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Mathematical and Computational Modeling of Social Norms and College Drinking.

College drinking is a problem with severe academic, health, and safety consequences. The underlying social processes that lead to increased drinking activity are not well understood. Social Norms Theory is an approach to analysis and intervention based on the notion that students' misperceptions about the drinking culture on campus lead to increases in alcohol use. In this paper we develop a mathematical model, implemented in MATLAB as an agent-based simulation, to examine college drinking. Students' drinking behaviors are governed by two fundamental processes identity verification and peer influences. Both of these processes lead to drinking behaviors as students interact in small groups over the course of a drinking event. Our simulation results provide some insight into the potential effectiveness of interventions such as social norms marketing campaigns. (Received September 13, 2014)