

Efficacy of Brief Motivational Intervention with Young Adults to Address Alcohol Use and Related Problems

Jean-Bernard Daepfen

Jacques Gaume, Nicolas Bertholet, Mohamed Faouzi,
& Gerhard Gmel

*Alcohol Treatment Centre
Lausanne University Hospital, Switzerland*

Background

- Heavy drinking cause 31.5% of all death and 26.6% of disability-adjusted life years lost in people aged 25-29 years old in the developed world (Toumbourou et al. 2007)
- Many adolescents who drink heavily tend to grow out of their abuse pattern when they enter adulthood
- → important moment to conduct preventive actions
- Adolescents are particularly receptive to motivational methods avoiding argumentation and by accepting them as individuals without giving lectures
- Brief motivational interventions (BMI) has shown promising results for young people

Background

- Countries with mandatory army conscription offer the opportunity to conduct universal preventive actions
- In Switzerland :
 - virtually all non-institutionalized men are called for conscription at age 20
 - thus minimizing social status bias and issues of differential access to intervention.

Procedures

- Swiss army recruitment centre at Lausanne
- All French-speaking men at age 20
- Only men (women = only volunteer)
- No screening (blind the army, investigate low risk drinking reinforcement)
- A priori randomization (in advance, according to conscript number that we could not know in advance (blinded to selection))

Procedures

- Subjects included first completed a self-administered questionnaire
 - Demographics, alcohol use,
 - Binge drinking defined as 6 or more drinks in an occasion [one drink 10g pure alcohol]
 - Health and behavioral consequences of binge drinking (Wechsler 12 items questionnaire)
 - AUDIT, family history of alcohol problems
 - Importance and readiness to change
 - Tobacco and cannabis use

Procedures

- Considering that binge drinking typically characterizes heavy drinking in young men, subjects were classified **a posteriori** in two categories:
 - Binge drinkers: at least one occasion per month with 6+ drinks
 - Non-bingers

Intervention

- Two master-level psychologists trained in MI and BMI
- Counsellors training including (2x) two-day MI training, weekly individual supervision, monthly joint supervision (audiotapes reviewed with feedback about MI spirit, reflective listening techniques, eliciting change talk)
- Individual BMI sessions provided in separated room
- About 20-30 minutes interventions

Brief Motivational Intervention

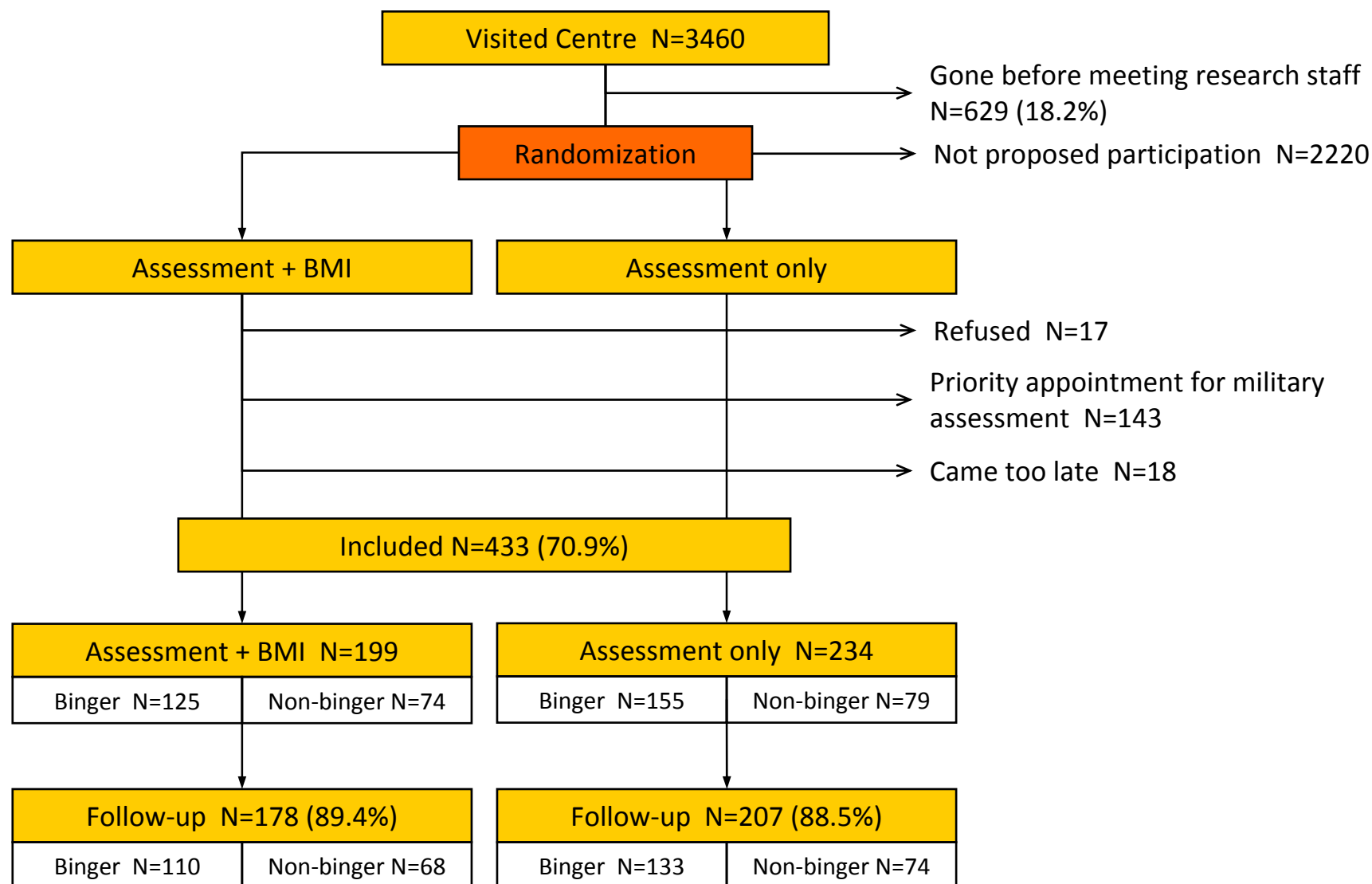
- Experience of FRAMES-like structured brief intervention
- Personal feedback might increase resistance, particularly in young adults
- Change talk might be the single most robust ingredient of BI efficacy
- Brief motivational intervention that took into consideration recent experiences with young adults

Brief Motivational Intervention

- Ask permission
- Gather information
- Evoke hypothetical change
- Explore importance, ability, and confidence to change
- Elicit commitment and identify an eventual change project

- Ask permission
- Gather information
- **In low-risk drinkers** evoke status quo
- Explore importance, ability, and confidence to maintain alcohol use
- Elicit commitment to maintain alcohol use

Trial profile



Follow-up

- 6 months after inclusion
- Telephone
- Interviewers blinded to subjects group allocation
- Contact letters and reminders to achieve high follow-rate

Baseline characteristics – Bingers

	BMI group N=125	Control group N=155	p value
Age, mean (SD)	19.9 (1.0)	19.9 (0.9)	0.59 (m)
Education: obligatory school only (vs further), n (%)	47 (37.6)	72 (46.5)	0.14 (c)
Professional status			
- Employed, n (%)	29 (23.2)	39 (25.2)	0.90 (c)
- In training, n (%)	92 (73.6)	112 (72.3)	
- Inactive, n (%)	4 (3.2)	4 (2.6)	
Living environment: Urban area, n (%)	62 (49.6)	78 (50.3)	0.90 (c)
# drinks/week, mean (SD)	11.3 (11.0)	10.1 (10.7)	0.49 (m)
# binge/month, mean (SD)	4.0 (3.7)	3.4 (3.1)	0.36 (m)
# alcohol-related consequence (12 possible), mean (SD)	3.0 (2.0)	3.1 (2.3)	0.84 (m)
AUDIT score ≥ 8 , n (%)	89 (71.2)	111 (71.6)	0.94 (c)
Have ≥ 1 person with alcohol problems in the family, n (%)	11 (8.8)	16 (10.3)	0.67 (c)
Importance to change (VAS 1-10), mean (SD)	2.6 (1.8)	2.7 (2.4)	0.16 (m)
Readiness to change (VAS 1-10), mean (SD)	3.5 (2.8)	3.5 (3.0)	0.71 (m)
Confidence to change (VAS 1-10), mean (SD)	7.2 (2.8)	7.7 (2.8)	0.05 (m)
Daily tobacco use, n (%)	39 (31.2)	50 (32.3)	0.85 (c)
Cannabis use $> 1x/week$, n (%)	13 (10.4)	18 (11.6)	0.75 (c)

Baseline to 6-month follow-up differences – Bingers

	BMI group N=110	Control group N=133	p value
# drinks/week, mean (SD)	-1.5 (13.2)	0.8 (10.7)	0.04 (m)
# binge/month, mean (SD)	-1.5 (3.4)	-0.8 (3.1)	0.03 (m)
# alcohol-related consequence (12 possible), mean (SD)	-0.3 (1.9)	-0.1 (2.1)	0.44 (m)
AUDIT score ≥ 8 , n (%)	-17 (-15.5)	-9 (-6.8)	0.10 (cc)
Importance to change (VAS 1-10), mean (SD)	-0.2 (1.7)	-0.4 (2.3)	0.97 (m)
Readiness to change (VAS 1-10), mean (SD)	-0.2 (3.6)	0.2 (3.9)	0.68 (m)
Confidence to change (VAS 1-10), mean (SD)	0.9 (3.2)	0.7 (2.8)	0.53 (m)
Daily tobacco use, n (%)	2 (1.8)	6 (4.5)	0.71 (cc)
Cannabis use > 1x/week, n (%)	-2 (-1.8)	1 (0.8)	0.40 (cc)

Regression models – Bingers

(baseline adjusted negative binomial regressions)

Outcome: Drinks/week at follow-up

	IRR	Std. Err.	z	P>z	[95 Conf	Interval]
BMI (vs Control)	0.80	0.08	-2.29	0.02	0.66	0.97
Drinks/week at baseline	1.05	0.01	8.26	0.00	1.04	1.06
Confidence VAS	0.98	0.02	-0.87	0.39	0.95	1.02

Outcome: Binge/month at follow-up

	IRR	Std. Err.	z	P>z	[95 Conf	Interval]
BMI (vs Control)	0.81	0.10	-1.68	0.09	0.63	1.04
Binge/month at baseline	1.15	0.02	7.26	0.00	1.11	1.19
Confidence VAS	0.99	0.02	-0.58	0.56	0.94	1.03

Outcome: # of consequences at follow-up

	IRR	Std. Err.	z	P>z	[95 Conf	Interval]
BMI (vs Control)	0.89	0.07	-1.42	0.16	0.76	1.04
# of consequences at baseline	1.14	0.02	7.44	0.00	1.10	1.17
Confidence VAS	0.99	0.01	-0.59	0.56	0.97	1.02

Baseline characteristics – Non-bingers

	BMI group N=74	Control group N=79	p value
Age, mean (SD)	19.8	20.2	0.10 (m)
Education: obligatory school only (vs further), n (%)	48.6	45.6	0.70 (c)
Professional status			
- Employed, n (%)	23	17.7	0.23 (c)
- In training, n (%)	71.6	81	
- Inactive, n (%)	5.4	1.3	
Living environment: Urban area, n (%)	54.1	58.2	0.60 (c)
# drinks/week, mean (SD)	2	1.7	0.29 (m)
# Binge/month, mean (SD)	0	0	1.00 (m)
# alcohol-related consequence (12 possible), mean (SD)	1.3	1.1	0.38 (m)
AUDIT score ≥ 8 , n (%)	6.8	8.9	0.63 (c)
Have ≥ 1 person with alcohol problems in the family, n (%)	13.5	8.9	0.36 (c)
Importance to change (VAS 1-10), mean (SD)	1.6	2.3	0.27 (m)
Readiness to change (VAS 1-10), mean (SD)	4	3.8	0.79 (m)
Confidence to change (VAS 1-10), mean (SD)	7.7	7.3	0.83 (m)
Daily tobacco use, n (%)	16.2	16.5	0.97 (c)
Cannabis use $> 1x/week$, n (%)	4.1	10.1	0.15 (c)

Baseline to 6-month follow-up differences – Non-bingers

	BMI group N=68	Control group N=74	p value
# drinks/week, mean (SD)	1.3 (3.8)	0.7 (2.5)	0.95 (m)
# Binge/month, mean (SD)	0.5 (1.4)	0.3 (0.7)	0.69 (m)
# alcohol-related consequence (12 possible), mean (SD)	-0.1 (1.2)	0.1 (1.0)	0.34 (m)
AUDIT score ≥ 8 , n (%)	9 (13.2)	4 (5.4)	0.05 (cc)
Importance to change (VAS 1-10), mean (SD)	-0.2 (2.2)	-0.4 (2.2)	0.27 (m)
Readiness to change (VAS 1-10), mean (SD)	0.0 (4.6)	0.2 (5.3)	0.56 (m)
Confidence to change (VAS 1-10), mean (SD)	0.7 (3.4)	1.5 (4.2)	0.42 (m)
Daily tobacco use, n (%)	-1 (-1.5)	-2 (-2.7)	na (cc)
Cannabis use > 1x/week, n (%)	0 (0.0)	-3 (-4.1)	na (cc)

Regression models – Non-bingers

(baseline adjusted negative binomial regressions)

Outcome: Drinks/week at follow-up

	IRR	Std. Err.	z	P>z	[95 Conf	Interval]
BMI (vs Control)	1.43	0.26	1.92	0.06	0.99	2.05
Drinks/week at baseline	1.18	0.05	4.06	0.00	1.09	1.28
Age	1.01	0.07	0.20	0.84	0.88	1.16

Outcome: Binge/month at follow-up

	IRR	Std. Err.	z	P>z	[95 Conf	Interval]
BMI (vs Control)	1.53	0.65	1.01	0.31	0.67	3.52
Binge/month at baseline	dropped					
Age	0.80	0.16	-1.12	0.26	0.54	1.18

Outcome: # of consequences at follow-up

	IRR	Std. Err.	Z	P>z	[95 Conf	Interval]
BMI (vs Control)	0.89	0.16	-0.65	0.52	0.62	1.27
# of consequences at baseline	1.63	0.10	8.05	0.00	1.45	1.84
Age	0.95	0.08	-0.68	0.50	0.81	1.11

BMI efficacy according to consequences mentioned at baseline

(baseline adjusted negative binomial regressions)

	IRR	Std. Err.	z	P>z	[95% Conf. Interv.]	
<i>>= 3 Consequences (N=137)</i>						
BMI (vs Control)	0.75	0.11	-1.96	0.05	0.57	1.00
<i>HANGOVER (N=283)</i>						
BMI (vs Control)	0.79	0.08	-2.44	0.02	0.66	0.96
<i>ABSENT AT WORK (N=37)</i>						
BMI (vs Control)	0.44	0.10	-3.53	0.00	0.28	0.70
<i>LATE AT WORK (N=37)</i>						
BMI (vs Control)	0.50	0.14	-2.46	0.01	0.28	0.87
<i>ARGUMENT (N=63)</i>						
BMI (vs Control)	0.60	0.13	-2.42	0.02	0.39	0.91
<i>UNPLANNED SEX (N=92)</i>						
BMI (vs Control)	0.55	0.10	-3.36	0.00	0.38	0.78
<i>UNPROTECTED SEX (N=33)</i>						
BMI (vs Control)	0.38	0.11	-3.31	0.00	0.22	0.68

Discussion

- In bingers, BMI significantly
 - Reduced drinks per week at 6-month follow-up**
 - 13.2% in BMI group
 - +7.9% in control group
 - Reduced (trend) of binge episodes per month at 6-month follow-up**
 - 37.5% in BMI group
 - 23.5% in control group
 - No effect on alcohol-related consequences**

Discussion

- In non-bingers, BMI
 - **Increased (trend) drinks per week at 6-month follow-up**
 - + 65.0 % in BMI group (3.7 drinks/week)
 - + 41.2 % in control group (2.7 drinks/week)
 - **No effect on progression of binge episodes per month at 6-month follow-up**
 - **No effect on progression of alcohol-related consequences experienced at 6-month follow-up**

Limitations

- Potential bias since some subjects were considered ineligible for service in the Swiss army before being offered to participate in our project
- No women and foreigners
- Limited sample size and low statistical power, particularly in non-bingers