Report Supplementary Material 2: Provisional analysis of risk factors associated with latent class membership

Family/relationships

Frequencies for each of the family variables are displayed in Table 39 by latent class.

Table 39: Descriptive statistics for family relationship variables

	Alcohol	AT	ATC	Polydrug	x^2 test of significance	p value
Has children	3%	10%	8%	15%	27.55	< .001
Ever had spouse/boyfriend/girlfriend	80%	94%	95%	96%	16.13	.001
Current/last partner smokes cigarettes	4%	24%	32%	46%	64.03	< .001
Current/last partner drinks	43%	68%	72%	77%	14.67	.002
Current/last partner smokes cannabis	1%	6%	15%	23%	21.96	< .001
Current/last partner uses drugs such as ecstasy, cocaine or ketamine	1%	2%	8%	26%	68.48	< .001

The Polydrug and Alcohol groups had different profiles on the family and relationship measures (Table 40). Compared to the polydrug group, alcohol users were less likely to have children and have a current/last partner who smokes. A noteworthy finding was that Alcohol, AT and ATC users were less likely to have a current/last partner who uses drugs such as ecstasy, cocaine or ketamine than the polydrug group.

Table 40: Multinomial logistic regression analysis for the family relationship variables

	Alcohol	AT	ATC
Has children	6.41	2.07	2.50
	(3.04 -13.51)*	(1.23 - 3.49)	(1.36 - 4.60)
Ever had spouse/boyfriend/girlfriend	2.00	0.95	1.06
	(0.91 - 4.39)	(0.42 - 2.11)	(0.44 - 2.59)
Current/last partner smokes	8.17	1.88	1.47
cigarettes	(4.44 - 15.03)*	(1.23 - 2.87)	(0.93 - 2.33)
Current/last partner drinks	1.45	0.87	0.87
	(0.89 - 2.36)	(0.55 - 1.38)	(0.52 - 1.46)
Current/last partner smokes cannabis	7.22	1.70	0.81
	(2.01 - 25.88)	(0.94 - 3.08)	(0.45 - 1.48)
Current/last partner uses drugs such	12.62	14.92	4.92
as ecstasy, cocaine or ketamine	(3.50 - 45.57)*	(7.38 - 30.16)*	(2.57 - 9.42)*

Note * = $p < .05$ after Holm-Bonferroni correction; Effect sizes at reported as odds ratios with 95% confidence intervals. Polydrug is reference group.

School

The proportions of pupils excluded from school and those obtaining 6 or more GCSEs at A-C level are reported in Table 41 by class membership.

Table 41: Descriptive statistics for school variables

	Alcohol	AT	ATC	Polydrug	x^2 test of significance	p value
Ever excluded from school	0%	2%	5%	11%	23.68	.000
6 or more GCSEs at A-C level	78%	75%	72%	57%	15.03	.002

The alcohol and AT groups were more likely to leave school with 6 or more GCSEs at A-C level (78% & 75% respectively) than the polydrug group (57%) (Table 42).

Table 42: Multinomial logistic regression analysis for the school variables

	Alcohol	AT	ATC
Ever excluded from school	24.82 (3.20 - 192.52)	3.22 (1.47 - 7.05)	1.57 (0.70 - 3.48)
GCSES6	0.45 (0.30 - 0.68)*	0.52 (0.36 - 0.76)*	0.57 (0.38 - 0.87)

Note * = $p < .05$ after Holm-Bonferroni correction; Effect sizes are reported as odds ratios with 95% confidence intervals. Polydrug is reference group

Leisure

The proportions of the sample who engaged in the leisure activities included in the final model are shown in Table 43.

Table 43: Descriptive statistics for leisure variables

	Alcohol	AT	ATC	Polydrug	x^2 test of significance	p value
Goes to pub or bar	60%	79%	85%	86%	12.55	.006
Goes to nightclubs	55%	72%	83%	82%	17.05	.001
Goes to parties	51%	60%	74%	85%	57.91	.000
Goes to church/place of worship	57%	29%	19%	9%	95.61	.000
Concert	26%	25%	24%	35%	9.11	.028
Gambles	7%	12%	24%	25%	27.57	.000
Theatre	18%	12%	10%	5%	7.99	.046
Goes to university clubs and societies	33%	20%	18%	10%	39.84	.000
Goes to the cinema	87%	84%	83%	68%	24.15	.000

In terms of leisure activities, Alcohol, AT and ATC users are less likely to go to parties than Polydrug users (Table 44). Gambling was less likely amongst the Alcohol and AT groups than Polydrug users.

AT and ATC users were more likely to report attending church and going to the cinema, than Polydrug users ; ATC group were also more likely to go to the cinema than the polydrug. In addition, the alcohol group were more likely to report going to university clubs than the polydrug users; this may reflect a trend whereby polydrug users are less likely to go to university.

Table 44: Multinomial logistic regression analysis for the leisure variables

	Alcohol	AT	ATC
Goes to pubs/bars	1.77	0.92	1.01
	(0.93 - 3.35)	(0.51 - 1.67)	(0.52 - 1.95)
Goes to nightclubs	1.78	1.19	0.67
	(0.99 - 3.21)	(0.69 - 2.06)	(0.36 - 1.24)
Goes to parties	6.01	4.79	2.54
	(3.42 - 10.56)*	(2.85 - 8.06)*	(1.45 - 4.48)*
Goes to church/place of	0.12	0.33	0.50
worship	(0.07 - 0.22)*	(0.18 - 0.58)*	(0.27 - 0.93)
Concert	1.64	1.71	1.99
	(1.02 - 2.63)	(1.13 - 2.58)	(1.26 - 3.13)
Gambles	3.15	2.51	1.25
	(1.77 - 5.59)*	(1.60 - 3.94)*	(0.78 - 1.98)
Theatre	0.30	0.39	0.42
	(0.12 - 0.76)	(0.16 - 0.95)	(0.17 - 1.08)
Goes to university clubs	0.20	0.45	0.51
and societies	(0.11 - 0.38)*	(0.25 - 0.82)	(0.27 - 0.97)
Goes to the cinema	0.28	0.37	0.43
	(0.17 - 0.47)*	(0.24 - 0.58)*	(0.27 - 0.70)*

Note * = $p < .05$ after Holm-Bonferroni correction; Effect sizes at reported as odds ratios with 95% confidence intervals. Polydrug is reference group

Friend's substance use

The initial model included a variable measuring if the participants had any friends who drank regularly; as this variable was non-significant it was not included in the final model. The proportion of participants who responded yes to the substance use questions included in the final model are shown in Table 45.

Table 45: Descriptive statistics for friend's substance use variables

	Alcohol	AT	ATC	Polydrug	x^2 test of significance	p value
Friend/s smoke cigarettes	68%	88%	93%	98%	59.378	.000
Friend/s smoke cannabis	24%	45%	71%	85%	40.452	.000
Friend/s use ecstasy or amphetamine	9%	15%	38%	77%	12.660	.005
Friend/s use cocaine	7%	12%	45%	83%	99.412	.000
Friend/s use heroin	2%	1%	1%	2%	34.893	.000
Friend/s use other drugs	6%	12%	37%	69%	26.359	.000
Friend/s been given a prison sentence	2%	3%	10%	28%	26.083	.000

Relative to Polydrug users, Alcohol users were less likely to have friends who have used cocaine or other drugs, or to have a friend/s who had been given a prison sentence (Table 46). Similarly AT users were less likely to have friends who use ecstasy, amphetamine, cocaine or other drugs and to have friends who had been given a prison sentence compared to the polydrug group. Differences between the Polydrug and ATC groups were less striking; ATC users were less likely to have friends who use cocaine or had been given a prison sentence. Interestingly, ATC and alcohol users were more likely to associate with people who they perceived to be heroin users when compared to the polydrug group.

Table 46: Multinomial logistic regression analysis for the friend's substance use variables

	Alcohol	AT	ATC
Friend/s smoke cigarettes	4.52	1.34	1.55
	(1.26 -16.18)	(0.37 - 4.82)	(0.42 - 5.74)
Friend/s smoke cannabis	2.05	0.98	0.59
	(1.07 - 3.93)	(0.53 - 1.82)	(0.31 - 1.12)
Friend/s use ecstasy or	1.93	2.66	2.44
amphetamine	(0.94 - 3.95)	(1.48 - 4.78)*	(1.37 - 4.35)
Friend/s use cocaine	14.54	10.47	3.04
	(7.09 - 29.81)*	(5.90 - 18.55)*	(1.70 - 5.44)*
Friend/s use heroin	0.02	0.07	0.36
	(0.00 - 0.09)*	(0.02 - 0.28)*	(0.08 - 1.57)
Friend/s use other drugs	3.99	3.14	1.51
	(2.02 - 7.86)*	(1.85 - 5.33)*	(0.90 - 2.51)
Friend/s been given a prison	7.57	4.38	2.54
sentence	(2.55 - 22.48)*	(2.24 - 8.55)*	(1.47 - 4.40)*

Note * = $p < .05$ after Holm-Bonferroni correction; Effect sizes at reported as odds ratios with 95% confidence intervals. Polydrug is reference group.

Drug abuse

Descriptive statistics for drug abuse behaviours by drug group are shown in Table 47.

Table 47: Descriptive statistics for drug abuse variables

	Alcohol	AT	ATC	Polydrug	x^2 test of significance	p value
Abuses more than one drug at a time	0%	0%	3%	30%	24.87	.000
Been in fights under the influence of drugs	0%	0%	1%	17%	13.63	.003
Snorted a drug within the last year	0%	0%	14%	53%	207.64	.000

Alcohol, AT and ATC users were less likely to report having snorted a drug within the last year (Table 48), than polydrug users. AT and ATC users were also less likely to report abusing more than one drug at a time the polydrug group.

Table 48: Multinomial logistic regression analysis for the drug abuse variables

	Alcohol	AT	ATC
Abuses more than one drug at a time	21.95 (2.52 - 190.90)	17.35 (3.28 - 91.85)*	5.46 (2.28 - 13.11)*
Been in fights under the influence of drugs	11.46 (1.02 - 128.92)	18.48 (1.65 - 207.42)	14.64 (1.79-119.63)
Snorted a drug within the last year	207.36 (27.94 - 1538.97)*	345.08 (46.60 - 2555.45)*	3.38 (2.00 - 5.69)*

Note * = $p < .05$ after Holm-Bonferroni correction; Effect sizes at reported as odds ratios with 95% confidence intervals. Polydrug is reference group

Delinquent acts

The initial model included variables measuring if the participants had stolen or ridden in a stolen vehicle; deliberately damaged or destroyed property not belonging to them; received a formal warning at a police station in the last year; been in court for anything they were charged with in the last year; been in a serious fight; and been arrested by the police in the last year. As these predictors were non-significant they were not included in the final model for delinquent acts. The proportions of the sample who engaged in the delinquent acts included in the final model are shown in Table 49.

Table 49: Descriptive statistics for delinquent act variables

	Alcohol	AT	ATC	Polydrug	x^2 test of significance	p value
Taken something from shop without paying in the last year	0%	2%	4%	11%	23.16	.000
Hit, kicked or punched someone on purpose to hurt or injure them	3%	5%	15%	31%	62.91	.000
Fight					10.28	.016
Ever belonged to a gang	1%	1%	3%	5%	13.01	.005
Been in trouble with the police in the past year	1%	3%	8%	11%	15.96	.001

Compared to the polydrug group, alcohol and AT users were less likely to have taken something from a shop without paying for it in the past year. Relative to the polydrug group alcohol and AT users were less likely to have hit, kicked or punched someone on purpose to hurt or injure them (Table 50).

Table 50: Multinomial logistic regression analysis for the delinquent act variables

	Alcohol	AT	ATC
Taken something from shop without paying in the last year	17.63 (3.85 - 80.80)*	4.35 (1.96 - 9.66)*	2.43 (1.11 - 5.31)
Hit, kicked or punched someone on purpose to hurt or injure them	10.72 (5.01 -22.91)*	7.02 (4.00 - 12.30)*	2.26 (1.32 - 3.86)
Fight	4.38 (1.34 - 14.29)	2.80 (1.24 - 6.33)	1.27 (0.62 - 2.60)
Ever belonged to a gang	13.62 (1.58 -117.24)	6.13 (1.68 - 22.42)	1.51 (0.55 - 4.19)
Been in trouble with the police in the past year	7.63 (2.07 - 28.12)	2.45 (1.13 - 5.32)	1.14 (0.56 - 2.31)

Note * = $p < .05$ after Holm-Bonferroni correction; Effect sizes at reported as odds ratios with 95% confidence intervals. Polydrug is reference group