Gender disparities of depressive mood and roles of family factors, school difficulty, violence, and unhealthy behaviours among adolescents

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Background

- Youth situation requires social-material-behavioral-mental resources to realize school achievement and social participation

  (Stecker, Med Educ 2004; Baumann et al., BMC Psychiatry 2011).

- **Depressive mood** (**DM**) early occur among adolescents

  (Swahn et al., Int J Public Health 2012)

- In France, 60% if depressed people search a medical treatment

  (Briffault et a., Encephale 2010)

- DM is multi-factorial & potential determinants may include: socioeconomic difficulties, school difficulty, violence, and unhealthy behaviours

- These issues are common and precocious in youth

  (Swahn et al., Int J Public Health 2012; Chau et al., BMC Public Health 2012).

- Roles of the previous factors may differ between genders and remain unclear in adolescence as their chronology was unknown in most studies.

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Objectives

To assess among boys and girls, the causal relationships for DM of:

- Socioeconomic difficulties:

  - Parents' education,

  - Nationality,

  - Father's occupation,

  - Parents' income,

  - Parents' divorce/separation and death,

  - Lack of social supports.

- Grade repetition,

- Uses of alcohol, tobacco, cannabis, and hard drugs,

- Sustained violence,

- Sustained sexual abuse,

- Involvement in violence.

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Methods

- Students from three middle-school from the Nancy urban area (410,000 inhabitants, Capital of Lorraine region (2.34 millions inhabitants in north-eastern France)):

  - 63 classes, 1666 subjects
  - Participation rate: 94%
  - Sample retained for analysis: 1559 subjects

- Self-administered questionnaire at school.

- Study approved by the regional education authority and the national review board.

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Measures

- DM measured with Kandel scale *(Kandel & Davies, Arch Gen Psychiatry 1982)*

- Socioeconomic difficulties:
  - Parents' education,
  - Nationality,
  - Father's occupation
    - *Manager & professional (**reference category**)*
    - *Craftsman, tradesman, head of firm*
    - *Intermediate professional*
    - *Clerk*
    - *Manual worker*
    - *Other actives*
    - *Unemployed & inactive*
  - Insufficient income,
  - Parents' divorce/separation and death,

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Measures

- Lack of social supports (dissatisfied/indifferent vs. satisfied)
    - Father
    - Mother
    - Father / mother in law
    - Brothers / sisters
    - Grand-parents
    - Other members of family
    - Adoptive parents
    - Famille d'accueil
    - Friends

Cronbach's alpha was satisfactory (0.53)
Score = number of positive responses
Categorized 0, 1-2, 3+ (~ 90th percentile)

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Measures

- Lifetime grade repetition (at least one school-year),

- Lifetime uses of alcohol, tobacco, cannabis, and hard drugs,

- Lifetime sexual abuse,

- Sustained violence:
a 20-item scale (5 questions for 4 places: in school, school neighborhood, at home, & elsewhere) (Any vs. None):
  - knocks,
  - stealing,
  - racket,
  - racial actions,
  - and verbal violence

  Cronbach's alpha was satisfactory (0.71)
  Score = number of positive responses
  Categorized 0, 1-3, 4+ (~ 90th percentile)

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Methods

- Involvement in violence: a 11-item scale (Any vs. None)
    - Get mixed into a fight in school,
    - Take part in a fight where a group of your friends were against another group,
    - Belong to a group starting a fight against another group
    - Author of verbal violence
    - Author of racial actions,
    - Start a fight with another individual,
    - Take something not belonging to you (in school, in the neighbourhood of school, at home, ...)
    - Take something from a shop without paying for it
    - Set fire to somebody else's property on purpose
    - Use any kind of weapon to get something from a person
    - Damage public or private property on purpose

Cronbach's alpha was satisfactory (0.82)
Score = number of positive responses
Categorized 0, 1-5, 6+ (~ 90th percentile)

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Methods

Historic reconstruction over the life course for various life events.

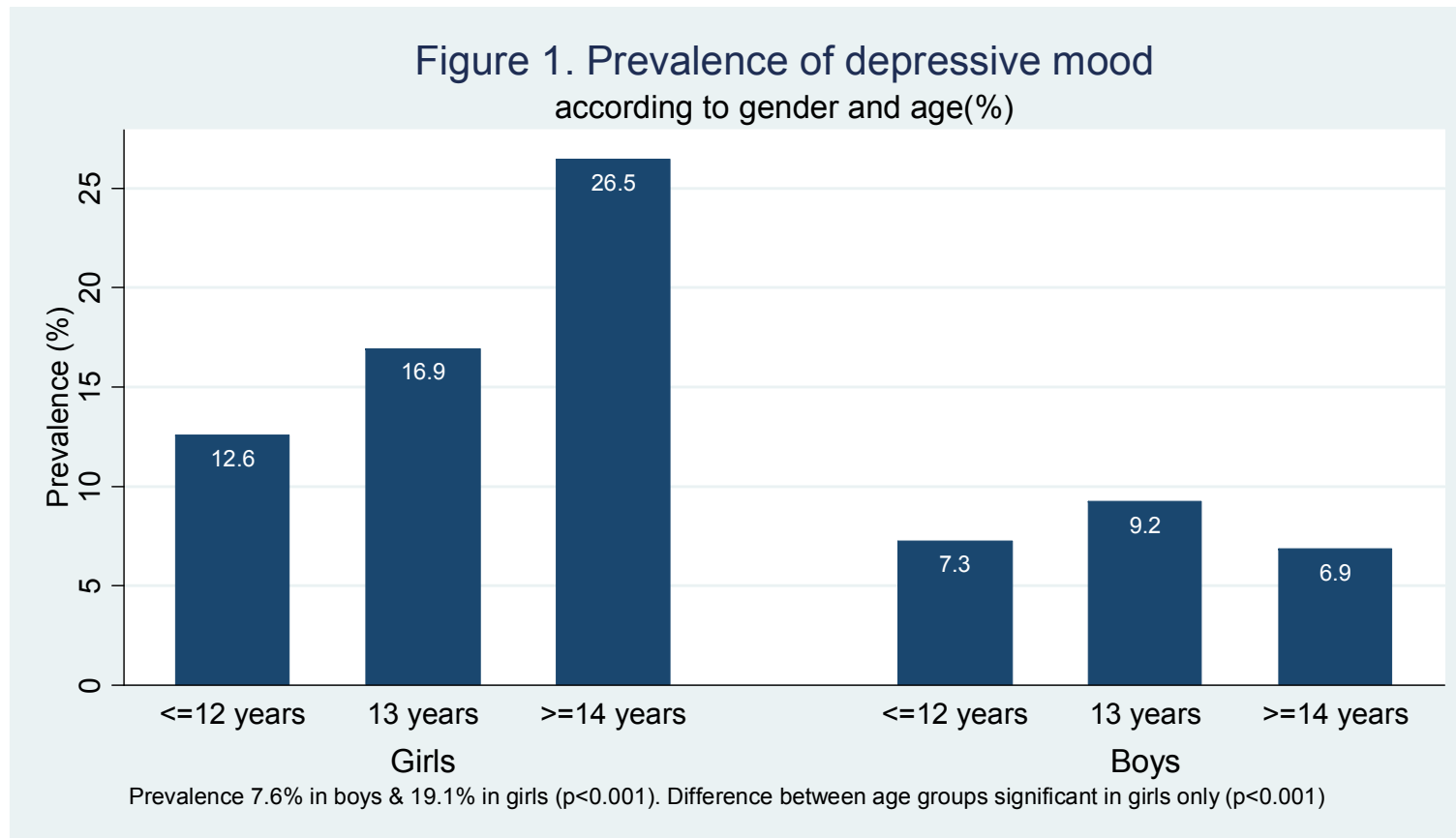Age at begining/ initiation was gathered for:

- DM
- various risk factors

Statistical analysis:

Assessment of causal relationships between DM and different factors using Cox models

- Crude hazard ratio (HR)
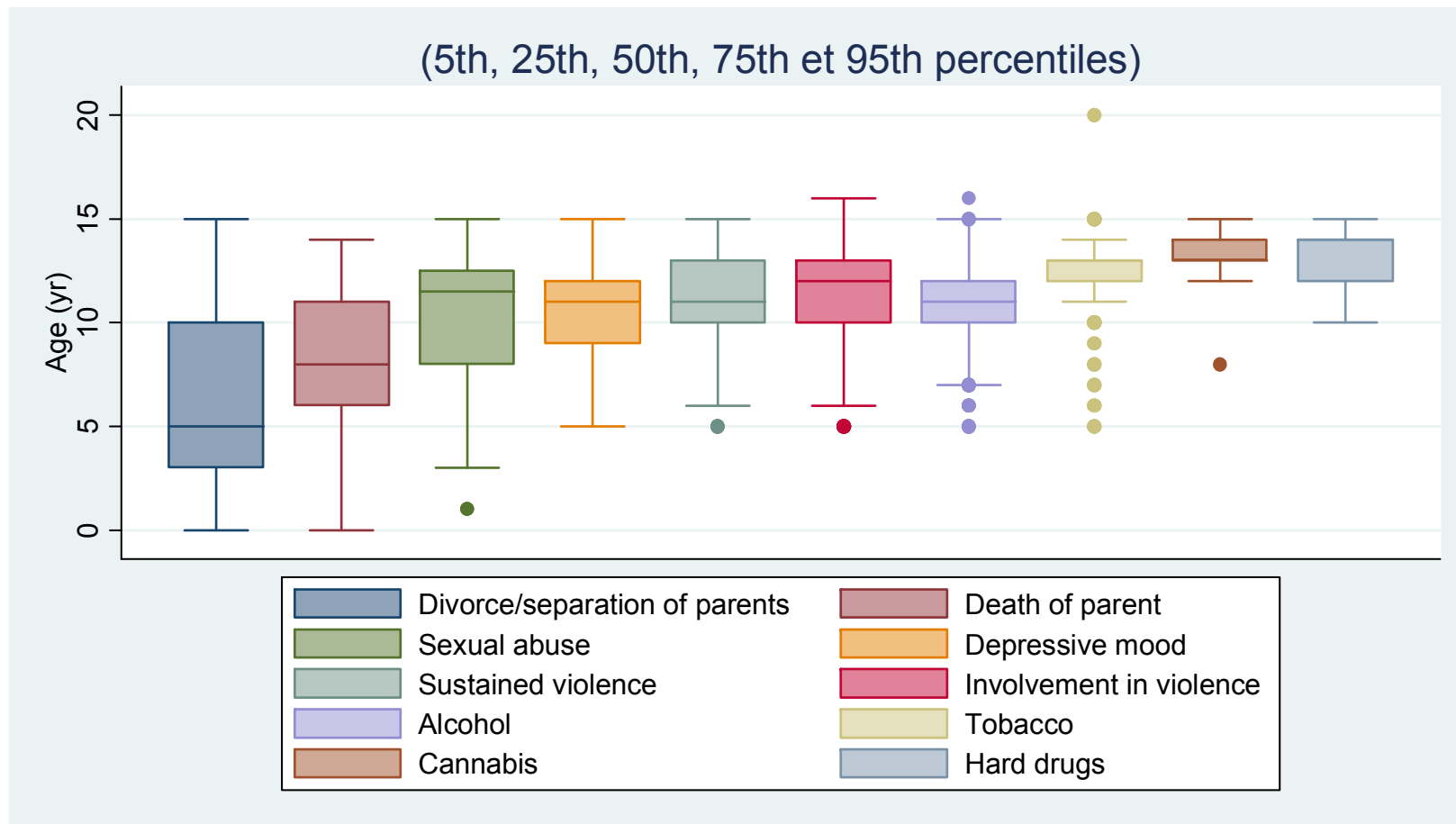- Adjusted hazard ratio (full model, HRa)

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Results

Figure 1. Prevalence of depressive mood according to gender and age(%)

Prevalence 7.6% in boys & 19.1% in girls (p<0.001). Difference between age groups significant in girls only (p<0.001)

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Results

Table 1. Depressive symptoms according to gender : %

	Boys (n=59)				Girls (n=149)		
	Never	Rarely	Often		Never	Rarely	Often
Sleep disturbance	0	5.1	94.9		0	2.7	97.3
Worried	0	3.4	96.6		0	2.7	97.3
Nervousness	0	5.1	94.9		0	3.4	96.6
Put great effort/pressure to do things	0	8.5	91.5		0	17.4	82.5
Depressed	0	6.8	93.2		0	4.0	96.0
Hopelessness	0	20.3	79.7		0	22.1	77.9

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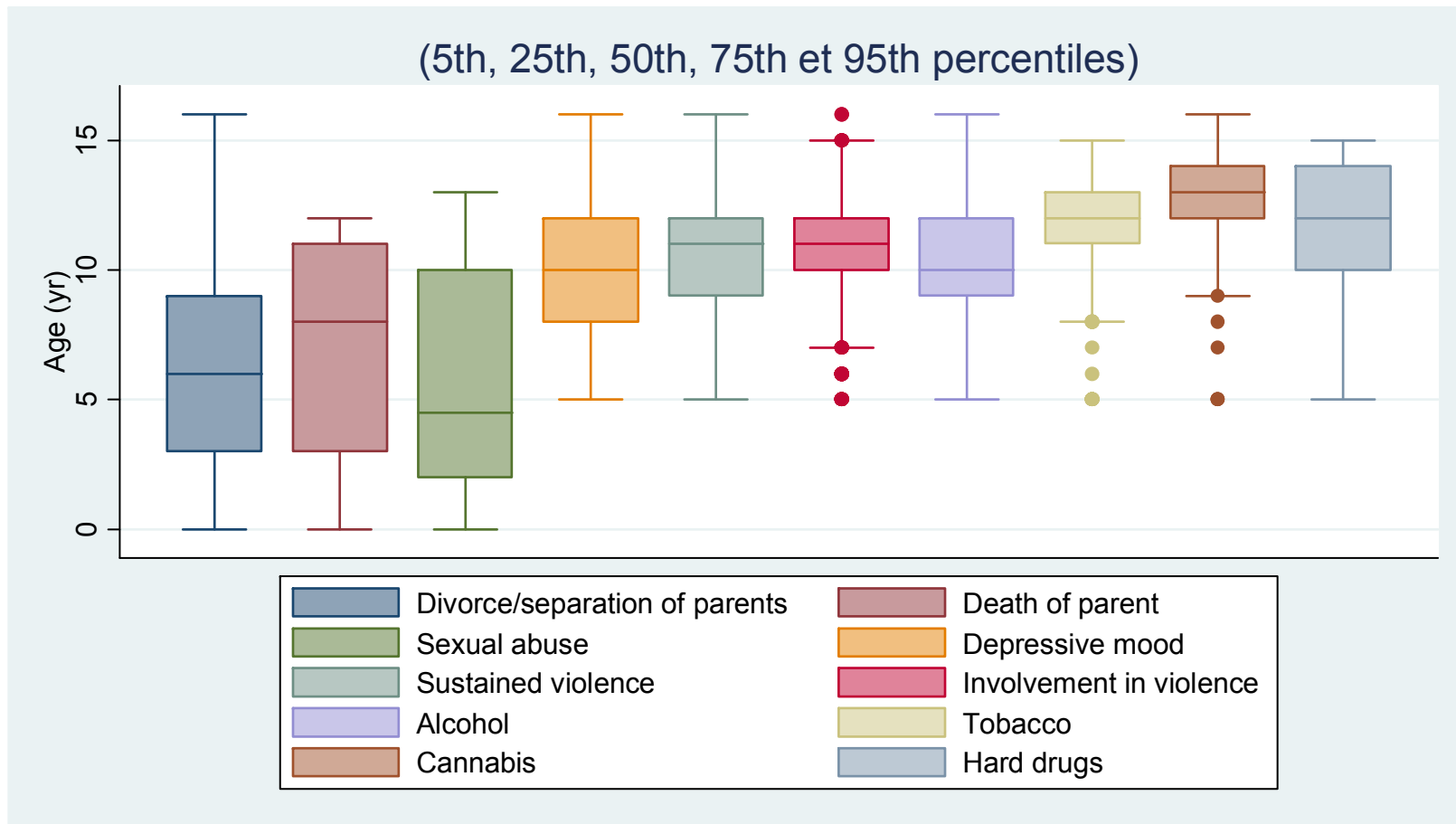
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Results

Figure 2. Age at begining/initiation (yr) for various life events in **girls** (n=781)

Life envents are ordered according to mean age et begining/initiation.

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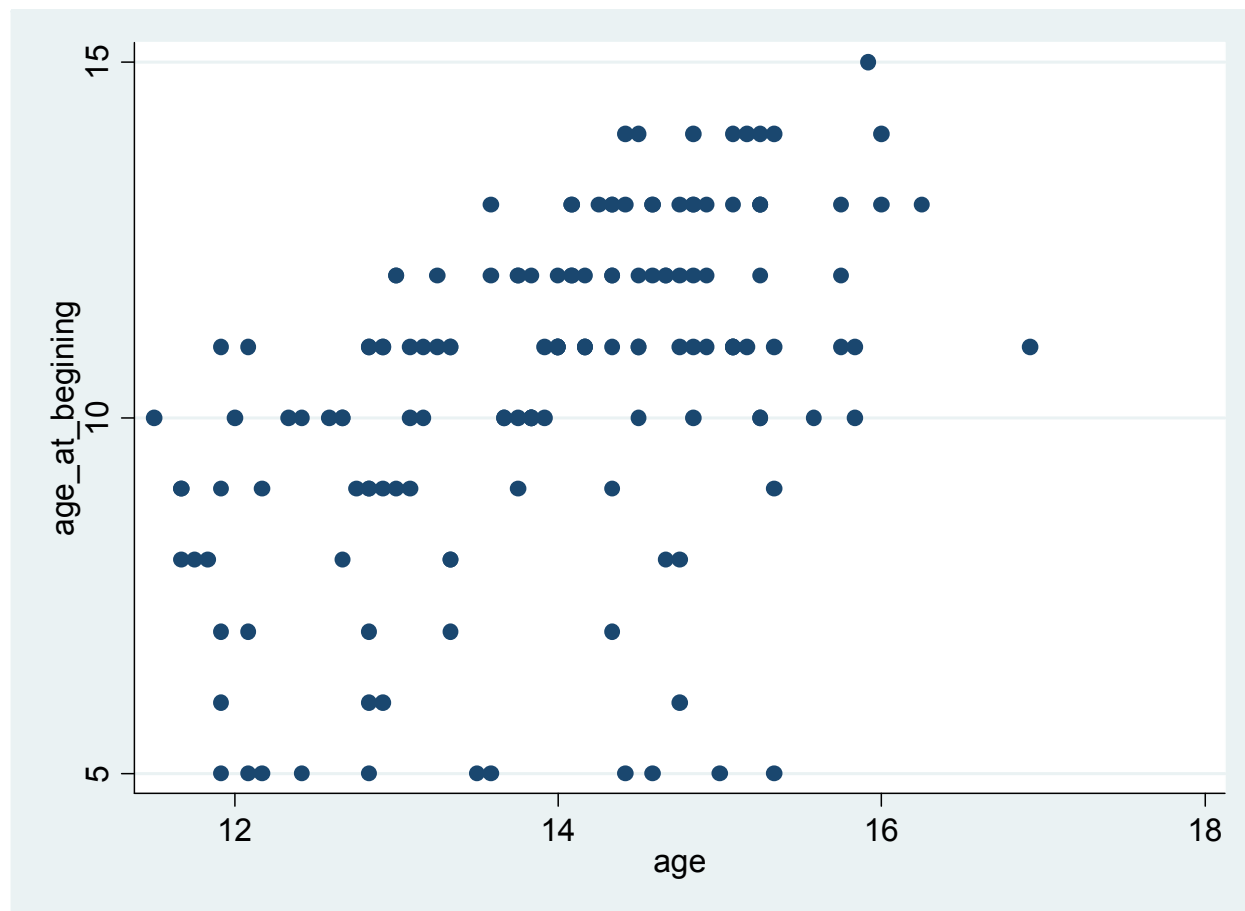
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Results

Figure 3. Age at begining/initiation (yr) for various life events in **boys** (n=778)

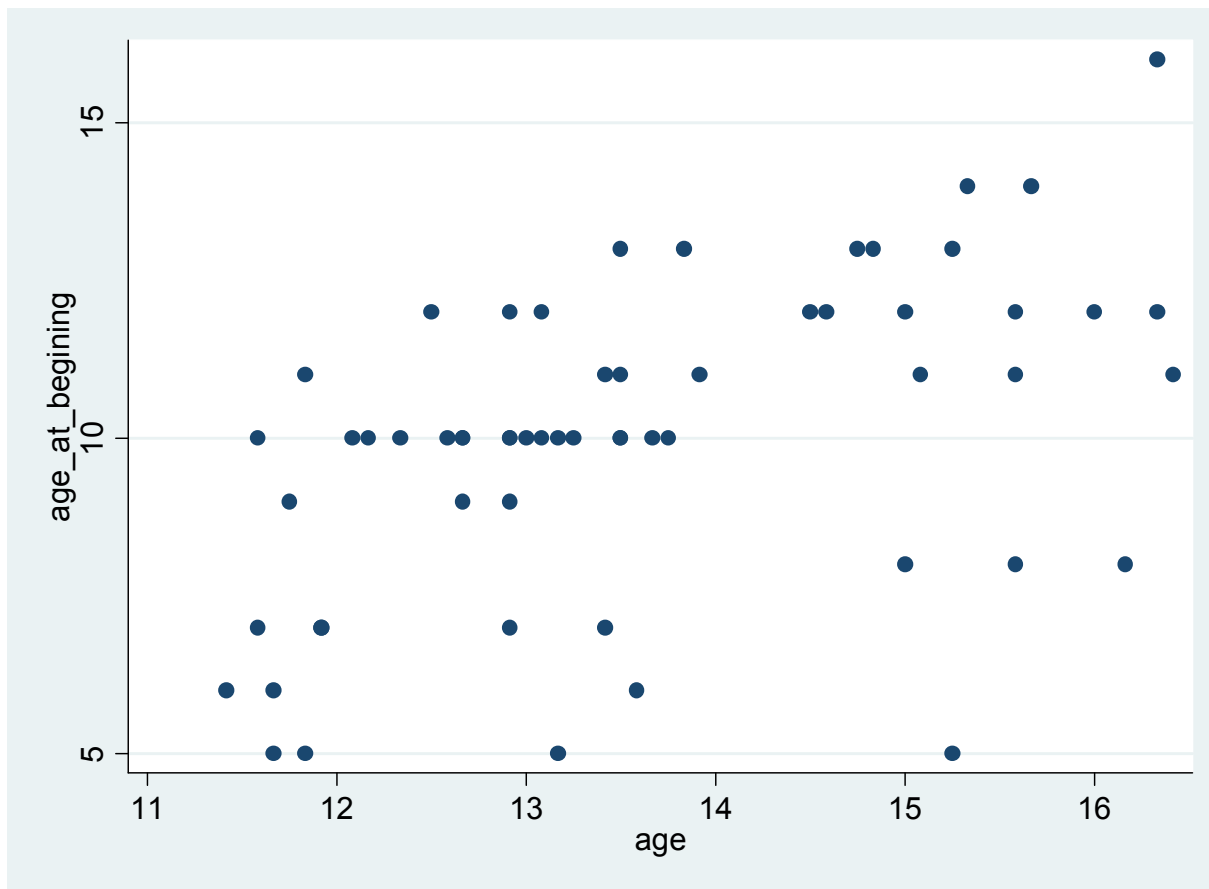Life envents are ordered according to mean age et begining/initiation.

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Results

Figure 4. Age at begining of depressive mood (yr) according to age (yr) among affected **girls** (n=149)

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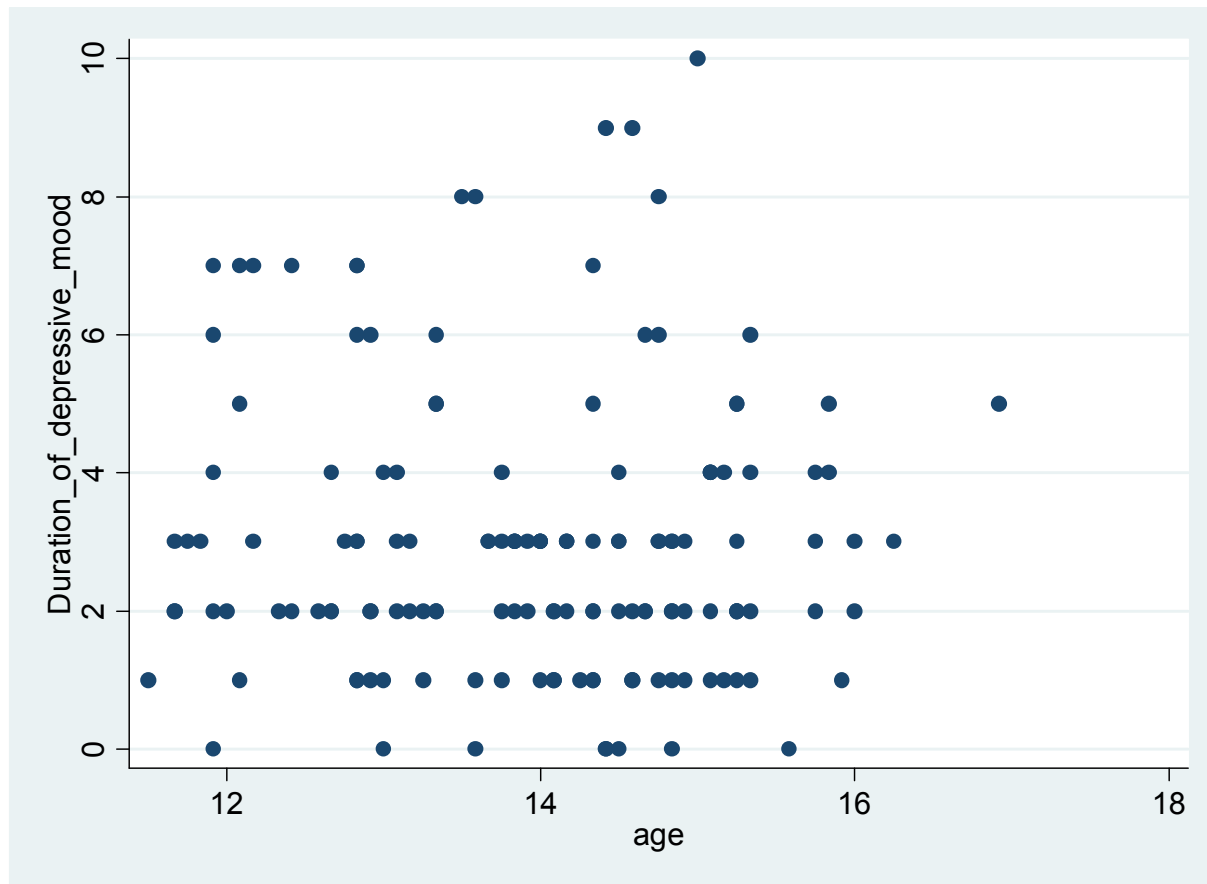*Gender, Social Justice and Mental Health Session - Research Committee 49 Sociology of Mental Health and Illness*

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Results

Figure 5. Age at begining of depressive mood (yr) according to age (yr) among affected **boys** (n=59)

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Results

Figure 6. Duration of depressive mood (yr) according to age (yr) among affected **girls** (n=149)

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Figure 7. Duration of depressive mood (yr) according to age (yr) among affected **boys** (n=59)

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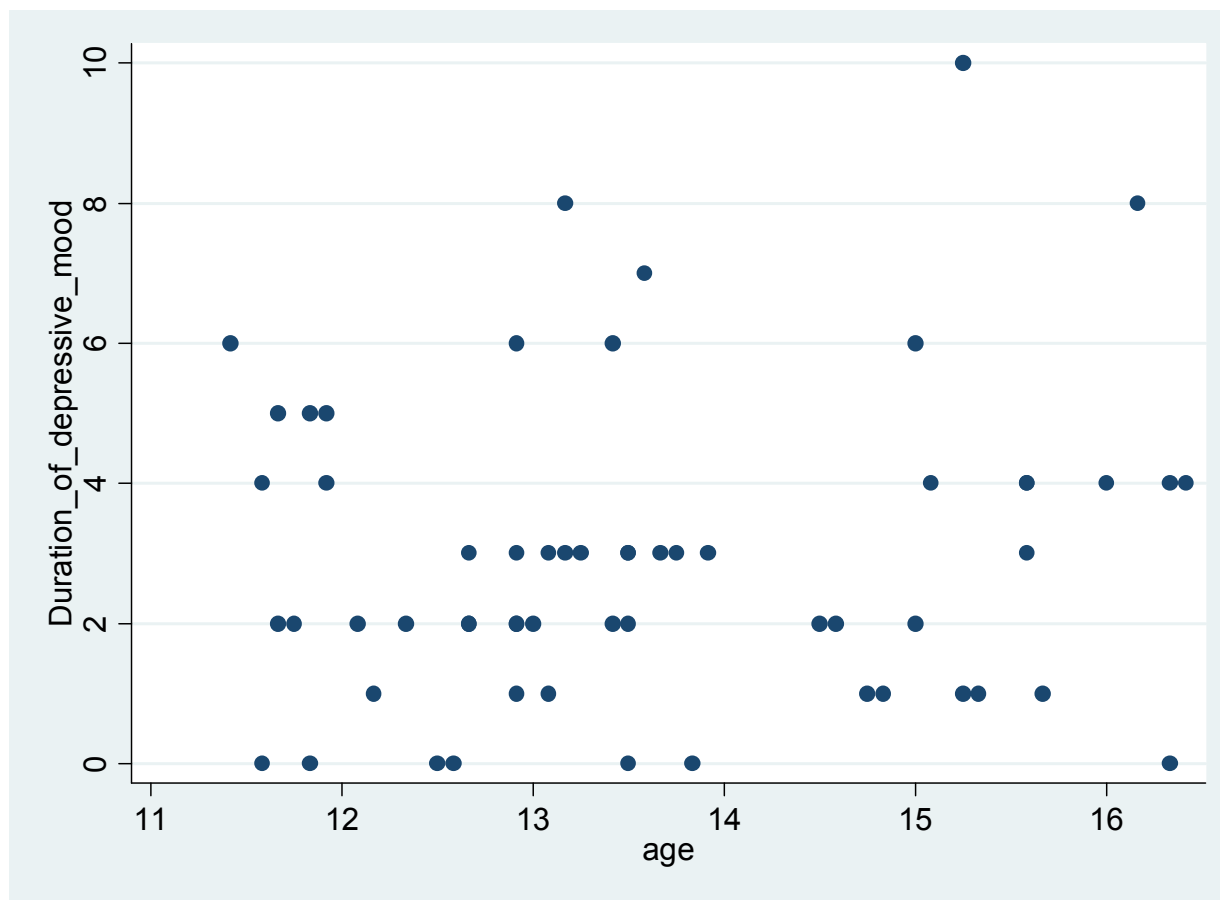
Results

Table 2. Factors associated with depressive mood in girls (n=781): HR and 95% CI

	Crude HR	95% CI	Adjusted HR	95% CI
Divorce and separation of parents	1.57*	1.08-2.28	—	
Death of parent(s)	0.57	0.14-2.32	—	
Insufficient income	1.95***	1.37-2.77	—	
Non-european nationality	0.77	0.24-2.41	—	
Father' occupation				
Managers and professionals	1.00		—	
Craftsmen, tradesmen, firm heads	1.16	0.72-1.86	—	
Intermediate professionals	1.00	0.53-1.89	—	
Service workers and clerks	1.34	0.73-2.49	—	
Manual workers	1.38	0.87-2.19	—	
Other actives	0.93	0.45-1.92	—	
Inactive (unemployed and retirees)	0.87	0.43-1.75	—	
Low parent education (<university)	1.31	0.95-1.80	—	

*p<0,05, **p<0,01, ***p<0,001; "—": non-significant (for adjusted HR)

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Results

Table 3. Factors associated with depressive mood in girls (n=781): HR and 95% CI
Continued

	Crude HR	95% CI	Adjusted HR	95% CI
Grade repetition	1.95**	1.18-3.20	1.87*	1.14-3.08
Lifetime substance use				
Alcohol	1.28	0.84-1.95	—	
Tobacco	1.77	0.94-3.31	—	
Cannabis	1.30	0.18-9.54	—	
Other illicit drugs	0		—	
Sexual abuse	4.96***	2.19-11.26	4.02***	1.77-9.14
Sustained violence	2.99***	1.98-4.53	2.50***	1.66-3.78
Involvement in violence	1.03	0.52-2.06	—	
Lack of social support				
Score 0	1.00		1.00	
1-2	4.08***	2.50-6.68	3.83***	2.34-6.28
3+	7.74***	2.62-12.94	7.28***	4.35-12.18

*p<0,05, **p<0,01, ***p<0,001; "—": non-significant (for adjusted HR)

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Results

Table 4. Factors associated with depressive mood in boys (n=778): HR **and 95% CI**

	Crude HR	95% CI	Adjusted HR 95% CI
Divorce and separation of parents	1.42	0.76-2.65	—
Death of parent(s)	1.44	0.20-10.44	—
Insufficient income	1.75	0.97-3.14	—
Non-european nationality	1.47	0.46-4.73	—
Father' occupation			
Managers and professionals	1.00		
Craftsmen, tradesmen, firm heads	0.88	0.42-1.87	—
Intermediate professionals	1.04	0.44-2.50	—
Service workers and clerks	0.57	0.19-1.69	—
Manual workers	1.15	0.55-2.40	—
Other actives	0.60	0.18-2.03	—
Inactive (unemployed and retirees)	0.88	0.30-2.61	—
Low parent education (<university)	1.60	0.95-2.70	—

*p<0,05, **p<0,01, ***p<0,001; "—": non-significant (for adjusted HR)

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Results

Table 5. Factors associated with depressive mood in boys (n=778): HR and 95% CI
Continued

	Crude HR	95% CI	Adjusted HR	95% CI
Grade repetition	1.23	0.44-3.42	—	
Lifetime substance use				
Alcohol	0.82	0.41-1.63	—	
Tobacco	1.04	0.35-3.06	—	
Cannabis	2.56	0.58-11.29	—	
Hard drugs	6.01**	1.86-19.44	—	
Sexual abuse	3.58	0.87-14.69	—	
Sustained violence	2.88***	1.57-5.27	2.29**	1.24-4.23
Involvement in violence	0.96	0.42-2.16	—	
Lack of social support				
Score 0	1.00		1.00	
1-2	2.27*	1.19-4.33	2.16*	1.13-4.13
3+	4.78***	2.45-9.34	4.18***	2.12-8.26

*p<0,05, **p<0,01, ***p<0,001; "—": non-significant (for adjusted HR)

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Conclusions

Depressive mood (DM) appeared

- Early among adolescents

- Mostly after family difficulties

- Rather concurrently with various other life events

- A long enough duration of DM suggests a lack of screening and appropriate medical treatment

- These contexts were rather similar among girls and boys

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Conclusions

Cox models taking chronology into account revealed strong gender disparities for DMs' risk factors

- Girls:
  - Divorce and separation of parents
  - Insufficient income
  - Grade repetition
  - Sexual abuse
  - Sustained violence
  - Lack of social support

- Boys:
  - Hard drugs use
  - Sustained violence
  - Lack of social support

- Prevention should target on these factors and conseder gender disparities

- Screening and appropriate medical treatment are needed