Peer effects and alcohol consumption

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Bad influence or a matter of choice?

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- Evaluating the effect of the past roommate alcohol consumption on your current drinking habits, grades, etc

Data troubles

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Cooperative Institutional Research Program conducted Entering Student Survey, covering various areas:

- academic and family history
- extracarricular activites, including drinking habits
- room(mate) preferencess: location, environment, type, gender
- fraternities association
- GPA 1 and 2 years later

Altogether: 1357 students with random roommate allocation

Results

Effect of Roommates' Background Characteristics and Own Characteristics on Student's Cumulative Grade Point Average

	Whole lottery sample	*Subsample*	
		Females	*Males*
Roommates' high school drinking			
Frequent	−0.104	0.118	−0.282**
	(0.093)	(0.126)	(0.128)
Occasional	−0.132*	−0.008	−0.263***
	(0.073)	(0.103)	(0.101)
Student's high school drinking			
Frequent	−0.070	−0.032	−0.109
	(0.096)	(0.124)	(0.150)
Occasional	−0.046	−0.029	−0.028
	(0.076)	(0.093)	(0.119)
Observations	1011	555	456
R^2	0.642	0.706	0.595
Adjusted R^2	0.218	0.272	0.173

Note: Robust standard errors in parentheses. Huber–White standard errors were calculated using roommate clusters. All regressions include controls for student's and roommate's academic background (high school GPA and admissions test scores), student's and roommate's parental background (father's education, mother's education, parental income), and type of admission tests, as well as dummy variables for cells.
* significant at 10 percent level, ** significant at 5 percent level, *** significant at 1 percent level.

Source: Kremer and Levy (2008)

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These were the average effects, but are they the same for all the people? Is it a shift of the mean, or the distribution matters, and you are slowly falling down even in relative terms?

Quantile regressions

Effect of Roommate Drinking on Distribution of Grade Point Average for Males

	Quantiles				
Quantile	*10%*	*25%*	*50%*	*75%*	*90%*
Frequent drinking roommate	−0.50***	−0.37**	−0.33**	−0.30**	−0.24
	(0.15)	(0.17)	(0.15)	(0.12)	(0.15)
Occasional drinking roommate	−0.53***	−0.35**	−0.13	−0.09	−0.05
	(0.20)	(0.14)	(0.12)	(0.11)	(0.14)
GPA associated with quantile (for students with nondrinking roommates)	2.54	2.90	3.19	3.49	3.78

Note: Table reports results from quantile regressions. Bootstrapped standard errors in parentheses. All regressions include controls for student's and roommate's academic background (high school GPA and admissions test scores), student's and roommate's parental background (father's education, mother's education, parental income), and type of admission tests, as well as dummy variables for cells.
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Peer effects especially strong for people in the lower quantile of the distribution!

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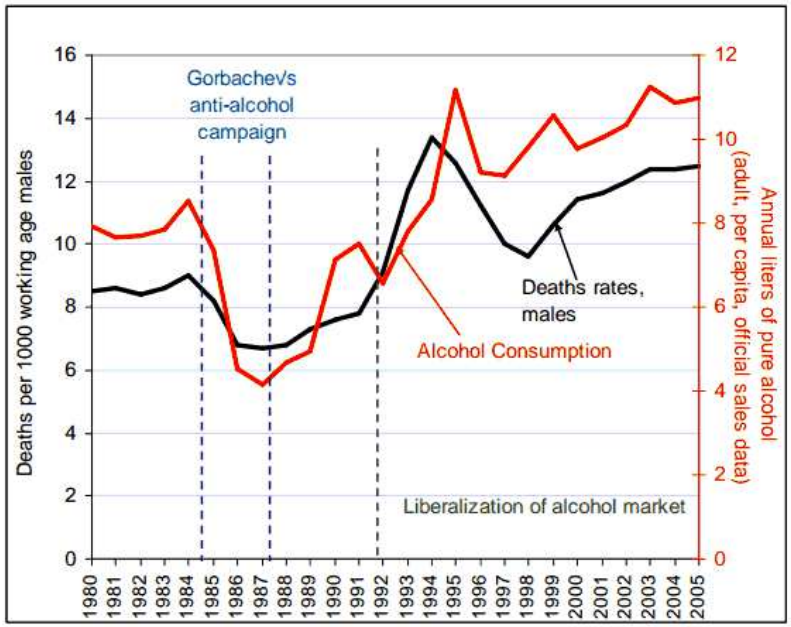

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Russian Longitudinal Monitoring Survey:

- over 4,000 households (up to 10,000 individual respondents)
- time span of 1994-2007 (excluding 1997 and 1999)
- covers 33 regions
- detailed location info enough to identify *dvors* - typical places to find buddies from the neighborhood
- demographics, consumption habits and other controls
- micro-level price of alcohol, individual elasticities

Who are the peers?

- they live in the same neighborhood
- have a similar age

A typical good Russian dvor

Source: http://www.novo-sibirsk.ru/

Show me your friends, I'll say how much you drink

Reality check: alcohol consumpion w.r.t. the person's birthday and birthdays of his peers.

	All peers		Without household members	
	log(vodka)	+1 birthday in group of 5	log(vodka)	+1 birthday in group of 5
$\frac{\sum_{peers} I(birthday)}{(N-1)}$	0.227	0.057	0.212	0.053
	[0.086]***	[0.021]***	[0.086]**	[0.021]***
$I(birthday)$	0.161	0.161	0.161	0.161
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Year*month FE	Yes	Yes	Yes	Yes
Observations	35995	35995	35995	35995

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- having your birthday in the previous month increases alcohol consumption by 16%
- having one of your peers birthday (in a group of 5) - by 6%

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- incomplete information
- myopic or forward-looking agents
- ignoring peer effects underestimates the actual price effect

Peer effects on alcohol consumption

	Myopic	Forward-looking	
	Per-period utility	Per-period utility	Value function
Log(vodka price)	-0.79***	-0.85***	-1.05***
peer effect, $\widehat{\delta}$:			
age 18-29	1.355***	0.932***	0.961***
age 30-39	0.688***	0.456 ***	0.609***
age 40-49	0.039	0.128	0.073
age 50-59	0.09	0.214	0.18
Habit: lag I(heavy drinker)	1.27***	1.234***	

Note: * significant at 10%** significant at 5%;*** significant at 1%
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- strong long-term effects for the forward-looking agents (14-22% reduction over 5 years)
- peer effects account for roughly 60% of the overall price elasticity

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- ... but are important and a lot of fun!