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# Who is bullied? —From the viewpoint of educational expenditure—

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Acknowledgment: This slide and appendix (pdf) are available at: <http://terukisanada.com>

# Outline of this talk

- 1. Introduction**
- 2. Previous researches and its limitations**
- 3. Hypotheses**
- 4. Methods**
- 5. Results**
- 6. Conclusion**

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## **1. Introduction**

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# 1. Introduction

## Newspaper article on bullying

SCMP.COM

South China Morning Post 南華早報

### Chinese prosecutors charge thousands of school bullies

PUBLISHED : Wednesday, 28 December, 2016, 6:15pm

UPDATED : Wednesday, 28 December, 2016, 6:15pm

News > China

Mimi Lau

*Nationwide crackdown includes three-year jail sentence for 15-year-old who robbed his classmates*

Chinese prosecutors charged 2,337 youngsters in the first eleven months of this year for school bullying offences, including a 15-year-old teenager who was eventually handed a three-year custodial sentence for robbing his schoolmates.

[Chinese boy, 10, has stomach pumped after school bullies force him to eat pencil leads](#) [1]

The Supreme People's Procuratorate, as the prosecutors department is called, released the figures at a press conference amid a worsening trend for schoolyard bullying, the China News Services reported.

A number of violent videos have been posted on the internet this year showing the violent abuse of teenage boys and girls who were attacked by fellow schoolmates.

The national prosecutors office director Zhang Zhijie was quoted as saying that measures had been introduced this year to prevent teenage crime and curb bullying at schools.

[Chinese boy, 12, kicked and punched by older schoolmates in brutal 'revenge attack' video](#) [2]

Zhang said the authorities would not tolerate severe or repeat offences, even if they were carried out by teenagers.

He cited the case in Chongqing where pupils were charged with robbing schoolmates, including a 15-year-old boy later jailed for three years due to his repeated offences.

The legal age of criminal responsibility in China is 16, but it can be lowered to age 14 in severe cases.

Source URL: <http://www.scmp.com/news/china/article/2057694/chinese-prosecutors-charge-thousands-school-bullies>

Links

[1] <https://www.scmp.com/news/china/society/article/2023609/bullied-chinese-boy-10-taken-hospital-after-older-girls-force-him>

[2] <https://www.scmp.com/news/china/society/article/2055751/chinese-school-boy-12-beaten-classmates-reporting-protection>

Source: South China Morning Post(2016/12/28)

仙台・中2男子が自殺  
市教委など  
きょう説明  
いじめ原因か

仙台市立中2年の男子生徒が26日に自殺したことが28日、関係者の話で分かった。現時点で自殺の理由は不明だが、いじめが原因の可能性も否定できないという。同校の一部の保護者から「いじめがあった」との指摘が出ている。

市教委と学校は26日に記者会見を開き、詳しい事実関係を説明する方針。学校は28日、全校集会を開いて他の生徒らに男子生徒が自殺したことを報告したほか、5月1日夜に学校で保護者説明会を開く。

仙台市内の中学校では2014年9月、泉区の館中1年の男子生徒が当時12歳でいじめを苦に自殺。同区の南中山中でも16年2月、2年の男子生徒が当時14歳で自殺し、市教委の第三者委員会が今年3月、「いじめによる精神的苦痛が自殺の一因」とする答申をまとめた。

Source: Kahoku  
Shinpou,  
Japan(2017/04/29)

# 1. Introduction

## The number of bullying in Japan

Source: “Survey on problems related to student guidance such as problem behavior of students” (by Ministry of Education, Culture, Sports, Science and Technology, Japan)

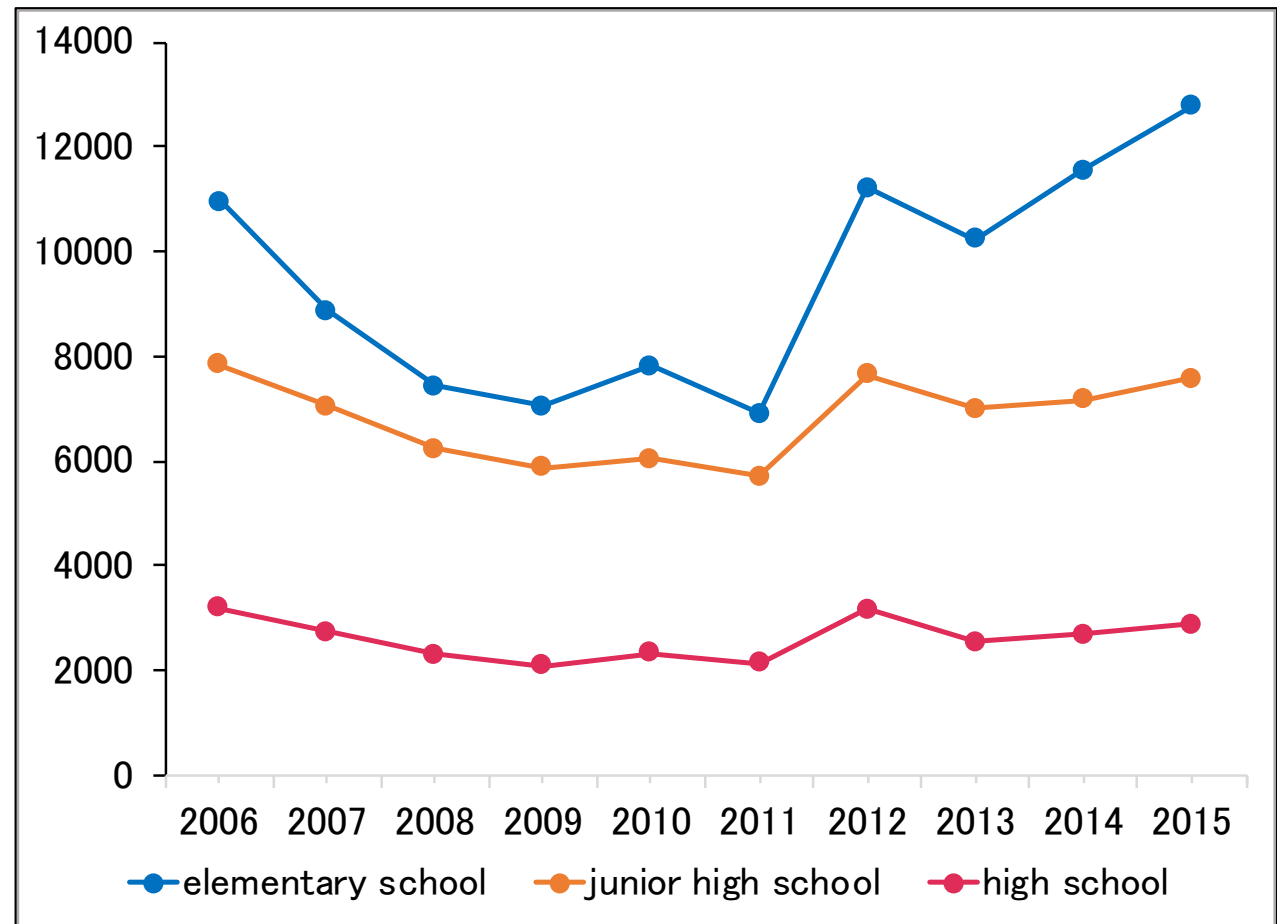


Figure The number of recognized bullying in Japan

# 1. Introduction

## Aim

- Many of the previous studies on bullying focus on its factors such as individuals (personality) and groups (class structure).
- In this research, we attempt to clarify the condition of bullying which cannot be captured in the framework of the classroom by exploring the characteristics of the victims.

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## 2. Previous researches and its limitations

### Characteristics of the class

- As **the awareness of the class norms gets higher**, bullying is more unlikely to occur  
(Onishi 2007; Saarento et al. 2013).
- Bullying does not tend to occur **if students are united within the class**  
(Mizuta, Okada, Ojima 2016).



## 2. Previous researches and its limitations

### Personality

- Children, who are liked by their peers, are **not likely to bullied** and have many friends (Pellegrini et al. 1999).
- Bullied victims can be recognized with appearances such as “**physical weakness**” (Olweus 1978; Hodges et al. 1997; Oono et al. 2000).
- The bullying perpetrators are driven by the feelings such as “**irritated**”, “**jealousy**”, and “**no reason**” (Kanetsuna 2015).

## 2. Previous researches and its limitations

### Research Question

○ The characteristics that we have seen so far are concerned with the contexts of school.

→ If bullying arises from jealousy and dissatisfaction, It might be possible to appeal its cause to domestic circumstances.

⇒ **What kind of socioeconomic status or domestic circumstances tend to be responsible for bullying?**

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### 3. Hypotheses

#### **Bullying due to jealousy**

- The cause of bullying is based on malignant emotions such as jealousy.  
(Sakai 1989; Masataka 2007; Doi • Watabe 2008)

→ Children in a good domestic environment tend to be bullied(Due et al. 2009; Elgar et al. 2009).

⇒ **H1: Children who are in good domestic environments are more susceptible to bullying.**

### 3. Hypotheses

#### **Those who the victims can consult**

The beginning of bullying is personal fight  
(Masataka 2007).

- Easy to avoid the fight if they can count on someone(Flouri and Buchanan 2002).

⇒**H2: The more parents are interested in their children's school lives, the less they are bullied.**

# 3. Hypotheses

## School circumstances

By introducing small classes (including grouping with regard to ability), many teachers think that bullying has decreased (Ministry of Education, Culture, Sports, Science and Technology 2005).

⇒ **H3: Bullying is not likely to happen by introducing small classes or including grouping with regard to ability.**

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## 4. Methods

### **Data**

#### **The Programme for International Student Assessment 2015 (PISA 2015) conducted by OECD**

- Randomly drawn sample of 15-year-old students in 72 participating countries / regions.
- Students answer domestic and school-contextual information.
- Teachers answer methods of teaching and school environment.



## 4. Methods

### Dependent variable

**Factors** extracted by the following questions.

(1. Never or almost less ~ 4. Once a week or more)

3. Other students left me out of things on purpose.

4. Other students made fun of me.

5. I was threatened by other students.

6. Other students took away or destroyed things that belonged to me.

7. I got hit or pushed around by other students.

8. Other students spread nasty rumors about me.

## 4. Methods

### **Independent variables**

Domestic / school circumstances and other control variables (Please refer to the appendix).

sex(male=1,female=0)

individual SES(adding SES variables made by OECD)

how much parents are interested in school life of children

whether you ate breakfast or not this morning (ate=1,not=0)

number of students per teacher (School)

grouping with regard to ability (School) (yes=1,no=0)

educational expenditure rate in GDP(Country)

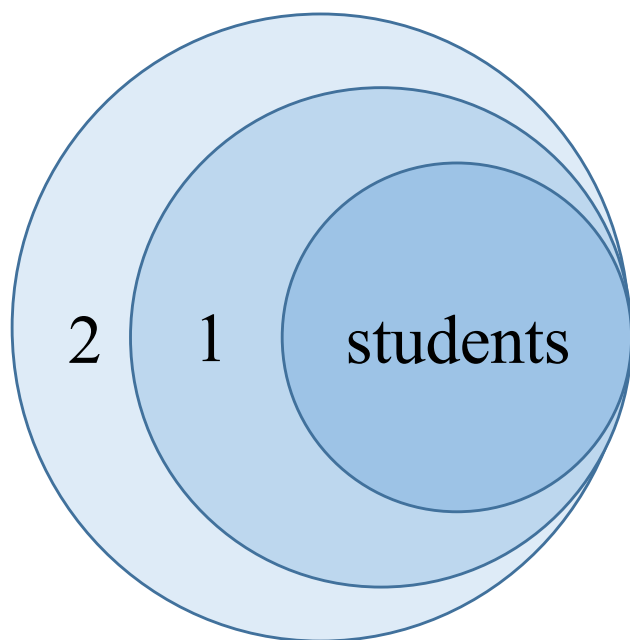
## 4. Methods

### Empirical Models

- **Multilevel ordinal regression analysis**

Group Level 1: School

Group Level 2: Country



- Software: R(3.4.3)  
Package lme4  
Function lmer
- Sample size:  
Male 19541  
Female 21358

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# 5. Results

Table1 Multilevel ordinal regression analysis (male)

	model 1			model 2		
	B		S.E.	B		S.E.
fixed-effect						
intercept	-1.14	***	0.18	-1.28	***	0.23
individual SES	0.00		0.02	0.00		0.02
parents' interest	0.06	***	0.00	0.06	***	0.00
breakfast	0.08	***	0.02	0.08	***	0.02
group level 1 (n=1819)						
grouping with regard to ability	0.01		0.02	0.22	†	0.12
number of students	0.01	†	0.01	0.02		0.04
school SES	0.00		0.01	0.00		0.01
individual SES*school SES	0.00		0.00	0.00		0.00
grouping*number of students				0.00		0.01
group level 2 (n=36)						
expenditure				0.02		0.04
expenditure*ability grouping				-0.04	†	0.02
expenditure*number of students				0.00		0.01
deviance	54760.00			54756.10		

# 5. Results

Table2 Multilevel ordinal regression analysis (female)

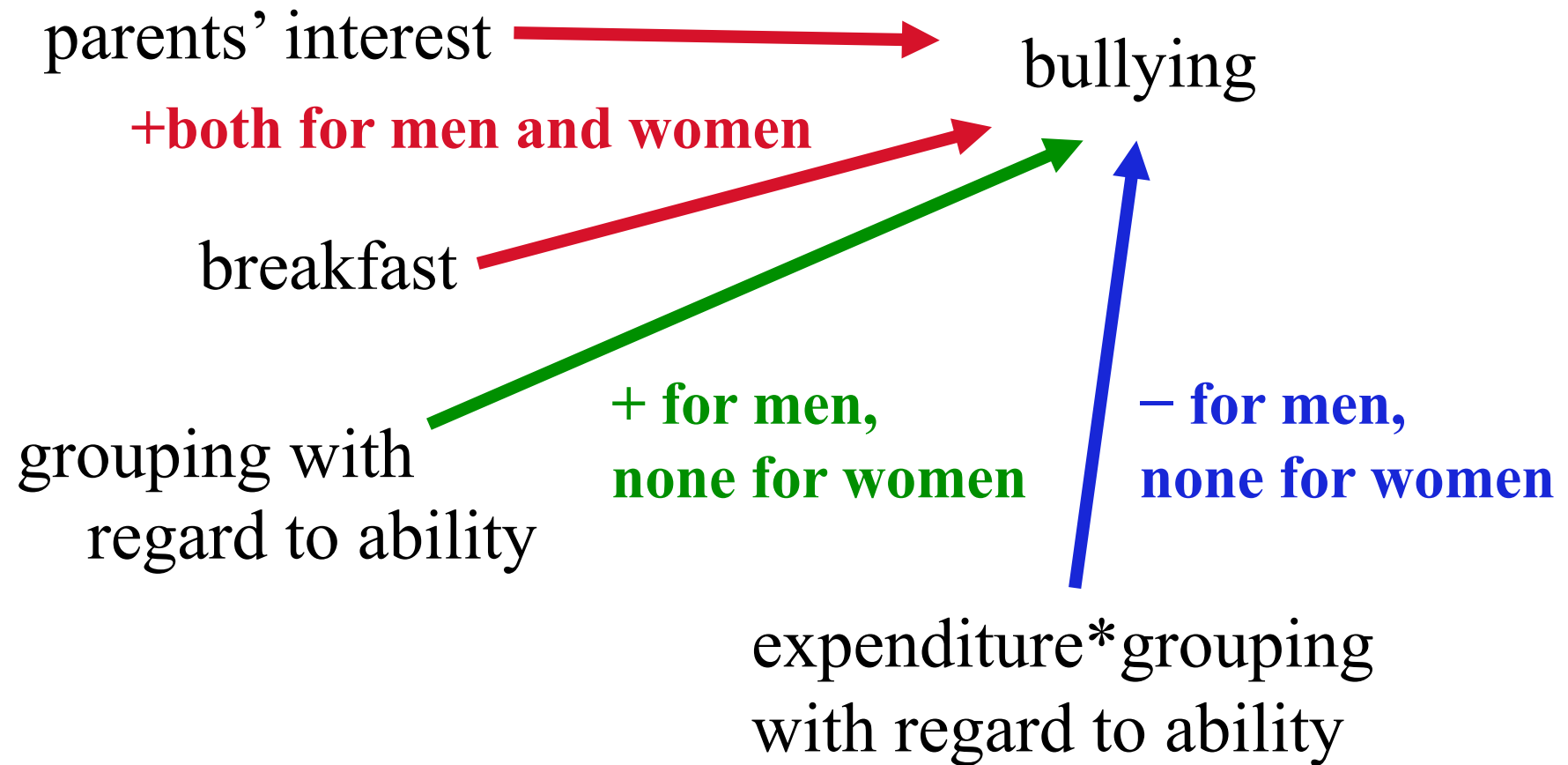
	model 1			model 2		
	B		S.E.	B		S.E.
fixed-effect						
intercept	-1.30 ***		0.18	-1.53 ***		0.19
individual SES	-0.01		0.02	-0.01		0.02
parents' interest	0.06 ***		0.00	0.06 ***		0.00
breakfast	0.11 ***		0.02	0.08 ***		0.02
group level 1 (n=1819)						
grouping with regard to ability	0.00		0.02	0.06		0.09
number of students	0.02 ***		0.01	0.07 *		0.03
school SES	0.02 ***		0.01	0.02 ***		0.01
individual SES*school SES	0.00		0.00	0.00		0.00
grouping*number of students				0.02 *		0.01
group level 2 (n=36)						
expenditure				0.05		0.04
expenditure*grouping				-0.03		0.02
expenditure*number of students				-0.01		0.01
deviance	49934.90			49924.40		

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## 6. Conclusion

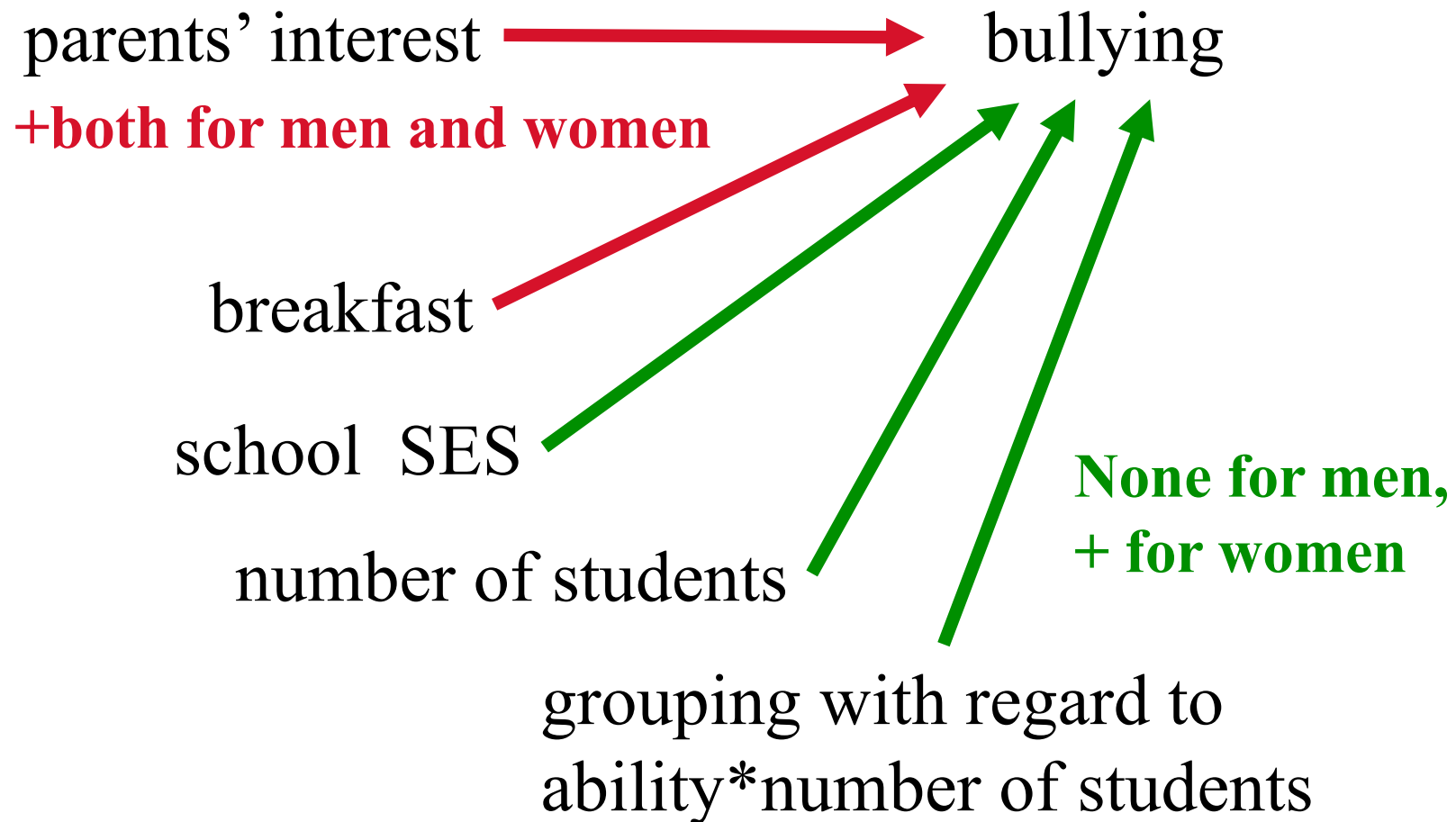
### Summary of findings (male)





## 6. Conclusion

### Summary of findings (female)



## 6. Conclusion

### Summary of findings

Hypotheses	Result
H1: Children who are in good domestic environments are more susceptible to bullying.	△
H2: The more parents are interested in their children's school lives, the less they are bullied.	×
H3: Bullying is not likely to happen by introducing small classes or grouping with regard to ability.	×

## 6. Conclusion

### **Common points of the mechanism between male and female**

- Grouping with regard to ability induce bullying
  - The classes might be **divided** and the **visible gap** in academic ability may be causing jealousy and dissatisfaction.
  - ⇒ Teacher support is indispensable.

## 6. Conclusion

### **Difference of the mechanism between male and female**

- Male

Due to visible gaps such as grouping class with regard to ability (**changeable**)

- Female

Due to institutions of schools such as the atmosphere and the number of students (**unchangeable**).

## 6. Conclusion

### Future directions

- Consideration of **the number of friends and sociability**
- **Teacher's reaction to bullying**  
→ Teacher's recognitions and attitudes towards bullying might are concerned with bullying (Saarento et al. 2013).
- Missing values processing by **multiple imputation**