

# Appendix

Phuc Nguyen, Ezinne Nwankwo, Frances Hung

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## Appendix

### Elastic Net Model

The most important predictors for heavy drinkers: A10\_F(parties, neg), B6\_D (drinking group which was asked to be quieter/less disruptive, positive), D1\_B (opinion on appropriate amount for off-campus bar drinking, pos), D9\_B (percentage of friends who are binge drinkers, pos), G11 (HS number of binges, pos)

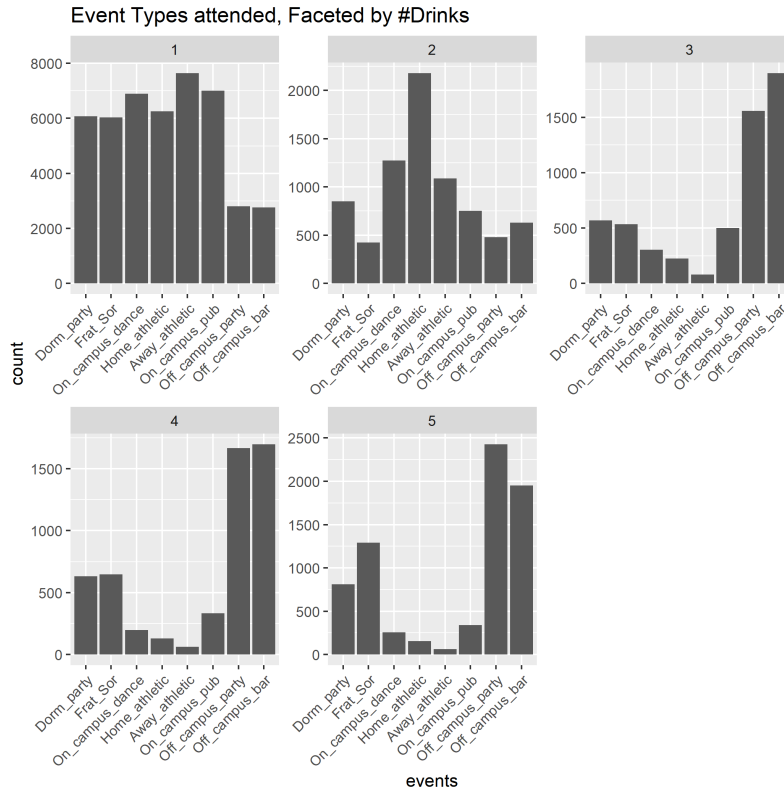


Figure 1: The figure shows the number of students attending certain events, faceted by number of drinks had at an event.

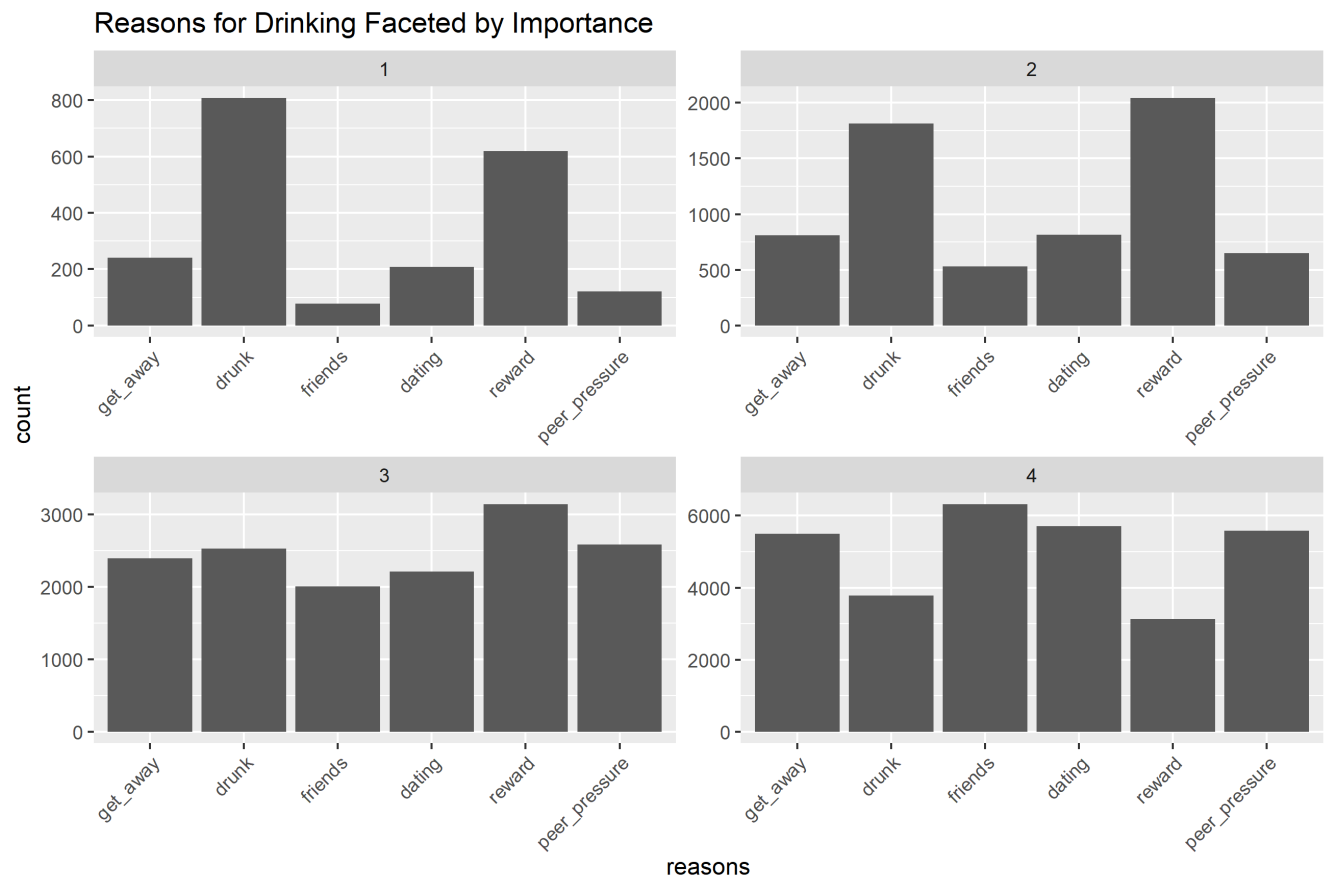


Figure 2: The figure shows the reasons why students say they drink, faceted by importance (very important=1).

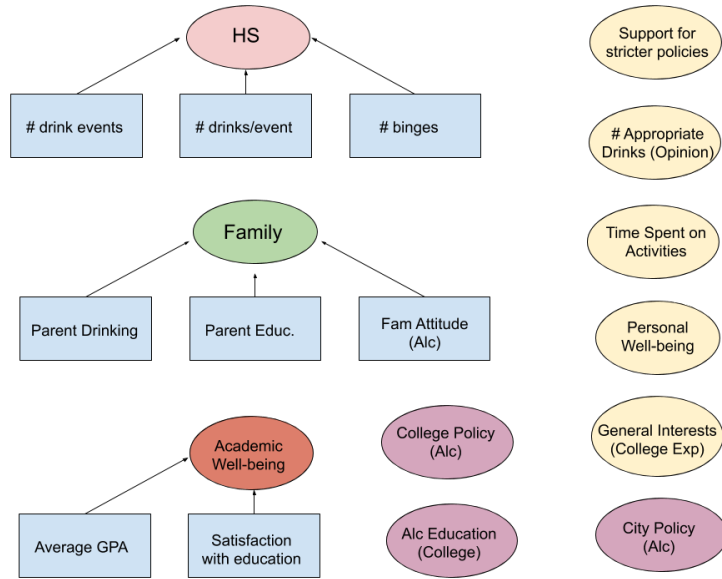


Figure 3: Figure shows latent factors (ovals) in the SEM for drinking behaviors. Squares show summary of actual questions in the survey.

Below are tables of the estimates for the following three models

$$\text{SEXASSAULT} \sim \text{communities} + \text{family\_drink} + \text{highschool\_drink}$$

$$\text{DRINKCAT} \sim \text{communities} + \text{family\_drink} + \text{highschool\_drink}$$

$$\text{SEXASSAULT} \sim \text{DRINKCAT}$$

Table 1: Estimates and 95 percent confident intervals of latent factors in the SEM for levels of drinking. High school drinking, support of more lenient drinking policy, importance of parties (parties), less exposure to alcohol education, family drinks, and personal wellbeing are associated with more drinking in college

latent_var	est	ci_lower	ci_upper	p_value
attitude_policy	0.10	0.05	0.14	0.00
communities	0.37	0.18	0.56	0.00
parties	-1.10	-1.28	-0.92	0.00
attitude_drink	0.37	0.34	0.41	0.00
college_policy	0.03	-0.03	0.09	0.29
college_edu	-0.09	-0.12	-0.05	0.00
city_policy	-0.17	-0.37	0.02	0.08
family_drink	0.09	0.04	0.13	0.00
highschool_drink	2.21	1.67	2.75	0.00
personal_wellbeing	-0.05	-0.09	0.00	0.04
academic_wellbeing	-0.04	-0.13	0.06	0.46
social_groups	0.19	-0.14	0.53	0.26

Table 2: Loadings of survey questions for latent factors.

latent_var	survey_question	est	ci_lower	ci_upper	p_value
parties	A10_A	1.00	1.00	1.00	NA
parties	A10_D	1.15	0.99	1.32	0
parties	A10_F	3.46	3.06	3.86	0
communities	A10_B	1.00	1.00	1.00	NA
communities	A10_C	1.29	1.08	1.50	0
communities	A10_E	1.16	0.98	1.34	0
communities	A10_G	2.50	2.16	2.84	0
communities	A10_H	2.86	2.43	3.29	0
attitude_drink	D1_A	1.00	1.00	1.00	NA
attitude_drink	D1_B	0.93	0.91	0.95	0
attitude_drink	D1_C	0.58	0.55	0.60	0
attitude_drink	D1_D	0.75	0.72	0.77	0
attitude_drink	D1_E	0.30	0.27	0.32	0
highschool_drink	G8	1.00	1.00	1.00	NA
highschool_drink	G9	7.21	5.43	8.98	0
highschool_drink	G10	8.63	6.50	10.77	0

Table 3: Direct and indirect effects of latent factors on risk of sexual assault when victim was drinking.

latent_var	effect_type	est	ci_lower	ci_upper	p_value
communities	indir	-0.27	-0.43	-0.11	0.00
family	indir	0.04	0.02	0.07	0.00
highschool	indir	0.88	0.30	1.47	0.00
communities	dir	-0.48	-0.74	-0.21	0.00
family	dir	0.00	-0.15	0.14	0.99
highschool	dir	0.66	-0.39	1.71	0.22

Table 4: Direct and indirect effects of latent factors on risk of sexual assault when assaulter was drinking.

latent_var	effect_type	est	ci_lower	ci_upper	p_value
communities	indir	-0.18	-0.27	-0.09	0.00
family	indir	0.03	0.01	0.04	0.00
highschool	indir	0.59	0.24	0.94	0.00
communities	dir	-0.83	-0.98	-0.67	0.00
family	dir	0.07	-0.01	0.16	0.09
highschool	dir	1.08	0.47	1.70	0.00

Table 5: Coefficient estimates of the three models. The response is indicator of sexual assault when the assaulter was drinking.

response	latent_var	est	ci_lower	ci_upper	p_value
SEXASSAULT	communities	-0.83	-0.98	-0.67	0.00
SEXASSAULT	family_drink	0.07	-0.01	0.16	0.09
SEXASSAULT	highschool_drink	1.08	0.47	1.70	0.00
DRINKCAT	communities	-1.51	-1.63	-1.39	0.00
DRINKCAT	family_drink	0.25	0.20	0.29	0.00
DRINKCAT	highschool_drink	4.96	3.55	6.36	0.00
SEXASSAULT	DRINKCAT	0.12	0.06	0.18	0.00

Table 6: Coefficient estimates of the three models. The response is indicator of sexual assault when the victim was drinking.

response	latent_var	est	ci_lower	ci_upper	p_value
SEXASSAULT	communities	-0.48	-0.74	-0.21	0.00
SEXASSAULT	family_drink	0.00	-0.15	0.14	0.99
SEXASSAULT	highschool_drink	0.66	-0.39	1.71	0.22
DRINKCAT	communities	-1.51	-1.63	-1.39	0.00
DRINKCAT	family_drink	0.25	0.20	0.29	0.00
DRINKCAT	highschool_drink	4.91	3.54	6.28	0.00
SEXASSAULT	DRINKCAT	0.18	0.07	0.29	0.00

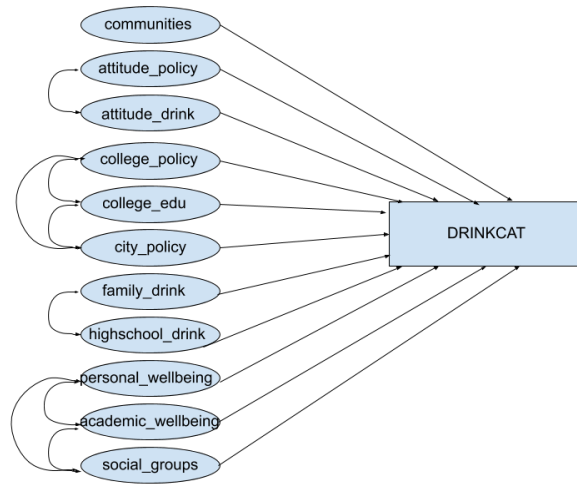


Figure 4: Figure shows path diagram of SEM on risk factors for heavy drinking behaviors in college.

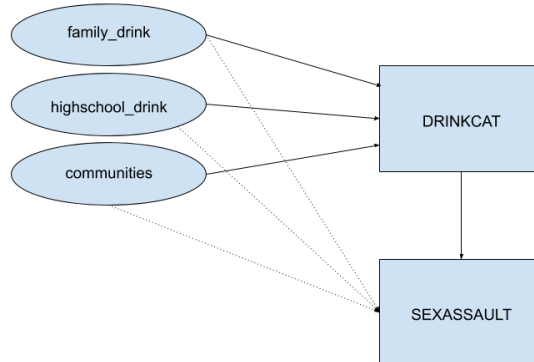


Figure 5: Figure shows path diagram of mediation model for the indirect effects of family, high school drinking behaviors and parties on risk of sexual assault.

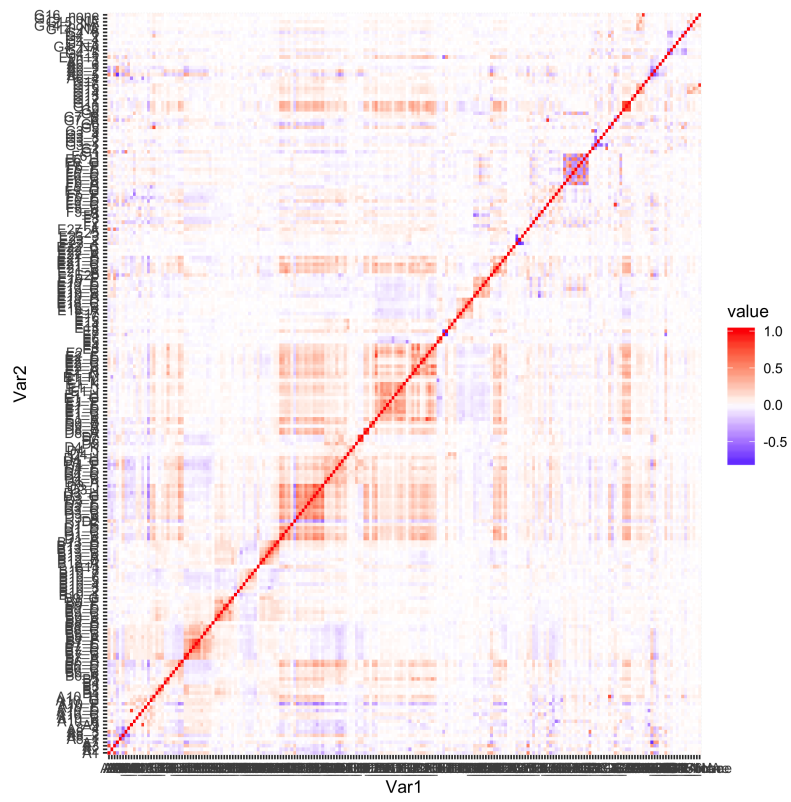


Figure 6: Correlations between Survey Questions.