

# Social contexts of drinking resulting in acute alcohol intoxication among adolescents

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# 1. Background

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- Probability for episodic heavy drinking (EHD) is increased
  - at public places (Demers et al. 2002)
  - at parties (Harford et al. 2002; Piontek et al. 2013)
  - in presence of peers (Mayer et al. 1998)
  - at weekend (Piontek et al. 2013)
  
- Acute alcohol intoxication (AAI) is associated with
  - consumption of mainly spirits (Kraus et al. 2013)
  - a drinking situation with friends (Kraus et al. 2013; Stolle et al. 2010; van Hoof et al. 2010)
  - drinking on the way/ outside (Kraus et al.,2013) on the streets (van Hoof et al. 2010)
  - drinking at home or friend's home (van Hoof et al. 2010)

# 1. Background

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- Severity of intoxication and socio-demographic factors
  - Higher blood alcohol concentration (BAC) among older adolescents, males, adolescents with a higher educational level, working adolescents ([Stolle et al. 2010](#); [Van Hoof et al. 2010](#); [Van Zanten et al. 2013](#))
- Increasing no. of hospital admissions due to AAI among adolescents between 2000 and 2010 ([Federal Statistical Office 2013](#))
  - 30-day prevalence of EHD among adolescents did not increase between 2003/2004 and 2011 ([Kraus et al. 2012](#); [BZgA 2012](#))

## 2. Aims

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1. Description of the social context of drinking, that lead to an acute alcohol intoxication
2. Analyses of the association between social context of drinking and the severity of intoxication
3. Analyses if the social context of drinking is associated with time  
→ Analyse if changes in social context of drinking over time contribute to the explanation of the increasing no. of hospital admissions.

## 3. Methods

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- Multicentre retrospective cohort study
  - 3 study centres: Dresden, Munich, Rostock
  - Full survey 2000 - 2006; additional sample from 2007
  - n = 1,546
  
- Inclusion criteria
  - Inpatient treatment between 2000 and 2007
  - Age 11 - 17 years at admission
  - Diagnosis: acute alcohol intoxication (F10.0 or T51.0/T51.9 )

# 3. Methods

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- Proceedings
  - Patients were identified through clinic information system
  - Chart review:
    - Patient characteristics
    - Psychological and behavioural disorders
    - Substance use
    - Medical care
    - Laboratory parameters
    - Social context of intoxication

## 3. Methods

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- Variables and analyses
  - Descriptive analysis of patients' admission, BAC, admission context, drinking situation, drinking occasion, consumed beverages
  - Regression analysis to predict BAC with age, gender, study centre, year of admission und social context variables
  - Regression analysis including interaction of social context of drinking and time/ gender
  - Descriptive time trend analysis of the social context of drinking

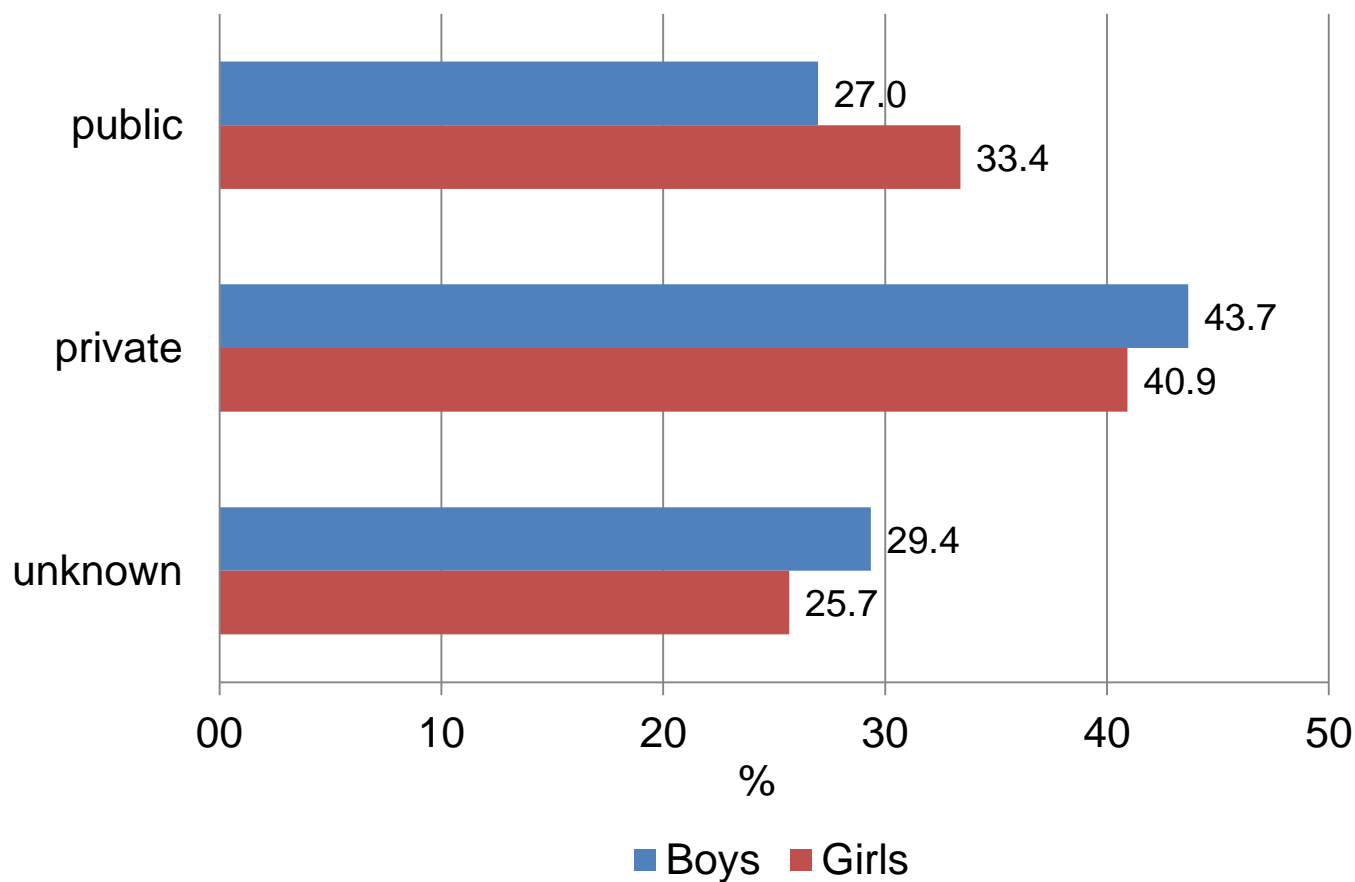
## 4. Results: drinking situation

	<b>Boys</b> (n = 923)	<b>Girls</b> (n = 623)
Day of admission, n (%)		
Weekday (Monday - Thursday)	291 (31.5)	180 (28.9)
Weekend (Friday - Sunday)	630 (68.3)	440 (70.6)
Admission time, n (%)		
Daytime (7am – 6pm)	154 (16.7)	78 (12.5)
Night-time (6pm – 7am)	763 (82.7)	536 (86.0)
Holiday, n (%)		
School week	599 (64.9)	407 (65.3)
Holidays	266 (28.8)	170 (27.3)
Local festivities, n (%)	173 (18.7)	107 (17.2)
BAC per mill, m (SD)	1.65 (0.59)	1.49 (0.57)



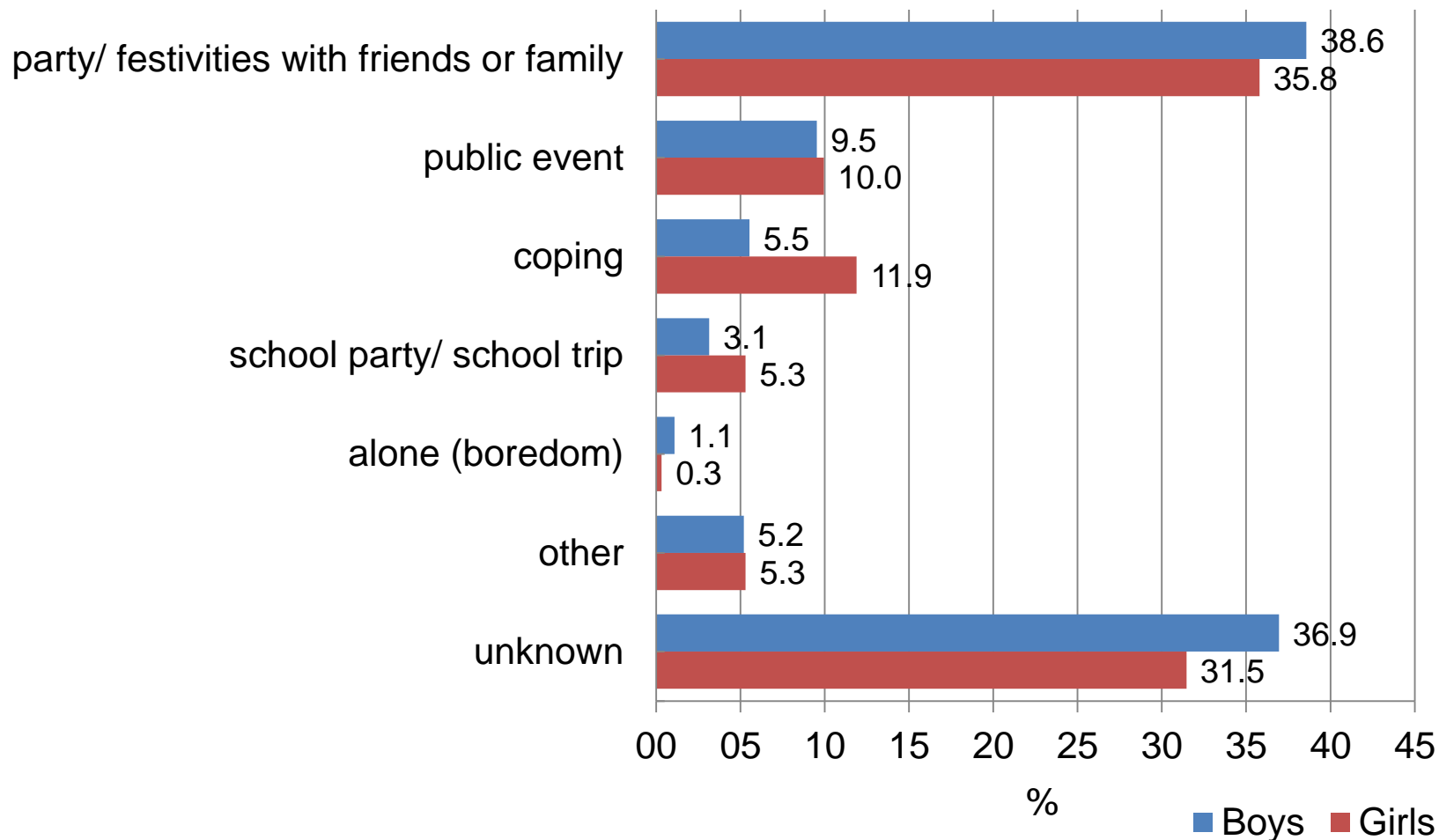
## 4. Results: drinking context I

### Drinking situation



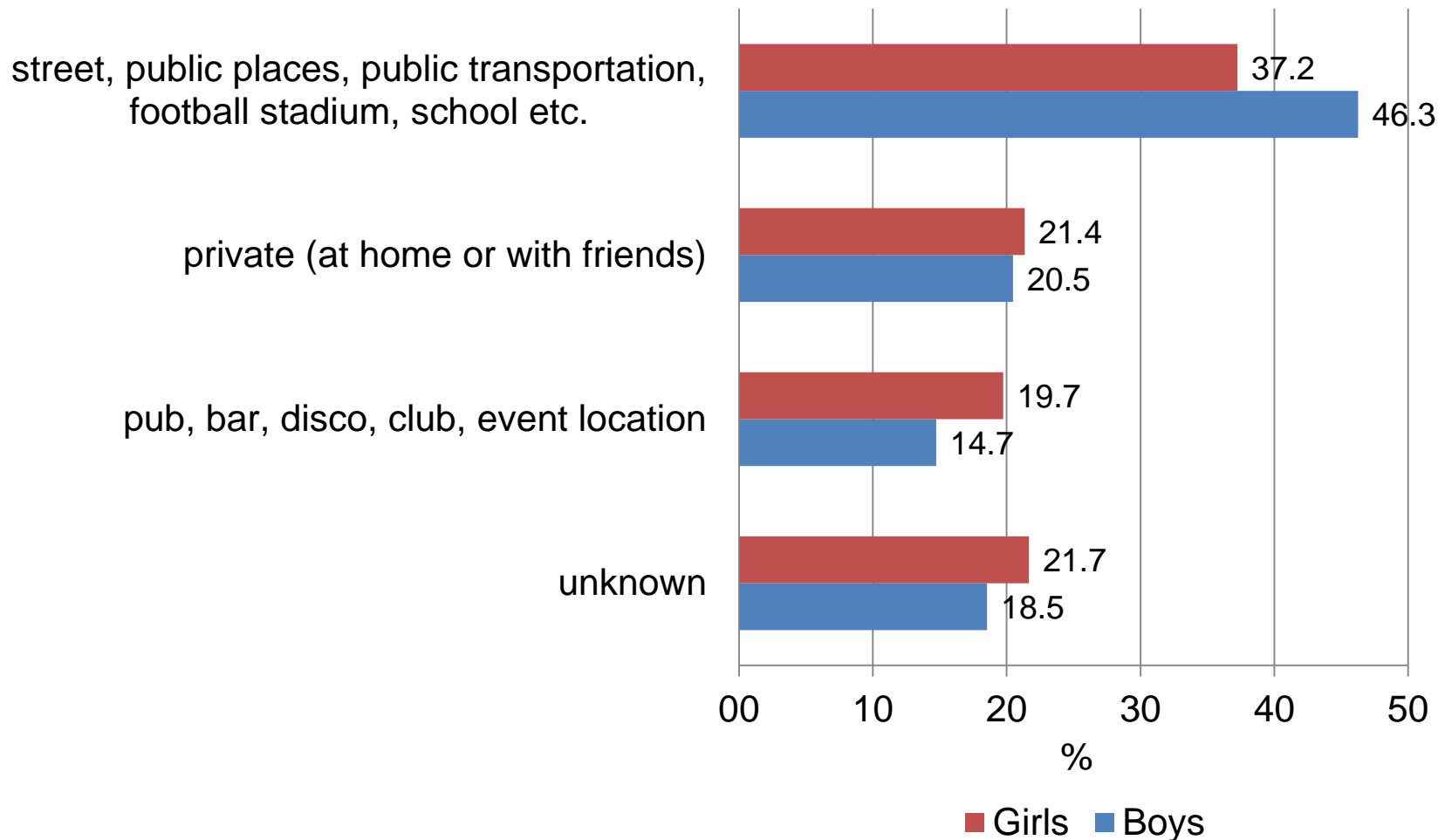
## 4. Results: drinking context II

### Drinking occasion



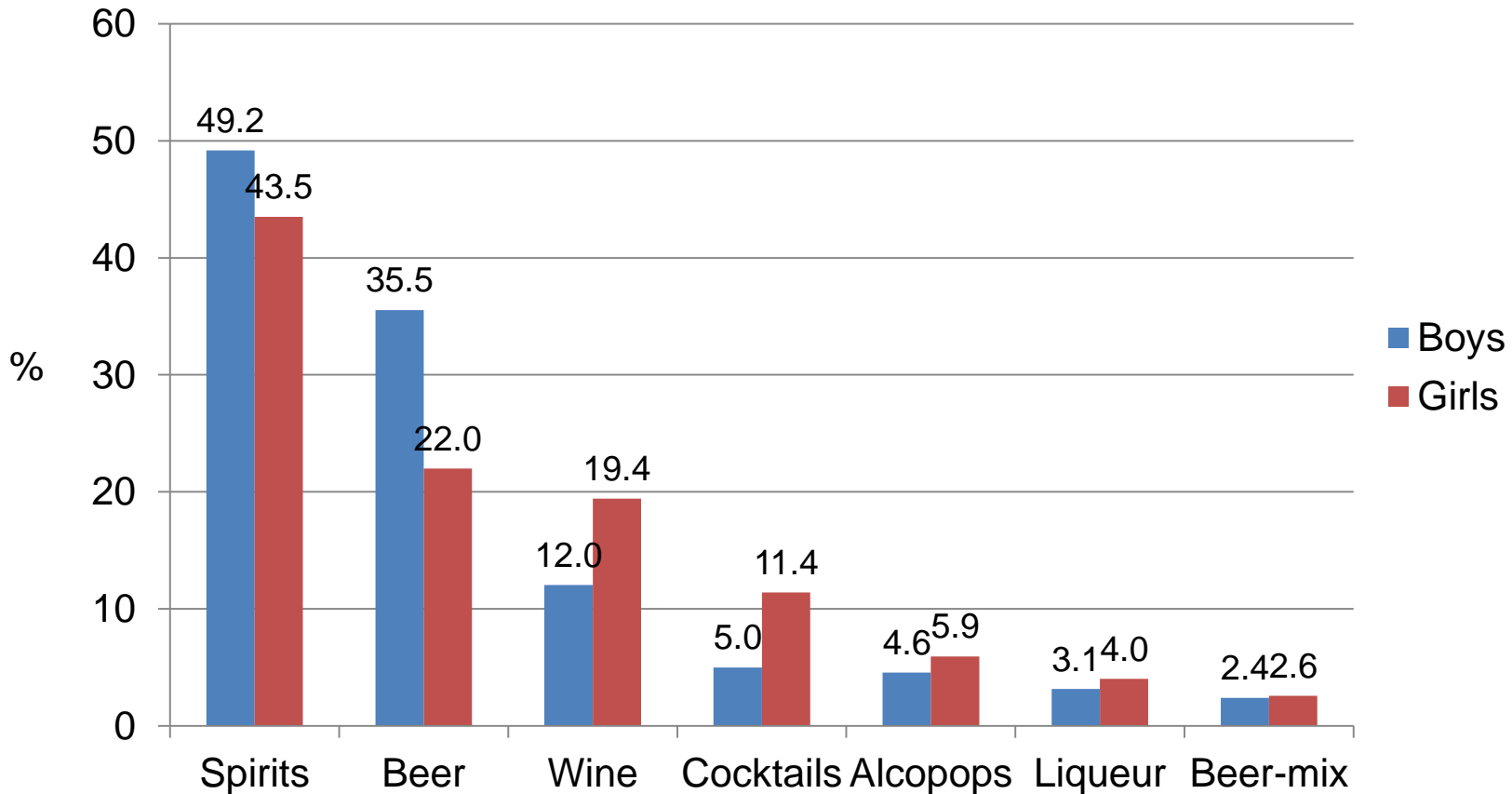
# 4. Results: drinking context III

## Admission context



## 4. Results: drinking context IV

### Beverages consumed



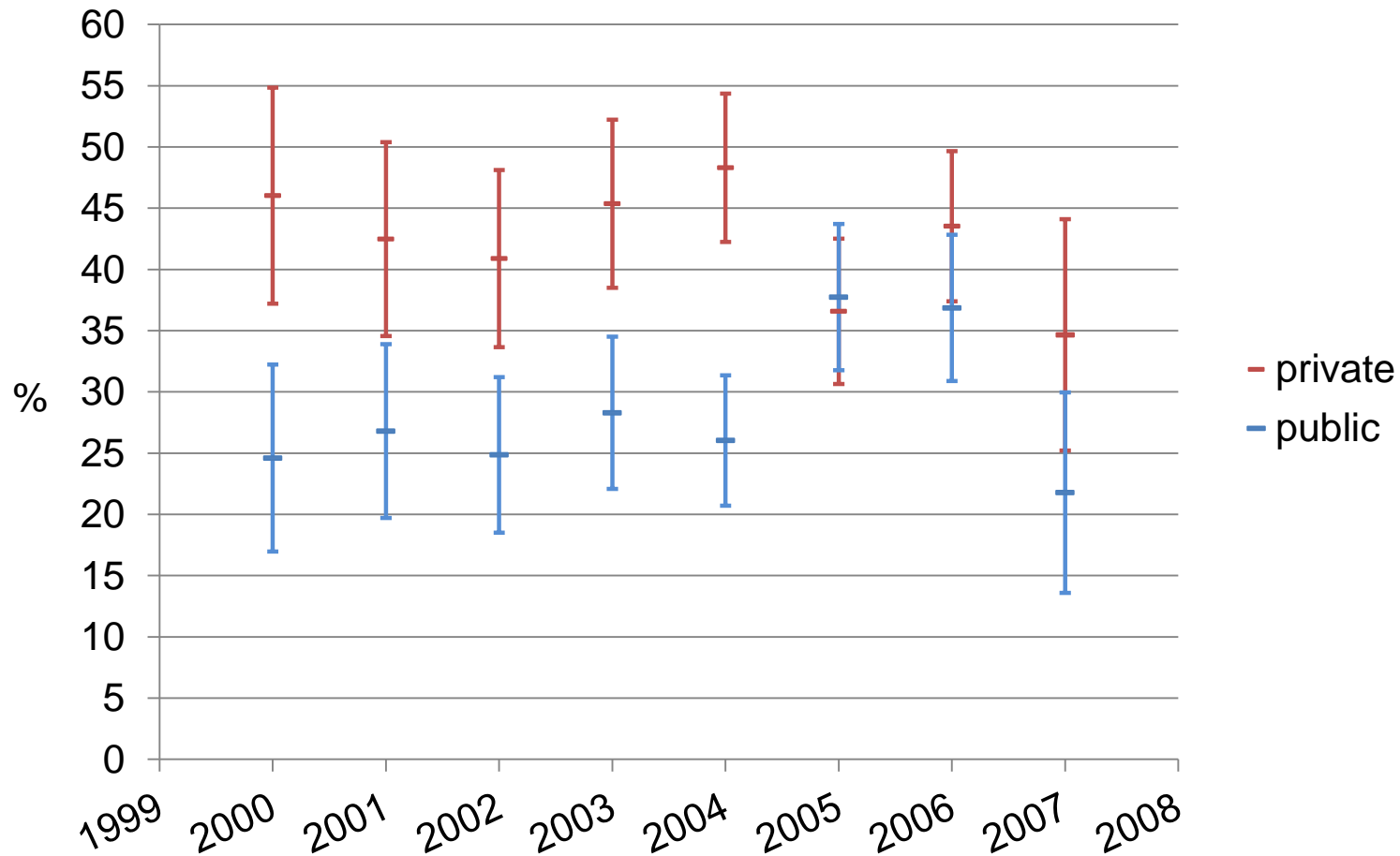
# 4. Results: prediction BAC

	<b>Coeff.</b>	<b>95 %</b>	<b>KI</b>	<b>Sig.</b>
Gender female	-0.11	0.01	-0.19	*
Age	0.03	0.00	0.07	*
Study centre				
Dresden	0			*
Munich	0.13	0.02	0.25	
Admission context				
Private (at home or with friends)	0			
Street, public places, public transportation, ...	0.14	0.04	0.23	*
Drinking occasion				
Party/ festivities with friends or family	0			
Coping	-0.25	-0.39	-0.12	**
Consumed beverages				
Beer	-0.10	-0.18	-0.01	*
Beer-mix	-0.50	-0.73	-0.27	**
Wine	-0.17	-0.27	-0.06	*
Spirits	0.17	0.09	0.24	**

\*\* p<0,001; \* p< 0,05

# 4. Results: drinking situation over time

## Drinking situation over time



## 5. Limitations

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- Information from routine documentation
  - A lot of missing data concerning context variables and especially socio-demographic variables
    - No differentiation between party/ festivity **with friends** and party/ festivity **with family**
    - Limited consideration of socio-demographic factors in the model
  - Problems with coding social context variables: e.g. private setting although free texts statements indicated a public event → underestimation of drinking in public?
  - No additional information on drinking motives, habitual drinking behaviour, etc.
  - Differences in quality of documentation within study centres
- No full survey in 2007 → sensitivity analysis showed no effect on the output

## 6. Discussion I

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- Excessive drinking takes place in public
  - About two third were admitted to hospital from public places or public locations
  - About a third is drinking in public
  
- Girls drink more often to cope with problems
  - Drinking as coping strategy is associated with heavy use (Cooper & Shillington 2001; Kassel et al. 2000; Labouvie & Bates 2002)
  
- Spirits are the most consumed beverages, followed by beer and wine
  - Choice of beverages is influenced by the aim to get drunk (Lange et al. 2011)



## 6. Discussion II

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- Context variables partly predict the severity of intoxication
  - The admission context **street, public places, public transportation etc.** and the consumption of spirits are associated with a **higher BAC**
  - Drinking to cope with problems and the consumption of beer, beer-mix or wine are associated with a lower BAC
- Results show consistencies with other studies: drinking as a social phenomenon influenced by external factors ([Clapp et al. 2000](#); [Demers et al. 2002](#); [Harford et al. 2002](#); e.g. [Kraus et al. 2013](#); [Piontek et al. 2013](#))
- No evidence that changes in drinking context over time contribute to the explanation of the increasing no. of hospital admissions due to alcohol intoxication
  - Although it seems that adolescents' EHD is becoming more visible due to its relation to public settings of drinking or public places where intoxicated adolescents were found

**Thank you for your attention.**

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