

# Artikel Astrid Karina

*by* Astrid Karina

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## The Effects of Students' Perception of the School Environment and Students' Enjoyment in Reading towards Reading Achievement of 4<sup>th</sup> Grades Students in Hong Kong

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### Abstract

The purpose of this study is to investigate some perceived factors in students reading achievement. This study focuses on the correlation between fourth graders' safety feeling inside school environment and their reading enjoyment towards their reading achievement. Descriptive analysis used in this study and data draws from Progress in International Reading Literacy Study (PIRLS) 2016. The participants were 3349 students in their fourth year of schooling in Hong Kong where 49.1% were girls and 50.9% were boys. The range of the age was 8 to 15 years old. The result showed the importance of creating a safe school environment. Besides students' perception of their school environment, students' reading enjoyment was another factor which influenced reading achievement. Students' perception of the school environment and students' enjoyment in reading also affected students' reading achievement, but the perception of reading is boring gave stronger effect to the reading achievement.

**Keywords:** Student's perception; school environment; student's enjoyment; reading achievement.

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### 1. Introduction

Reading is generally recognized as one essential part of human life. Ng, Renandya, and Chong (2011) interpreted reading as the process of making meaning from written texts. A similar definition for reading comprehension is given by Israel & Duffy (2009) and Roe et al (2005) that reading comprehension is to make meaning of what we read. This definition means that it is not enough to decode the letters and words, one has to add knowledge and meaning to what is read (Roe, 2005). Therefore, reading achievement becomes one indicator to measure the success rate of students' academic performance. The

existence and function of schools play a significant role in student development and academic performance as a large amount of children's active time has been spent at school. Previous research conducted by Nijs et al (2013) concludes that perceived school safety is strongly and independently associated with self-reported mental health problems. These mental health problems have opportunities to influence student learning achievement. Other researchers, Wang and Holcombe (2010), say in their study that students' perceptions of their school can contribute to their level of academic engagement (cited in Côté-Lussier and Fitzpatrick, 2016, p.548). This means that

schools must build positive environment to support students' reading achievement.

On the other hand, the feelings of students themselves must be considered as other factors that also influence their reading achievement. Malanchini, et al. (2017) investigated children's motivation for reading which the enjoyment experience of reading is included as one of the motivation factors. These children come from different ethnicities. The study showed there is a relationship between student enjoyment in reading and their reading achievement. This result is in line with the findings from Preece & Levy (2018) and Retelsdorf et al (2011) in their research.

This study is designed to investigate some perceived factors in order to know whether they have an effect on students reading achievement or not, but this study will focus on the following research questions:

- (1) Does students' feeling of safety in school affect their reading achievement?
- (2) Does students' reading enjoyment influence their reading achievement?
- (3) Do students' feeling of safety in school and students' reading enjoyment affect their reading achievement?

To answer the research questions, some tests will be conducted to examine these hypotheses: Feeling safe at school is associated with positive gains at students' reading achievement (Hypothesis 1); Enjoyable reading makes a good contribution to reading achievement (Hypothesis 2). The following hypotheses were formulated and tested at a 0.05 level of significance.

## 2. Method

This study draws on data from Progress in International Reading Literacy Study

(PIRLS) 2016. The participants were 3349 students in their fourth year of schooling in Hong Kong (Mullis et al., 2017) where 49.1% were girls and 50.9% were boys. The range of the age was 8 to 15 years old, but most of them were 10 years old.

### a. Outcome and Predictor Variables

#### *Reading Achievement*

In the current analysis, the outcome or dependent variable is students reading scores in PIRLS 2016. It was reported in the form of plausible values. There were five plausible values in reading, but the analysis was limited to the first plausible value.

#### *Students' Perception of the School Environment.*

24 Students reported to what extent they agreed with the statement "I feel safe when I am at school". The answers were rated into four categories as follows: 1 = very agree, 2 = agree, 3 = disagree, 4 = very disagree.

#### *Students' Enjoyment in Reading*

Students were asked what they think about reading. They reported to what extent they agreed that (i) I enjoy reading; and (ii) I think reading is boring (1 = very agree, 2 = agree, 3 = disagree, 4 = very disagree; Cronbach's  $\alpha = .72$ ).

## 3. Descriptive Statistics

Figure 1 shows a normal distribution of Hong Kong students' achievement in reading. The average reading score is 573. A center point of 500 was set by the IEA with standard deviation of 100 (see Mullis et al., 2017). Using one-sample t-test, Hong Kong students performed significantly better at 73 points higher than the average international test score since it showed a positive sign.

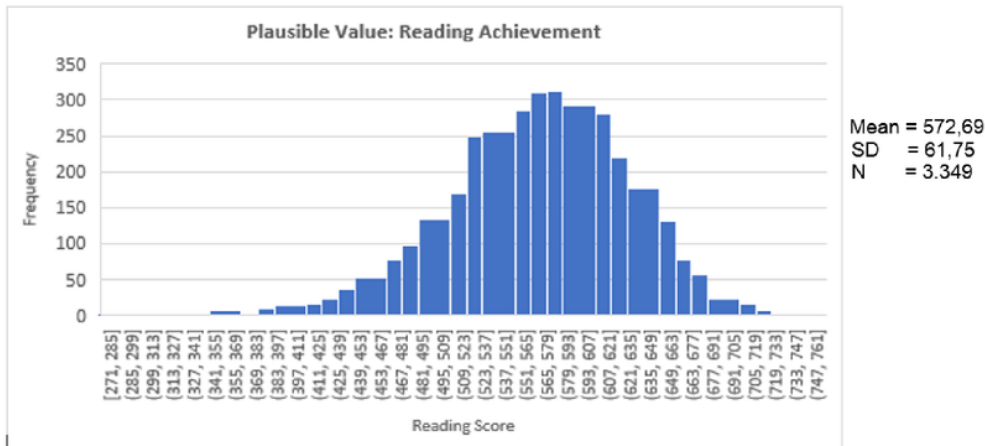


Figure 1. Distribution of Fourth Graders' Reading Achievement in Hong Kong

There are some variables that are predicted to be involved in influencing student reading achievement, such as students' safety feeling, reading enjoyment, and reading boredom. The description of each variable is presented in table 1 and for more detailed obtained answers, in figure 2.

Most of the students were feeling safe when they were at school (M = 1.64, Standard

Deviation = .84). When they were asked about their thought towards reading, from 3287 valid participants, the trend exhibits enjoyable feeling for reading (M = 1.72, Standard Deviation = .93) in line with disagreement feeling to the statement "reading is boring" (M = 3.24, Standard Deviation = .99) obtained from 3291 valid participants.

Table 1. Students' Feeling Towards School Safety and Reading Enjoyment

	Mean	Standard Deviation	N	
			valid	missing
Feeling safe at school	1.64	.84	3294	55
Enjoy reading	1.72	.93	3287	62
Reading is boring	3.24	.99	3291	58

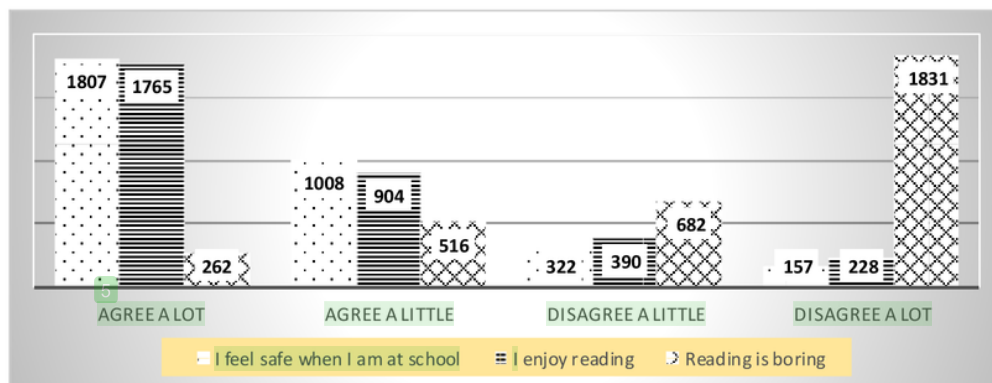


Figure 2. Total numbers obtained of each predictor variable

#### 4. Findings

The analyses below are designed to answer all the research questions regarding the effects of students' perception of the school environment towards reading achievement, research question about the correlation between students' enjoyment in reading and their reading achievement, and the correlation among them all.

##### a. Feeling Safety at School and Reading Achievement

As the aforementioned description, students in Hong Kong were feeling safe at school ( $M = 1.64$ ) and their reading achievement average is 573. Thus, to know the relation between these two variables, linear regression was used, and three dummy independent variables were made: those who very agree to the statement "I feel safe when I am at school" (dummy 1), collapsed values of agree and disagree (dummy 2) and very disagree to the statement (dummy 3). In the test, dummy 3 became the base.

The test result presented that 2.1% of the variance of the dependent variable is explained by independent variables. The t-value for dummy 1 and dummy 2 was more than 1.96 which means both dummy variables had a statistically significant impact on the reading achievement at a 95% level of confidence.

Therefore, we can accept the alternative hypothesis that there is a relationship between reading achievement and students' feeling safety at school, and then reject the null hypothesis.

##### b. Reading Enjoyment and Reading Achievement

A one-way between-groups analysis of variance (ANOVA) was conducted to investigate the effect of reading enjoyment towards

reading achievement. There are two predictor variables as explained in section 3.2.3. Separately, each independent variable is tested against reading achievement.

The independent variable of "I enjoy reading" statement significantly affected reading achievement at  $p < .05$  level. The scores for the four Likert-scale groups:  $F(3,3283) = 68.175$ ,  $p = .000$ . Since ANOVA cannot present within which groups the difference is, then another test, Post-Hoc had been run. The Post-Hoc comparisons using Bonferroni test presented the mean score for all four categories were significantly different from each other: Category 1 ( $M = 584.79$ ,  $SD = 59.66$ ), Category 2 ( $M = 568.10$ ,  $SD = 58.45$ ), Category 3 ( $M = 557.84$ ,  $SD = 63.58$ ), and Category 4 ( $M = 532.71$ ,  $SD = 56.45$ ).

Another independent variable with the statement "Reading is boring" was also scaled into four categories of to what extent the students agree about the statement, but the value had been recorded, since it has a negative answer meaning (Category 1: very disagree, category 2: disagree, category 3: agree, and category 4: very agree). The one-way ANOVA test presented that there was statistically significantly different at the  $p < .05$  level for the four scaled-category:  $F(3,3287) = 98.77$ ,  $p = .000$ . The same step was done as the previous independent variable. Post-Hoc comparisons using Bonferroni test indicated that the mean score of Category 1 ( $M = 584.99$ ,  $SD = 58.70$ ) did not significantly differ from Category 2 ( $M = 576.68$ ,  $SD = 54.99$ ), but statistically significantly differed from Category 3 ( $M = 547.31$ ,  $SD = 61.67$ ) and Category 4 ( $M = 533.25$ ,  $SD = 64.08$ ). Category 3 and 4 were significantly different from Category 1 and 2 but did not significantly differ to each other.

Table 2. Regression Coefficients for Plausible Value: Overall Reading PV1

Model		Unstandardized Coefficients		$\beta$	p
		B	SE		
1	(Constant)	616,71	2,81		,000
	Feeling safe at school	-5,23	1,25	-,072	,000
	Reading is boring (recoded)	-13,08	1,26	-,209	,000
	Enjoy Reading	-6,88	1,37	-,104	,000

**c. Effects of Feeling Safety at Schools and Reading Enjoyment on Reading Achievement**

Multiple regression analysis was designed to investigate students reading achievement using the enter method. The regressors were students' safety feeling and their personal feeling towards reading.

The overall regression model was statistically significant,  $F(3, 3269)=110.99$ ,  $p<.005$ . With the  $R^2=.092$ , it exhibited 9.2% of the variance in reading achievement can be predicted by the independent variables. In the regression coefficients, as can be seen at table 2, from the Standardized Beta ( $\beta$ ) column, reading is boring (recoded) variable had the strongest effect to the reading achievement and then followed by enjoying reading and feeling safe at school.

Now, let us move to the B column. Here, the model showed that for every one unit increase in feeling safe at school, the reading achievement will decrease by 5.23 units. Also similarly, for variable reading is boring (recoded), for every one unit increase in this variable, the dependent variable decreases by 13.08 units. Then, with every one unit increase in enjoy reading, it will decrease the reading achievement by 6.88 unit.

**5. Conclusion and Discussion**

The current study investigated some factors that account for Hong Kong students reading achievement, with its focus on the correlation between fourth graders' safety feeling inside school environment and their

reading enjoyment towards their reading achievement. Even though Hong Kong is one of the regions that has developed in term of ICT in education (Hermawan, 2019), but reading achievement and school environment play an essential role in the quality of education itself.

The analyses represented correlation between students' perception of their school environment against their reading achievement through reading comprehension test. The perception here was narrowed into feeling of being safe at school. This result showed the importance of creating a safe school environment because to gain a productive learning requires a safe environment (Diamanduros & Downs, 2011; Ferrin, 2011; Stephan, 2016). This study also confirms what Wang and Holcombe (2010) said in their study that students' perceptions of their school can contribute to their level of academic engagement (cited in Côté-Lussier and Fitzpatrick, 2016, p.548). Hence, it is highly encouraged for the schools to keep on creating a safe school environment for learners to be able to obtain better academic achievement (Lopez, 2019; Mooney et al, 2010).

Besides students' perception of their school environment, students' reading enjoyment is also predicted as another factor which can influence reading achievement. The correlation between these variables was explained through ANOVA and Post-Hoc test. The statistically significant difference means students' feeling of enjoyment in reading af-

fects their reading achievement. Unfortunately, detailed explanations of what factors can make students enjoy reading from the perspective of the students themselves are limited, but there are a number of predictable ways that can make students interested and enjoy reading as compiled by OECD (2012). Chiu & McBride-Chang (2006), Smith et al (2012) and Hochweber & Vieluf (2018) said that gender differences associated with reading achievement. Hence, this case can be investigated for future research.

The last research question of this study was answered through testing those two predictor variables together with the outcome variable aimed to know the correlation among them. As predicted, in the multiple regression test, the result was statistically significant. Then, it can be concluded that students' perception of the school environment and students' enjoyment in reading affected students' reading achievement, but the perception of reading is boring gave stronger effect to the reading achievement. Wayne et al (2013) and Gietz & McIntosh (2014) also stated that student perception and learning environment have a relationship with academic performance, including reading achievement. Further studies are needed by increasing the number of predicted variables to enhance the research accuracy level.

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