

# **The DRAM, Vol. 6(5) - Don't stand too close! Alcohol use might be contagious within social networks**

June 23, 2010

Our peers - best friends, enemies, acquaintances, coworkers, etc. - have considerable influence on our behaviors, both good and bad. This influence is observable as early as preschool, and appears to peak during adolescence, when peer influence begins to trump parental influence (Dishion & Owen, 2002; Hawkins, Catalano, & Miller, 1992). This week, the DRAM reviews a study by Rosenquist and colleagues (2010) that uses innovative new techniques to measure alcohol use patterns within social networks.

## **Methods**

- Participants (n=5,124) were members of the offspring cohort (i.e., children of the original participants) of the Framingham Heart Study (FHS), assessed across 7 waves of data collection from 1972 to 2000.
- Participants identified family members, other contacts, and friends at each wave; researchers also identified participants' neighbors and coworkers through address and employment information collected at each wave. Only contacts who also were involved in the FHS were included in this study.
- Participants self-reported alcohol use (i.e., average drinks per day) at each wave.
  - Researchers categorized participants as heavy drinkers (>1 / 2 drinks per day for women / men), moderate drinkers (any drinking less than heavy), or abstainers.

## **Results**

- Participants' drinking behavior varied according to the behavior of members of their social network, for up to three degrees of separation (i.e., friends', friends' of friends, and friends' of friends of friends drinking behavior all relate to participants' drinking behavior); geographical distance between contacts did not influence this effect.

- Having a social network with a concentration of heavy drinkers at one time point predicted an increase in participant drinking by the next time point; similarly, concentrations of abstainers predicted decreases in participant drinking (see Figure).
- Friends and spouses, in particular female friends and wives, had the strongest effect on future drinking behavior; neighbors and coworkers had no discernable effect.

Effect of Each Additional Contact of the Given Type	Change in Likelihood of Participant Heavy Drinking	Change in Likelihood of Participant Moderate Drinking	Change in Likelihood of Participant Abstinence
Heavy Drinking Contact	18% increase*** (CI: 11% - 25%)	No effect (CI: -8% - 1%)	7% decrease** (CI: 2% - 12%)
Moderate Drinking Contact	No effect (CI: -2% - 7%)	6% increase* (CI: 2% - 9%)	5% decrease* (CI: 2% - 9%)
Abstaining Contact	10% decrease** (CI: 4% - 15%)	11% decrease** (CI: 8% - 14%)	22% increase*** (CI: 17% - 28%)

Figure. Effect of social network drinking behavior on participants' future alcohol consumption (adapted from Rosenquist et al., 2010). Note. Regression models controlled for age, sex, education, and wave. \*\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$ . Click image to enlarge.

- The following link, provided by the authors as an Appendix to their article, provides an animation of the clustering of heavy drinking and abstaining participants and contacts across time in a social network: [http://www.annals.org/content/suppl/2010/04/07/152.7.426.DC3/fhssn\\_drink\\_v1.mov](http://www.annals.org/content/suppl/2010/04/07/152.7.426.DC3/fhssn_drink_v1.mov)

## Limitations

- Only contacts within the FHS were used; it is possible that participants' friends and acquaintances not involved in the FHS had unmeasured influence.
- Alcohol use was self-reported and might be subject to the biases associated with self-report.
- Rosenquist et al. examined social network influence on future drinking behavior, but did not examine the influence of drinking behavior on the future development or maintenance of social networks.

## Discussion

Similar to other studies investigating the spread of phenomena across social networks (e.g., Christakis & Fowler, 2007, 2008), the current study demonstrated that the alcohol using patterns of those around you tend to influence your own use. This, in itself, is not surprising, but the reach of that influence is: our drinking patterns reflect those of people separated from us by three degrees in our social networks. These findings highlight the importance of social network research capable of analyzing social influences beyond direct peer or aggregate group effects.

— Sarah Nelson

*What do you think? Please use the comment link below to provide feedback on this article.*

## **References**

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