

## Tables

**Table 1**

**Prevalence and treatment rates of 12-months DSM-IV alcohol use disorder diagnoses in PC sample (N=8,476)**

	Alcohol abuse without alcohol dependence			Alcohol dependence <sup>a</sup>		
	male	female	total	male	female	total
<b>Percentage diagnosed</b>	5.3	1.7	3.1	14.6	4.8	8.7
<i>% (CI)</i>	(4.6 - 6.0)	(1.4 - 2.1)	(2.8 - 3.5)	(13.4 - 15.7)	(4.2 - 5.3)	(8.1 - 9.3)
<b>Sought and received</b>	5.5	2.9	4.7	24.1	18.6	22.3
<b>current professional help</b>	(1.9 - 9.1)	(0.0 - 6.2)	(2.0 - 7.3)	(20.4 - 27.8)	(13.7 - 23.5)	(19.4 - 25.2)
<i>% (CI)</i>						
<b>Lifetime but no current</b>	4.7	2.7	4.0	15.3	10.2	13.6
<b>profesional help % (CI)</b>	(1.6 - 7.7)	(0.0 - 5.9)	(1.7 - 6.3)	(11.9 - 18.7)	(5.9 - 14.6)	(10.9 - 16.2)

*Note.* DSM-IV = Diagnostic and Statistical Manual of Mental Disorders, 4<sup>th</sup> edition. PC = primary care.

<sup>a</sup> Figures for alcohol dependence are part of a submitted publication [34].

Table 2a

Key alcohol measures across different diagnostic categories for women, excluding abstainers from alcohol samples <sup>a</sup>

	From PC sample				From SC sample		Total	Linear test	
	No alcohol use disorder	AA without treatment	AD without treatment	AUD with treatment	<4 DSM-5 criteria	>=4 DSM-5 criteria		Coefficient / OR (95% CI) <sup>b</sup>	P value
<b>N</b>	4,670	22	91	22	100	272	5,177		
<b>Amount of ethanol used daily (in gram) mean (SD)</b>	3.3 (8.4)	33.2 (50.7)	43.3 (48.1)	64.9 (62.7)	94.7 (81.1)	113.1 (86.1)	11.7 (37.0)	21.67 (19.72 - 23.63)	< .001 <sup>c</sup>
<b>Chronic heavy drinking % (CI)</b> at least 100g ethanol daily	0.1 (0.0 - 0.1)	4.6 (0.0 - 13.3)	9.3 (3.1 - 15.4)	23.1 (5.2 - 41.1)	33.0 (23.8 - 42.2)	44.5 (38.6 - 50.4)	3.2 (2.8 - 3.7)	3.79 (3.32 - 4.34)	< .001 <sup>c</sup>
<b>Binge drinking % (CI)</b> at least 200g ethanol at least weekly	0.1 (0.0 - 0.2)	4.6 (0.0 - 13.3)	10.2 (3.9 - 16.6)	19.2 (2.3 - 36.2)	25.0 (16.5 - 33.5)	29.0 (23.6 - 34.4)	2.3 (1.9 - 2.7)	3.30 (2.86 - 3.81)	< .001 <sup>c</sup>
<b>Number of heavy drinking days in past 30 days <sup>d</sup> mean (SD)</b>	0.1 (0.7)	2.5 (2.8)	2.8 (5.2)	4.8 (7.2)	11.4 (13.1)	15.7 (10.6)	1.2 (4.8)	2.41 (2.11 - 2.72)	< .001 <sup>c</sup>

Notes. PC sample = four groups of patients sampled from primary care settings across six countries. SC sample = two groups of patients sampled from specialized care settings for alcohol treatment across eight countries. AA = alcohol abuse. AD = alcohol dependence. AUD = alcohol use disorder. DSM-5 = Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. OR = Odds Ratio. CI = confidence interval. SD = standard deviation.

Grouping variable was defined as follows with all diagnoses referring to past 12 months: 1 = no alcohol use disorder at all. 2 = AA (no AD) but not in treatment. 3 = AD but not in treatment. 4 = AUD (AA or AD) in treatment. 5 = in specialized care meeting at most three current DSM-5 alcohol use disorder criteria. 6 = in specialized care meeting at least four current DSM-5 alcohol use disorder criteria.

<sup>a</sup> Patients reporting less than 10g daily ethanol intake on average (i.e. 1 standard drink) in the past year were excluded. In total, 336 female patients were excluded from the five groups.

<sup>b</sup> For continuous outcomes (amount of ethanol used daily, number of heavy drinking days), weighted linear regressions were run using grouping variable, age and country as predictors. For dichotomous outcomes (all remaining variables), weighted logistic regressions were run using the same predictors. Coefficients and Odds Ratios of the grouping variable are reported, for linear and logistic regressions, respectively.

<sup>c</sup> significant Bonferroni-adjusted p-value:  $p < \alpha = 0.01/4 = 0.0025$  ; Adjustment for 4 analyses using the same female sample (excluding abstainers).

<sup>d</sup> was not assessed in Germany (both in PC and SC sample).

Table 2b

Key alcohol measures across different diagnostic categories for men, excluding abstainers from alcohol samples<sup>a</sup>

	From PC sample				From SC sample		Total	Linear test	
	No alcohol use disorder	AA without treatment	AD without treatment	AUD with treatment	<4 DSM-5 criteria	>=4 DSM-5 criteria		Coefficient / OR (95% CI) <sup>b</sup>	P value
<b>N</b>	2,695	111	267	98	308	783	4,262		
<b>Amount of ethanol used daily (in gram) mean (SD)</b>	10.6 (18.4)	37.1 (36.1)	50.8 (45.7)	89.6 (77.2)	123.4 (104.1)	163.7 (128.0)	51.7 (90.5)	30.54 (28.90 - 32.18)	< .001 <sup>c</sup>
<b>Chronic heavy drinking % (CI) at least 100g ethanol daily</b>	0.8 (0.4 - 1.1)	5.1 (1.0 - 9.1)	12.6 (8.5 - 16.7)	28.9 (19.5 - 38.4)	46.8 (41.2 - 52.3)	62.3 (58.9 - 65.7)	16.9 (15.7 - 18.0)	3.10 (2.87 - 3.35)	< .001 <sup>c</sup>
<b>Binge drinking % (CI) at least 200g ethanol at least weekly</b>	1.0 (0.7 - 1.4)	10.7 (4.7 - 16.6)	15.6 (11.1 - 20.2)	21.8 (13.2 - 30.5)	38.0 (32.6 - 43.4)	49.9 (46.4 - 53.4)	14.3 (13.2 - 15.3)	2.60 (2.44 - 2.79)	< .001 <sup>c</sup>
<b>Number of heavy drinking days in past 30 days<sup>d</sup> mean (SD)</b>	0.6 (1.8)	3.4 (7.0)	4.0 (7.0)	4.7 (7.9)	11.3 (12.6)	16.4 (10.9)	4.7 (9.0)	2.61 (2.44 - 2.78)	< .001 <sup>c</sup>

Notes. PC sample = four groups of patients sampled from primary care settings across six countries. SC sample = two groups of patients sampled from specialized care settings for alcohol treatment across eight countries. AA = alcohol abuse. AD = alcohol dependence. AUD = alcohol use disorder. DSM-5 = Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. OR = Odds Ratio. CI = confidence interval. SD = standard deviation.

Grouping variable was defined as follows with all diagnoses referring to past 12 months: 1 = no alcohol use disorder at all. 2 = AA (no AD) but not in treatment. 3 = AD but not in treatment. 4 = AUD (AA or AD) in treatment. 5 = in specialized care meeting at most three current DSM-5 alcohol use disorder criteria. 6 = in specialized care meeting at least four current DSM-5 alcohol use disorder criteria.

<sup>a</sup> Patients reporting less than 10g daily ethanol intake on average (i.e. 1 standard drink) in the past year were excluded. In total, 461 male patients were excluded from the five groups.

<sup>b</sup> For continuous outcomes (amount of ethanol used daily, number of heavy drinking days), weighted linear regressions were run using grouping variable, age and country as predictors. For dichotomous outcomes (all remaining variables), weighted logistic regressions were run using the same predictors. Coefficients and Odds Ratios of the grouping variable are reported, for linear and logistic regressions, respectively.

<sup>c</sup> significant Bonferroni-adjusted p-value:  $p < \alpha = 0.01/4 = 0.0025$  ; Adjustment for 4 analyses using the same male sample (excluding abstainers).

<sup>d</sup> was not assessed in Germany (both in PC and SC sample).

Table 3a

## Comorbidities across different diagnostic categories for women

	From PC sample				From SC sample		Total	Linear test	
	No alcohol use disorder	AA without treatment	AD without treatment	AUD with treatment	<4 DSM-5 criteria	>=4 DSM-5 criteria		OR (95% CI), p-value) <sup>b</sup>	P value
<b>N</b>	4,670	92	214	51	165	321	5,513		
<b>Hypertension<sup>a</sup></b>	23.5	20.3	28.0	40.1	20.4	17.7	23.4	0.97	.382
% (CI)	(22.3 - 24.7)	(12.1 - 28.4)	(21.9 - 34.1)	(26.0 - 54.2)	(14.1 - 26.7)	(12.9 - 22.4)	(22.3 - 24.5)	(0.91 - 1.04)	
<b>Liver<sup>a</sup></b>	1.5	1.2	7.6	26.4	13.3	17.3	3.0	1.74	< .001 <sup>c</sup>
% (CI)	(1.2 - 1.9)	(0.0 - 3.5)	(3.9 - 11.3)	(13.8 - 39.0)	(8.0 - 18.6)	(12.6 - 22.0)	(2.6 - 3.5)	(1.60 - 1.89)	
<b>Depression<sup>a</sup></b>	7.7	9.8	13.1	32.9	56.7	53.8	11.7	1.71	< .001 <sup>c</sup>
% (CI)	(6.9 - 8.5)	(3.9 - 15.7)	(8.3 - 17.9)	(18.4 - 46.6)	(48.9 - 64.4)	(47.6 - 60.0)	(10.8 - 12.6)	(1.61 - 1.82)	
<b>Anxiety<sup>a</sup></b>	10.6	10.8	18.3	34.7	62.4	57.4	14.7	1.69	< .001 <sup>c</sup>
% (CI)	(9.7 - 11.5)	(4.7 - 17.0)	(13.0 - 23.5)	(20.8 - 48.5)	(54.8 - 70.0)	(51.3 - 63.6)	(13.8 - 15.7)	(1.60 - 1.79)	
<b>K10 reached cutoff for severe mental distress % (CI)</b>	5.8 (5.2 - 6.5)	4.5 (0.2 - 8.8)	13.9 (9.1 - 18.6)	13.4 (2.9 - 23.9)	28.5 (21.6 - 35.4)	50.5 (45.0 - 56.0)	9.4 (8.6 - 10.2)	1.68 (1.60 - 1.78)	< .001 <sup>c</sup>

Notes. PC sample = four groups of patients sampled from primary care settings across six countries. SC sample = two groups of patients sampled from specialized care settings for alcohol treatment across eight countries. AA = alcohol abuse. AD = alcohol dependence. AUD = alcohol use disorder. DSM-5 = Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. OR = Odds Ratio. CI = confidence interval. **BMI = Body-Mass-Index**. SD = standard deviation. K10 = Kessler Psychological Distress Scale; cutoff for severe mental distress was 21 points in a total score range from 0 – 40. Grouping variable was defined as follows with all diagnoses referring to past 12 months: 1 = no alcohol use disorder at all. 2 = AA (no AD) but not in treatment. 3 = AD but not in treatment. 4 = AUD (AA or AD) in treatment. 5 = in specialized care meeting at most three current DSM-5 alcohol use disorder criteria. 6 = in specialized care meeting at least four current DSM-5 alcohol use disorder criteria.

<sup>a</sup> assessed by GP in PC sample and by interview in SC sample, except for Latvia (also GP assessed in SC sample). Variables were not assessed in Polish SC sample.

<sup>b</sup> Weighted logistic regressions were run using grouping variable, age and country as predictors. Odds Ratios of the grouping variable are reported.

<sup>c</sup> significant Bonferroni-adjusted p-value:  $p < \alpha = 0.01/16 = 0.0006$ ; Adjustment for 16 analyses using the same female sample (Table 3, Web Table 2 & Web Table 3).

Table 3b

## Comorbidities across different diagnostic categories for men

	From PC sample				From SC sample		Total	Linear test	
	No alcohol use disorder	AA without treatment	AD without treatment	AUD with treatment	<4 DSM-5 criteria	>=4 DSM-5 criteria		OR (95% CI), p-value) <sup>b</sup>	P value
<b>N</b>	2,695	186	423	145	403	871	4,723		
<b>Hypertension<sup>a</sup></b>	29.7	24.4	31.2	44.6	22.1	21.7	28.2	0.93	< .001 <sup>c</sup>
% (CI)	(28.0 - 31.5)	(18.1 - 30.7)	(26.7 - 35.7)	(36.1 - 53.0)	(17.9 - 26.3)	(18.5 - 24.8)	(26.9 - 29.5)	(0.89 - 0.97)	
<b>Liver<sup>a</sup></b>	2.2	3.6	10.9	28.8	20.8	21.2	8.3	1.67	< .001 <sup>c</sup>
% (CI)	(1.6 - 2.8)	(0.9 - 6.4)	(8.0 - 13.9)	(20.8 - 36.7)	(16.7 - 24.9)	(18.1 - 24.3)	(7.4 - 9.1)	(1.58 - 1.77)	
<b>Depression<sup>a</sup></b>	5.4	8.1	10.5	19.5	33.5	41.8	14.3	1.63	< .001 <sup>c</sup>
% (CI)	(4.5 - 6.2)	(4.1 - 12.9)	(7.5 - 13.5)	(12.9 - 26.1)	(28.8 - 38.3)	(38.1 - 45.6)	(13.2 - 15.3)	(1.55 - 1.71)	
<b>Anxiety<sup>a</sup></b>	6.5	9.8	14.1	27.1	43.7	48.7	17.5	1.73	< .001 <sup>c</sup>
% (CI)	(5.5 - 7.4)	(5.5 - 14.1)	(10.8 - 17.5)	(19.5 - 34.7)	(38.7 - 48.7)	(44.9 - 52.5)	(16.3 - 18.6)	(1.65 - 1.82)	
<b>K10 reached cutoff for severe mental distress % (CI)</b>	4.0 (3.3 - 4.8)	3.8 (1.1 - 6.5)	8.2 (5.5 - 10.9)	19.0 (12.4 - 25.6)	20.4 (16.5 - 24.3)	39.4 (36.1 - 42.7)	12.8 (11.9 - 13.8)	1.73 (1.64 - 1.82)	< .001 <sup>c</sup>

Notes. PC sample = four groups of patients sampled from primary care settings across six countries. SC sample = two groups of patients sampled from specialized care settings for alcohol treatment across eight countries. AA = alcohol abuse. AD = alcohol dependence. AUD = alcohol use disorder. DSM-5 = Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. OR = Odds Ratio. CI = confidence interval. **BMI = Body-Mass-Index**. SD = standard deviation. K10 = Kessler Psychological Distress Scale; cutoff for severe mental distress was 21 points in a total score range from 0 – 40. Grouping variable was defined as follows with all diagnoses referring to past 12 months: 1 = no alcohol use disorder at all. 2 = AA (no AD) but not in treatment. 3 = AD but not in treatment. 4 = AUD (AA or AD) in treatment. 5 = in specialized care meeting at most three current DSM-5 alcohol use disorder criteria. 6 = in specialized care meeting at least four current DSM-5 alcohol use disorder criteria.

<sup>a</sup> assessed by GP in PC sample and by interview in SC sample, except for Latvia (also GP assessed in SC sample). Variables were not assessed in Polish SC sample.

<sup>b</sup> Weighted logistic regressions were run using grouping variable, age and country as predictors. Odds Ratios of the grouping variable are reported.

<sup>c</sup> significant Bonferroni-adjusted p-value:  $p < \alpha = 0.01/16 = 0.0006$ ; Adjustment for 16 analyses using the same male sample (Table 3, Web Table 2 & Web Table 3).

## Figure

### **Figure 1:**

*Title:* Disability measures by severity of alcohol use disorder

*Legend:* White bar: no alcohol use disorder

Grey (level 1) bar: alcohol abuse without treatment

Grey (level 2) bar: alcohol dependence without treatment

Grey (level 3) bar: alcohol use disorder with treatment

Grey (level 4) bar: SC patients, at most 3 criteria

Grey (level 5) bar: SC patients, at least 4 criteria

## Appendices

**Web Table 1:** Sample size by country and sample type

**Web-Table 2a:** Key socio-demographic variables across different diagnostic categories for women

**Web-Table 2b:** Key socio-demographic variables across different diagnostic categories for men

**Web Table 3:** Functionality measures across different diagnostic categories by sex

**Web Table 4:** Prediction of treatment (model 1) and sample origin (model 2) and model accuracy

**Web Table 5:** Results from logistic regression in predicting treatment status (model 1) and sample origin (model 2)

**Web Figure 1:** Forest plot of meta analysis on country-specific logits on treatment prediction (model 1b): heterogeneity of ‘unemployment’

**Web Figure 2:** Forest plot of meta analysis on country-specific logits on treatment prediction (model 1b): heterogeneity of ‘unemployment’ – females only

**Web Figure 3:** Forest plot of meta analysis on country-specific logits on treatment prediction (model 1b): heterogeneity of ‘unemployment’ – males only

**Web Figure 4:** Forest plot of meta analysis on country-specific logits on treatment prediction (model 1b): heterogeneity of ‘liver problems’

**Web Figure 5:** Forest plot of meta analysis on country-specific logits on treatment prediction (model 1b): heterogeneity of ‘liver problems’ – females only

**Web Figure 6:** Forest plot of meta analysis on country-specific logits on treatment prediction (model 1b): heterogeneity of ‘liver problems’ - males only

**Web Figure 7:** Forest plot of meta analysis on country-specific logits on treatment prediction (model 1b): heterogeneity of ‘anxiety’

**Web Figure 8:** Forest plot of meta analysis on country-specific logits on treatment prediction (model 1b): heterogeneity of ‘anxiety’ – females only

**Web Figure 9:** Forest plot of meta analysis on country-specific logits on treatment prediction (model 1b): heterogeneity of ‘anxiety’ – males only

**Web Figure 10:** Forest plot of meta analysis on country-specific logits on treatment prediction (model 1b): heterogeneity of ‘inpatient nights’

**Web Figure 11:** Forest plot of meta analysis on country-specific logits on treatment prediction (model 1b): heterogeneity of ‘inpatient nights’ – females only

**Web Figure 12:** Forest plot of meta analysis on country-specific logits on treatment prediction (model 1b): heterogeneity of ‘inpatient nights’ – males only

**Web Figure 13:** Forest plot of meta analysis on country-specific logits on sample origin prediction (model 1b): heterogeneity of ‘daily ethanol intake’

**Web Figure 14:** Forest plot of meta analysis on country-specific logits on sample origin prediction (model 1b): heterogeneity of ‘daily ethanol intake’ – females only

**Web Figure 15:** Forest plot of meta analysis on country-specific logits on sample origin prediction (model 1b): heterogeneity of 'daily ethanol intake' – males only

**Web Figure 16:** Forest plot of meta analysis on country-specific logits on sample origin prediction (model 2b): heterogeneity of 'unmarried'

**Web Figure 17:** Forest plot of meta analysis on country-specific logits on sample origin prediction (model 2b): heterogeneity of 'unmarried' – females only

**Web Figure 18:** Forest plot of meta analysis on country-specific logits on sample origin prediction (model 2b): heterogeneity of 'unmarried' – males only

**Web Figure 19:** Forest plot of meta analysis on country-specific logits on sample origin prediction (model 2b): heterogeneity of 'liver problems'

**Web Figure 20:** Forest plot of meta analysis on country-specific logits on sample origin prediction (model 2b): heterogeneity of 'liver problems' – females only

**Web Figure 21:** Forest plot of meta analysis on country-specific logits on sample origin prediction (model 2b): heterogeneity of 'liver problems' – males only

**Web Figure 22:** Forest plot of meta analysis on country-specific logits on sample origin prediction (model 2b): heterogeneity of 'anxiety'

**Web Figure 23:** Forest plot of meta analysis on country-specific logits on sample origin prediction (model 2b): heterogeneity of 'anxiety' – females only

**Web Figure 24:** Forest plot of meta analysis on country-specific logits on sample origin prediction (model 2b): heterogeneity of 'anxiety' – males only

**Web Figure 25:** Forest plot of meta analysis on country-specific logits on sample origin prediction (model 2b): heterogeneity of 'inpatient nights'

**Web Figure 26:** Forest plot of meta analysis on country-specific logits on sample origin prediction (model 2b): heterogeneity of 'inpatient nights' – females only

**Web Figure 27:** Forest plot of meta analysis on country-specific logits on sample origin prediction (model 2b): heterogeneity of 'inpatient nights' – males only



**Web Figure 28:** Forest plot of meta analysis on country-specific logits on sample origin prediction (model 2b): heterogeneity of 'daily ethanol intake'

**Web Figure 29:** Forest plot of meta analysis on country-specific logits on sample origin prediction (model 2b): heterogeneity of 'daily ethanol intake' – females only

**Web Figure 30:** Forest plot of meta analysis on country-specific logits on sample origin prediction (model 2b): heterogeneity of 'daily ethanol intake' – males only