figure 2 illustrates the main results of the 2006 pilot study.
The 2006 pilot study resulted in a two-year grant funded by the US Department of Education for the further development and implementation of the college version of the ALC. Several of the key personnel on this application were involved with that grant and will bring that experience and expertise to this project. The college version of the ALC followed a similar implementation strategy to the 2006 pilot study. The 50-minute program was designed to educate students about the effects of alcohol and their expectations regarding its influence on their behavior. A novel aspect of this approach includes a comprehensive introduction to the impact of media advertising related to alcohol, whereby students are lead to develop discrepancy between the physiological effects of alcohol as a depressant, and the portrayal of alcohol as a party accessory promoted by popular media.

References


