Chapter 3

Preliminary Data Analysis

In this chapter we describe the preliminary analysis of the questionnaire responses obtained from the students in our study. These participants comprised 244 secondary school students in Pattani province. In this chapter the frequency distributions of variables are shown, and then the associations between these variables are presented.

3.1 Description of the variables

The role of the variables may be classified as either determinants or outcomes. These variables and their roles and data types are listed in Table 3.1.

Variable	Role	Type
Subject number	Identifier	
Gender	Determinant	Nominal (2)
Age group	Determinant	Ordinal (2)
Ethnicity	Determinant	Nominal (2)
Punishment	Determinant	Binary (2)
School type	Determinant	Nominal (2)
Father's occupation	Determinant	Nominal (3)
Mother's occupation	Determinant	Nominal (3)
Marital status of parents	Determinant	Nominal (2)
Parental violence	Determinant	Nominal (3)
Physical bullying	Outcome	Binary

Table 3.1: Variables and their role and data type

The outcome of interest in this study is the physical bullying behaviour, which is of binary data type. However, it can be classified as an ordinal outcome if an assumption is made about the severity levels of different kinds of violence.

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3.2 Distributions of determinants

The frequency distributions of the students' characteristics are shown in Table 3.2.

Determinants	Category	Count	Percent
Gender	Boys	118	48.4
	Girls	126	51.6
Age group	12-13 years	90	36.9
	14 + years	154	63.1
Ethnicity	Malay or Chinese	189	77.5
	Thai	55	22.5
Punishment	Yes	57	23.4
	No	187	76.6
School type	Rural	85	34.8
	Urban	159	65.2

Table 3.2: Frequency distributions of the characteristics of students

Table 3.2 shows that slightly more than half (51.6%) of the students were girls. All students were categorized into one of the age groups: 12-13 years (36.9%) and 14 years or above (63.1%). With respect to their ethnicity, most students (77.5%) were of Malay or Chinese ethnicity. The majority (76.6%) of the students reported never having been punished by their parents, although 23.4% of students reported that they had been punished by parents so severely that they would never forget it. Nearly two-thirds (65.2%) of students came from schools in the Pattani urban area.

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The frequency distributions of the family environments of students are shown in Table 3.3.

Determinants	Category	Count	Percent
Father's occupation	Business/Government	96	39.3
	Employee	89	36.5
	Other	59	24.2
Mother's occupation	Business/Government	96	39.3
	Employee	90	36.9
	Other	58	23.8
Marital status of parents	Married	201	82.4
	Other	43	17.6
Parental violence	Never	151	61.9
	Emotional violence	64	26.2
	Physical violence	29	11.9

Table 3.3: Frequency distributions of the family environments of students

Table 3.3 shows the frequency distributions of the family environments of students. The results show that more than one-third (39.3%) of fathers were business or government employees and so were a similar percent of mothers. 36.5% of fathers were employees in private businesses and the rest were categorized as "other", which included unemployed. For the determinant "mother's occupation", more than one-third (36.9%) were employees in private businesses and the rest were categorized as "other", which includes unemployment and housewives. Most parents (82.4%) were married. Overall, 61.9% of all students had never witnessed violence from their parents, whereas 26.2% of the students admitted having witnessed emotional violence between parents and a further 11.9 % admitted having witnessed physical violence between their parents.

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3.3 Distributions of outcome variable

The role of the outcome may be classified as bullying and victims. The frequency distributions of physical bullying behaviour categorized by two different period of time are shown in Table 3.4.

Bullying	Victim				Total
	None	Previous month	Previous six months	Both (2 period)	
None	188	1	8	2	199
Previous month	5	1	2	1	9
Previous six months	9	1	11	1	22
Both (2 period)	4	1	2	7	14
Total	206	4	23	11	244

Table 3.4: Association between physical bullying and being a victim

Table 3.4 shows the association between physical bullying and being a victim. Of the 244 students who took part in the study, most students 188 reported that they had never been involved in physical bullying either as a bully or a victim. The remaining 56 did report their involvement in a situation in which physical bullying occurred: 18 of the students reported that they had physically bullied, 11 students indicated being a victim and 27 students admitted that they had both a bully and a victim.

For further analysis the outcome “physical bullying” was classified into just two categories. The first category “not physical bullying” included students who reported being neither a victim nor a bully as well as those who reported being only a victim (188 and 11, respectively). The second category included students who had admitted to physical bullying and those who reported both bullying and being a victim of physical bullying (18 and 27, respectively). After combining these categories, it was

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found that 45 (18.5%) of students reported that they had physically bullied another student during either the previous six months or during the previous month.

Table 3.5 shows the characteristics of bullying compared between boys and girls.

Bullying	All students (n = 45) %	Boys (n = 22) %	Girls (n = 23) %
Attacking weapons			
- Never attacking	82.2	72.7	91.3
- Knife/gun	6.7	13.6	0.0
- Knife/wood	4.4	9.2	0.0
- Wood	6.7	4.5	8.7
Location			
- Classroom	17.8	13.6	21.7
- Rest room	35.6	31.8	39.1
- Outside school	31.1	36.4	26.1
- Other	15.5	18.2	13.1
Time			
- Before School	4.4	9.1	0.0
- During lessons	11.1	13.6	8.7
- At lunch time	26.7	27.3	26.1
- After School	48.9	40.9	56.5
- Setting time on holiday	8.9	9.1	8.7
Reason			
- Pay back or revenge	55.6	54.5	56.6
- Provoked or Persecuted	24.4	27.3	21.7
- Other	20.0	18.2	21.7
Frequency			
- Once or twice a month	20.0	36.4	4.3
- Once or twice a term	48.9	27.3	69.6
- Several times a term	31.1	36.3	26.1

Table 3.5: Characteristics of bullying compared between boys and girls

The use of a weapon in bullying is considered especially serious. Table 3.5 data shows that approximately 27% of school boys in the age group sampled, reported having used a knife/gun or wooden weapons in their bullying (13.6% a gun or knife). No girls reported using a knife or gun but 8.7% reported having bullied with a wooden weapon.

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The data on location of bullying show that bullying was reported to have occurred mainly in the “rest room” (35.6%). The second and third most frequent places of bullying were “outside school” (31.1%) and the “classroom” (17.8%). Few students reported having been bullied in other parts of the school such as the activities room, sports stadium, or behind the building.

Most of the students who were bullies reported bullying to have occurred mainly after school (48.9%). The second and third most frequent time in which students admitted having been bullied were at lunch time (26.7%) and during lessons (11.1%). Both boys and girls bullies reported “after school” as being the most likely time for bullying to occur (40.9% of boys and 56.5% of girls). The main reasons of being bullies were “pay-back” or “revenge” (55.6%) and “provoked” (24.4%).

Boys who were bullies were more likely than girls to report bullying more than twice a term (36.4% and 26.1%, respectively). This evidence that they report doing this more frequently than do girls might explain why boys were more likely to be victims.

3.4 Association between outcome variable and categorical determinants

Table 3.6 shows the statistical significance of the associations between the outcome and the determinants.

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Determinants	Chi-squared	df	p-value
Gender	0.006	1	0.937
Age group	13.147	1	**0.000**
Ethnicity	5.353	1	**0.020**
Punishment	0.961	1	0.327
School type	7.073	1	**0.007**
Father's occupation	0.541	2	0.763
Mother's occupation	0.043	2	0.978
Marital status of parents	0.804	1	0.369
Parental violence	11.516	2	**0.003**

Table 3.6: Associations between outcome and determinants

Since all of the variables are categorical, Pearson's chi-squared test was used to determine the association in each case. Table 3.6 shows that the variables most statistically significantly were age group, ethnicity school type and parental violence, respectively.

Graphs of estimated odds and 95% confidence intervals can be used to represent the proportions of physical bullying in the two groups. The plots of physical bullying behaviour categorized by four different variables are shown in Figures 3.1 – 3.4.

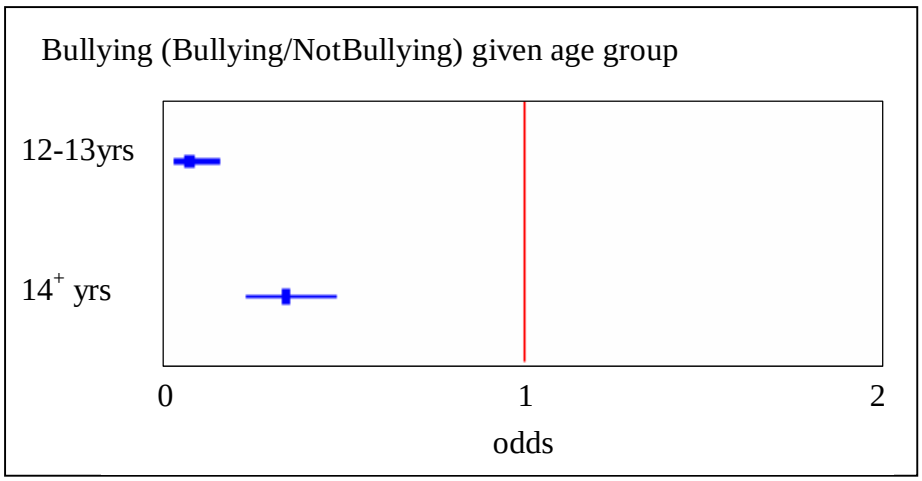

Figure 3.1: Odds of physical bullying, by age group

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Figure 3.1 shows the estimated odds plots of students who physically bullied others for the student's aged 12 to 13 years and aged 14 years or over. The plot shows that the odds of being a bully was statistically significantly higher for students aged 14 years or over with 25.4% (95% CI: 18.7-32.9), followed by students aged 12 to 13 years with 6.5% (95% CI: 2.9-14.5).

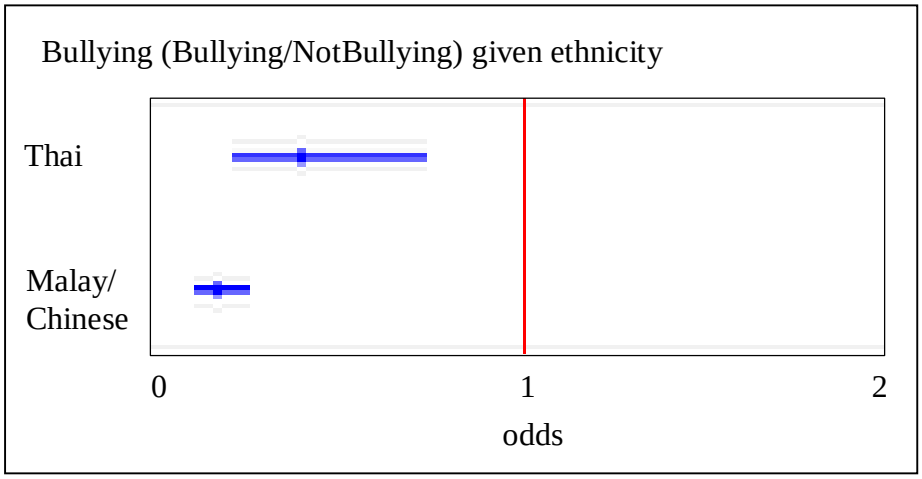

Figure 3.2: Odds of physical bullying, by ethnicity

Figure 3.2 shows the estimated odds plots of students who physically bullied others for the student's Thai and Malay or Chinese ethnicity. The plot shows that the odds of being a bully was non-statistically significantly higher for Thai ethnicity with 29.1% (95% CI: 18.7-42.5), followed by students with Malay or Chinese ethnicity with 15.3% (95% CI: 10.7-21.3).

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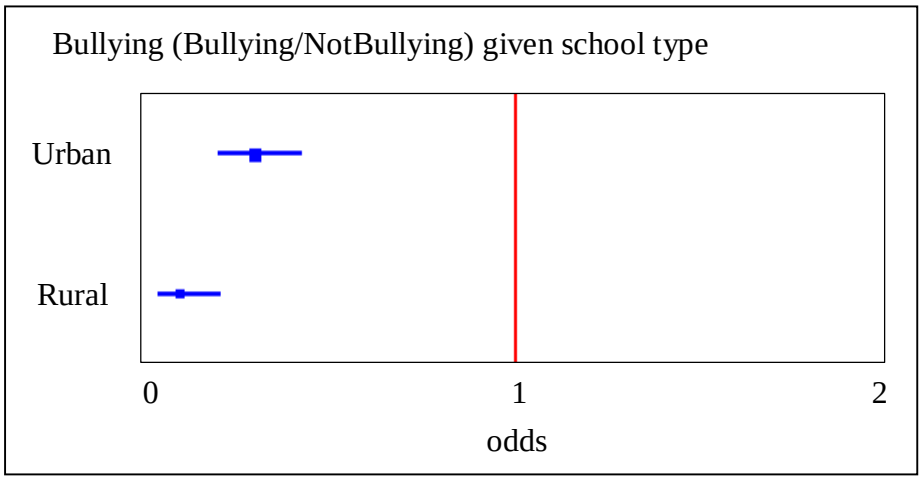

Figure 3.3: Odds of physical bullying, by school type

Figure 3.3 shows the estimated odds plots of students who physically bullied others by urban area and rural area. The plot shows that the odds of being a bully was non-statistically significantly higher for students who came from urban schools with 23.1% (95% CI: 17.4-30.6), followed by students whose from rural schools with 9.1% (95% CI: 4.8-18.0).

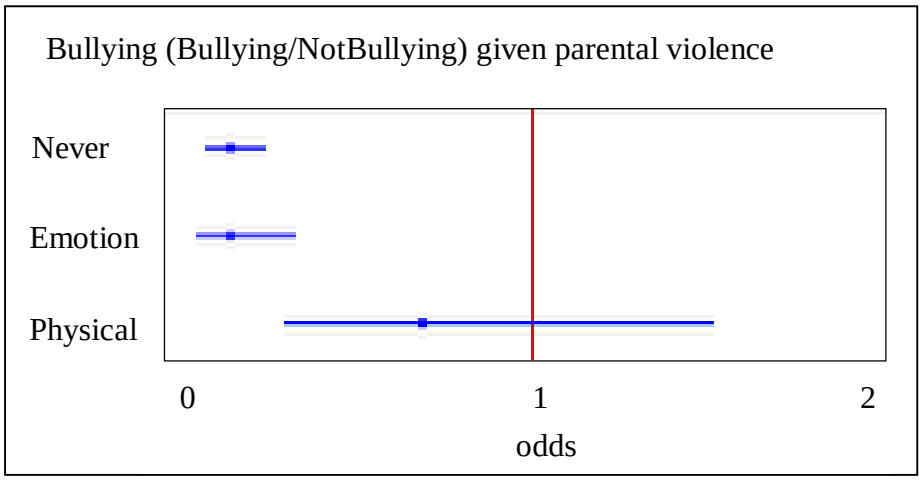

Figure 3.4: Odds of physical bullying, by parental violence

Figure 3.4 shows the estimated odds plots of students who physically bullied others for the students who had never witnessed violence and having witnessed violence between their parents. The plot shows that the odds of being a bully was not

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statistically significantly different between students who had never witnessed violence at 15.3% (95% CI: 9.9-21.9) and those who reported having witnessed emotional violence between their parents at 16.0% (95% CI: 8.3-27.0), respectively. However, the plot shows that the odds of being a bully was higher for students who admitted having witnessed physical violence between their parents at 41.5% (95% CI: 24.8-60.0). But not statistically significantly differences if compared to the odds of those who reported having witnessed emotional violence.

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