



**Secular vs. Islamic Education:**  
An Investigation of Factors Affecting English Achievement  
Gaps between *Sekolah* and *Madrasah* Schools in South  
Sulawesi, Indonesia

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## Abstract

In the last decades, there has been a growing interest regarding the underperformance of students in language learning in Islamic or *Madrasah* education compared to those attending secular or non-Islamic schools. Although numerous investigations have sought to explore the possible factors influencing poor learning outcomes for *Madrasah* students, there remains an insufficiency of existing research which adequately investigates the multifaced nature of these complex issues. For this reason, this study aims to shed light on the absence of current investigations by examining the disparities in student English achievement between Indonesian secular, or *Sekolah*, and Islamic, or *Madrasah*, schools, specifically possible factors such as school demographics, autonomy, resources, climates, teacher demographics and characteristics, professional development, cooperative competencies, job-related attitudes, teaching effectiveness, student demographics, wellbeing and learning behaviours, as well as how those factors contribute differently through direct and indirect effects on student performance.

This study involved 30 schools, 64 English teachers and 1,319 Year 12 students from Indonesian secular (*Sekolah*) and Islamic (*Madrasah*) schools. They were selected using a multi-stratified sample design and completed questionnaires and tests, and six school principals and six teachers from both groups, identified using random purposive sampling, were interviewed. Through a series of analyses including descriptive statistics, independent sample t-tests and a three-way ANOVA using SPSS, Multi-Group/Structural Equation Modelling (MG/SEM) with Mplus, Hierarchical Linear Modelling using HLM, and thematic analysis with NVivo software, this study offers some interesting findings. For example, a new trend of English achievement gaps between secular and Islamic schools was revealed with *Madrasah* students obtaining higher scores than secular students. The poorer English scores of boys who were enrolled in full-day and private secular schools might become a very critical issue given the lowest overall scores were achieved by the *Sekolah* group. Simultaneously, this study highlighted that student learning motivation contributed a weak effect on student achievement in Islamic schools, while no direct effect of motivation on performance was detected in secular schools. The strong influences of wellbeing and learning problems ('anxiety and difficulty') on student English achievements, in contrast, were evident in both groups and these need to be prioritized.



For the effects of teacher-level factors, the findings show that teacher professional development and cooperative competencies through collaboration and team-teaching have direct and indirect effects on their attitudes (efficacy and job satisfaction) and teaching performance as well as on student learning across the groups. Likewise, the significant roles of autonomous schools, school resources and positive school climates, such as teacher morale and support, were found to facilitate effective teaching and learning in secular and Islamic schools. The disciplinary and achievement pressures showed different effects on student English achievement in both groups; high disciplinary climates and low achievement pressures were aligned with better performance in secular schools, while greater pressure to achieve and lower discipline were aligned with higher English achievement in Islamic schools. However, this study acknowledges that low efficacy, a lack of job satisfaction and inadequate learning facilities in Islamic schools, as well as poor quality resources in secular schools, are still problematic and may hinder school, teaching and learning effectiveness. Finally, advanced instrument validity tests, Measurement Invariance (MI) and Differential Item Functioning (DIF) analysis were used to obtain a reliable and meaningful comparison.

**Keywords:** Secular-Islamic, *Sekolah*, *Madrasah*, Multilevel Factors, English, Indonesia

## **Dedication**

To the woman who departed on 13 Oct 2021, her absence is deeply felt, but her love and prayer live in every word of this thesis, my cherished mother.

(Alm.) Hj. Paciha Abdullah

This work is lovingly dedicated to you.  
*Al-Fatihah*

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# **Chapter 1:**

## **Secular-Islamic Education: Unravelling Challenges and Gaps**

# Secular-Islamic Education: Unravelling Challenges and Gaps

---

## 1.1 Introduction

Comparative research examining the effectiveness of religious and nonreligious education has long been a topic of great interest and debate within the education field. Among the existing studies, a particularly significant area of investigation revolves around the discrepancy in school output. This has been measured based on student academic performance. Interest in this was evident in the work of Coleman et al. (1982), and later others (Hallinan & Kubitschek, 2012; Lubienski & Lubienski, 2006; McEwan, 2001), resulting in strong evidence on how *types* of school influence student learning achievement differently. As far as comparative investigations are concerned, the main interest has been in examining Roman Catholic schooling in contrast to nonreligious, or secular, education such as public schools in various contexts. Favouring religious schools, the findings show that students at Catholic institutions did better in literacy and numeracy than those attending nonreligious schools. Catholic schools, funded and operated by the private sector, tend to benefit from financial resources and socioeconomic status. This is attributed to a better quality of school resources, better teachers, and school circumstances that include environment and family involvement. Therefore, it can be concluded that the functioning of the school system in religious schools is better than in secular schools.

However, the effectiveness of religious education is not observed in some developing countries that adopt a secular-religious education system, for example, Indonesia, where Islamic school students underachieve in areas including language when compared to secular or nonreligious schools (Hendajany, 2016; Newhouse & Beegle, 2006). Numerous studies have reported that most Indonesian Islamic or *Madrasah* schools belonging to the private sector and non-profit foundations receive insufficient government funding, and subsequently struggle to provide quality education (ADB, 2014; Ali et al., 2011; Ependi, 2020; Muhajir, 2016; Stern & Smith, 2016). Likewise, *Madrasah* education is recognized as an indigenous education institution established for the lower socio-economic groups; thus, they are not permitted to charge school tuition fees (Ghozali et al., 2013; Shaturaev, 2021). Consequently, these understandings in turn impact the budgeting system, with most Islamic-based schools lacking sufficient school resources and evidencing a teacher quality is doubtful and can hinder teaching

and learning effectiveness. For this reason, this study aims to explore and scrutinize the gaps between Indonesian secular and Islamic schools in achievement (i.e., English), and to consider possible factors that affect their achievement differently. The specific explanation of Indonesia's schooling 'secular-Islamic' system, the possible reasons behind the gaps between secular-Islamic education in Indonesian and global contexts, as well as how the research procedures are discussed in this chapter.

## 1.2 Indonesia's Secular-Islamic School System

Indonesia is well-recognized as a country with a massive and unique schooling system. This claim has been evident (Table 1. 1) as around 176,476 schools with 148,975 non-Islamic and 26,501 Islamic early childhood education services support the early learning of 28 million children; there are over 85,000 secondary institutions, and almost 1.6 million teachers, teaching approximately 20 million Indonesian pupils in grades seven through to twelve across the school types (MoECRT, 2023a). These numbers underscore Indonesia's position as the world's fourth-largest education system (Afkar et al., 2020; MoECRT, 2023b; OECD/ADB, 2015). Moreover, Indonesia has a peculiar dual system of secular and Islamic education that is managed by two separate ministries. Secular, or non-Islamic, schools are administered by the Ministry of Education and Culture (MoEC), while Islamic schools operate under the Ministry of Religious Affairs (MoRA). The separate governance systems have their beginning in the reactions and political debates between secular and religious nationalists over the character of education for Indonesian society in 1945 (Nasution, 1983; Sirozi, 2004). The secular nationalists countered that the Indonesian education system should aim to fulfil the secular needs of the society where nationalistic values are inculcated in the schools and curriculum (e.g., culture, art, language) as introduced by the Dutch. On the other hand, the Islamic leaders insisted on adopting the religious model, based on the teachings of the *Quran*<sup>1</sup> and *Hadith*<sup>2</sup> for the national education system, based on the *Pondok Pesantren*<sup>3</sup>, as the first and oldest schooling system in Indonesia. These conflicts meant that the post-independence government struggled to define the nature of the national education system and what schooling should include.

To solve the conflicts, the government issued the laws in Article 31, number 2 of the UUD-45<sup>4</sup> constitution to establish and implement a dual education system (Sirozi, 2004, p. 134).

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<sup>1</sup> The Islam faith's sacred book believed to be the word of God as dictated to the Prophet Muhammad by the archangel Gabriel and written down in Arabic.

<sup>2</sup> Corpus of the sayings or traditions of the Prophet Muhammad, revered by Muslims as a major source of religious law and moral guidance.

<sup>3</sup> Islamic boarding school.

<sup>4</sup> The 1945 State Constitution of the Republic of Indonesia.

This schooling system is currently known as comprising of ‘general’ or secular (*Sekolah*) schools managed by the Ministry of Education and Culture (MoEC) and ‘religious’ or Islamic/*Madrasah* schools run by the Ministry of Religious Affairs (MoRA). Of the total number of institutions in Indonesia, around 84% are secular or general schools, while 16% are Islamic or *Madrasah* schools (see Table 1. 1). Around 92%, or the vast majority of secular schools, are in the government or public sector. Eighty-two per cent of *Madrasah* schools, on the other hand, are mostly run by the private ‘*Yayasan*’ or non-profit foundations charging no fee to their students according to Law No. 20/2003 of the National Educational System (Afkar et al., 2020). The public and private schools under the auspices of the MoEC and MoRA operate with the same regulations and policies, including school levels, curriculum, and school autonomy. Both secular and Islamic schools have the same formal school levels (shown in Figure 1. 1) which are structured from basic (*Sekolah Dasar/SD* and *Madrasah Ibtidaiyah/MI*), lower secondary (*Sekolah Menengah Pertama/SMP* and *Madrasah Tsanawiyah/MTs*), upper secondary (*Sekolah Menengah Atas/SMA* and *Madrasah Aliyah/MA*) and university/college on to Islamic university/college as the higher education level (MoEC, 2017). These two school-based systems similarly regulate primary and secondary school levels of the 12-year compulsory education system which requires students aged between seven and twelve to attend formal education.

**Table 1. 1**

*Number of Schools, Teachers, and Students under MoEC and MoRA (2022/2023)*

School Level	<i>Sekolah</i>			<i>Madrasah</i>		
	Public	Private	Total	Public	Private	Total
Number of Schools						
Primary School	130,042	18,933	148,975	1,711	24,790	26,501
Junior High School	23,864	18,122	41,986	1,525	17,623	19,148
Senior High School	6,987	7,249	14,236	810	9,016	9,826
Total	160,893	44,304	205,197	4,046	51,429	55,475
Number of Teachers						
Primary School	1,373,257	232,252	1,605,509	42,056	265,931	307,987
Junior High School	517,227	191,448	708,675	67,163	249,897	317,060
Senior High School	250,089	97,888	347,977	45,787	127,650	173,437
Total	2,140,573	521,588	2,662,161	155,006	643,478	798,484
Number of Students						
Primary School	20,366,178	3,710,333	24,076,511	562,926	3,678,383	4,241,309
Junior High School	7,185,398	2,701,201	9,886,599	762,130	2,569,626	3,331,756
Senior High School	3,819,392	1,349,183	5,168,575	481,716	1,112,654	1,594,370
Total	31,370,968	7,760,717	39,131,685	1,806,772	7,360,663	9,167,435

Source: MoECRT

**Figure 1. 1**

*The Schooling System in Indonesia*

Usia Sekolah Resmi/ Official School Age	Jenjang Pendidikan / School Levels	Kemenag /MoRA	Kemendikbud /MoEC	
26	Pendidikan Tinggi (Higher Education)	Program Magister Islam & Doktorat (Islamic Master and Doctorate Degree)	Program Magister & Doktorat (Master and Doctorate /PhD Degree)	
25				
24		Program Sarjana Agama Islam (Islamic Bachelor Program)	Program Sarjana (Bachelor Program)	Program Diploma (Diploma Programs)
23				
22				
21	Pendidikan Menengah (Secondary Education)	Madrasah Aliyah (Islamic Senior High School)	Sekolah Menengah Atas (Senior High School)	Sekolah Menengah Kejuruan (Vocational High School)
20				
19				
18	Pendidikan Dasar (Basic Education)	Madrasah Tsanawiyah (Islamic Junior High School)	Sekolah Menengah Pertama (Junior High School)	
17				
16		Madrasah Ibtidaiyah (Islamic Primary School)	Sekolah Dasar (Primary School)	
15				
14				
13				
12				
11	Pendidikan Anak Usia Dini (Early Childhood Education)	Bustanul Athfal/ Raudatul Athfal (Islamic Kindergarten)	Taman Kanak-Kanak (Kindergarten)	
10				
9				
8				
7	Wajib Belajar / Compulsory Education			
6				
5				
4				
3				
2				
1				
0				

In terms of implementing the national curriculum, both general and *Madrasah* schools are regulated by the MoEC and required to meet certain learning standards, such as moral, cognitive, affective, and psychometric developmental aspects. Both school types supplement general subjects, including literacy (English, *Bahasa*<sup>5</sup>), numeracy, science, and social studies. For the spiritual development context, schools under the MoEC (e.g., *Sekolah* or secular schools) provide one or two additional subjects based on the student’s needs, including religious or denominational lessons (Islamic, Roman Catholic, Christian, Hindu, Buddhist and Konhucu<sup>6</sup>) to generally enhance all students’ understanding of their beliefs. In contrast, the *Madrasah* schools specifically offer six additional Islamic subjects, such as *Quran Hadith*<sup>7</sup>,

<sup>5</sup> National language of Indonesia.

<sup>6</sup> A ‘new’ official religion in Indonesia since 2000.

<sup>7</sup> Study of understanding, implementing and practising the contents of the Al-Qur'an-Hadith.



*Akidah Akhlak*<sup>8</sup>, *Fiqh*<sup>9</sup>, *Sejarah Kebudayaan Islam*<sup>10</sup> and Arabic language lessons (Nasir, 2009; Stern & Smith, 2016). These subjects cover Islamic values, traditions, and knowledge, including how to recite and understand the *Quran* and *Hadith* texts, Islamic culture, and the Arabic language in detail, as well as how the students implement these in their daily lives. Moreover, since the 2000s, the central government, MoEC and MoRA, have offered to transfer their authority over education policy in line with decentralization, without changing the basis of the national education system (Afkar et al., 2020; Rosser, 2018). This policy allows the provincial, district and school-level authority to plan and decide their own education management, curriculum development, school operations, and assessment policy to be aligned with local needs. The same regulations and decentralized decisions over the school management and operation applied in both secular and Islamic schools aim to improve education delivery, effectiveness, quality, and equality across different school characteristics and locations in Indonesia.

### **1.3 Problem Statements: Gaps and Challenges between Secular-Islamic Education in Indonesian and Global Contexts**

Although the Indonesian government has offered the same regulations and policies to enhance equal-quality education between secular and Islamic schools, much of the literature has investigated the possible factors affecting each system's achievements. More specifically, the investigations have separately claimed that challenges and disparities over student, teacher and school-level factors have become the main reasons for the uneven quality of education across secular and Islamic schools in Indonesia and other countries.

#### ***1.3.1 Flat 'English' learning and achievement discrepancies remain.***

Student learning in Indonesia has risen to a plateau in recent times. This is evident in the international assessment program, the Programme for International Student Assessment (PISA) 2000-2018, studies reporting that Indonesia's scores in the last two decades do not reveal significant improvement (see Table 1. 2). The latest PISA 2018 cycle shows that Indonesia continued to achieve scores lower than the OECD, East Asia, and Pacific averages, placing Indonesia as the sixth lowest country (ranking 73 out of 79) in reading with a score of 371.

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<sup>8</sup> Study of Islamic values and traditions.

<sup>9</sup> Study of Islamic law in how to correctly carry out the worship of Allah and conduct social relationships.

<sup>10</sup> Study of the history and culture of Islam.

For economies in mathematics (score of 379), Indonesia was the tenth poorest country in science with a score of 396 (Afkar et al., 2020). This trend is similarly shown in the national examination 2015-2019 results for Year 12 students in general or *Sekolah* and Islamic or *Madrasah* schools (Table 1. 3). The score is based on the average value of the combined average scores of tested subjects, including Mathematics, English, *Bahasa*, etc. In both school types, slight declines in students' scores appear continually year after year in the school programs, including in language, science, and social studies over five years. Regarding the students' scores based on the program they are enrolled in, the data also shows those learning science programs in general schools had better results than those in language and social studies. *Madrasah* students in science studies obtained higher national examination scores in 2015 compared to other programs. However, in 2016-2019, students majoring in language studies achieved higher scores than *Madrasah* students doing science and social majors.

**Table 1. 2**

*Indonesia's PISA Scores for 2000-2018*

	Reading	Math	Science
2000	371	367	393
2003	382	360	395
2006	393	391	393
2009	402	371	383
2012	396	375	382
2015	397	386	403
2018	371	379	396
OECD 2018	487	489	489
East Asian and Pacific 2018	472	490	487
Southeast Asia developing	385	404	409

**Source:** *Word Bank Indonesia 2018 PISA*

**Table 1. 3**

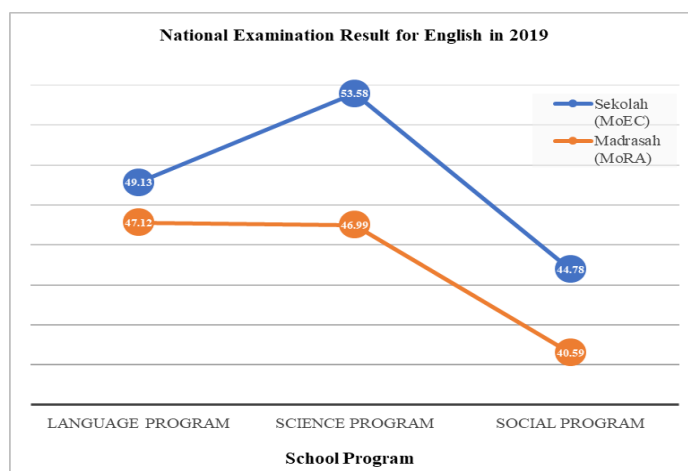
*NE Scores 2015-2019 across the Student Programs*

	General/Sekolah			Islamic/ Madrasah		
	Language	Science	Social	Language	Science	Social
2015	58.49	65.78	58.17	58.45	62.44	56.87
2016	53.20	57.29	52.68	55.48	54.36	53.07
2017	49.46	53.47	48.18	51.80	49.59	47.23
2018	50.74	51.76	46.31	50.97	47.10	43.94
2019	51.86	53.00	47.42	53.11	48.72	44.84

**Note:** *The NE (National Examination) score is based on the average value of the combined average scores of tested subjects, including Math, English, Bahasa, etc. Source: Word Bank Indonesia 2018 PISA*

**Figure 1. 2**

*Comparison of National Examination 2019 Results for English between Indonesian Sekolah and Madrasah Schools*



Furthermore, there were no significant discrepancies in student scores for all subjects between students from different majors in *Sekolah* and *Madrasah* schools from 2015 to 2018. However, according to the 2019 results (see Figure 1. 2), the achievement differences across the majors between the schools under MoEC and MoRA were evident in English subjects (reading and listening tests) as shown in Figure 1.2. A 6.59-point gap was revealed between the school types, with students enrolled in science programs in general/*Sekolah* schools obtaining higher scores (53.58) than Islamic/*Madrasah* students (46.99). Similarly, poorly performing students in Islamic schools are evident in other programs. *Madrasah* students in the social (40.59) and language (47.12) programs did worse than students majoring in social (44.78) and language (49.13) in general schools.

The achievement gap between the two school contexts has been documented previously by Newhouse and Beegle (2006) and Hendajany (2016) who examined the effect of school types on student outcomes in Indonesia. They highlighted a major disparity between Indonesian general and Islamic schools in academic performance, including English lessons (reading and listening), with *Madrasah* students in the private sector doing more poorly than those attending general/ *Sekolah* schools which are mostly public institutions. According to Stern and Smith (2016), the great benefit of secular/general schools that are part of the government/public sector system is that they receive adequate resources and funding, which explains their better performance, including in English. This concurs with some findings based on the reporting of lower English achievement for *Madrasah* students, which is still problematic in some countries including Bangladesh (Asadullah, 2015) and Malaysia (Ilias et

al., 2022), but not for students attending secular or non-Islamic schools. The poor English performance of *Madrasah* or Islamic school students has become a global issue for countries implementing secular and Islamic education, which leads to the situation of unequal education outcomes worldwide. Earlier studies highlighted that school attributes and student demographics might contribute greatly to diverging learning outcomes. Therefore, further comparative investigations on what other factors lead to different English language proficiency are urgently required.

### ***1.3.2 Students have enough motivation but still struggle to learn.***

Indonesian students possess enough motivation to learn English; this has been evident in several recent investigations (Purwanti & Puspita, 2019; Radfar & Lengkanawati, 2020). Such studies highlight that most students are eager to learn English not only for communication but also because they believe that English is one of the fundamental skills which will help them obtain better jobs and careers. This claim is supported by some observations from international school contexts which suggest that learning motivation is linked to career prospects and has become students' main interest in pursuing skills in the English language (Bernardo et al., 2015; Idikut et al., 2021; Kim, 2017). Moreover, highly motivated students are similar to those in Islamic schools in Indonesia (Amri et al., 2017; Bin Tahir, 2015). The implementation of multilingual education in *Madrasah/Pesantren* schools requiring students and teachers to use multiple languages, including English inside and outside the classroom, has had a positive effect on their motivation to study the language. This resonates with other studies conducted in Islamic schools in Indonesia, Turkey, and Bangladesh which report that *Madrasah* students are more likely to possess a high level of enthusiasm for English. They emphasize that students interested in cross-cultural understanding, travel, communication (Altiner, 2018; Rahman et al., 2021) and Islamic propagation aims (Farid & Lamb, 2020; Setiyadi & Sukirlan, 2016) are the main reasons for Islamic school students want to learn English.

Although Indonesian students from general and Islamic school settings possess a strong motivation to learn English, some other observations argue that learning problems, such as anxiety and difficulties, are still challenging for them. Studies conducted in Islamic school settings revealed that psychological and technical concerns emerge as the main causes of feeling anxious and having difficulty learning English (Hashemi, 2011; Hermida, 2021; Nafsiah, 2019; Zubaidi, 2021). Making mistakes and not having enough, or any, confidence causes them to struggle with their learning, and then they lose interest and perform poorly.

These problems are experienced by students in non-Islamic/secular schools (Ahmad & Nisa, 2019; Al-Sohbani, 2018; Hussain et al., 2011; Özsari & Büyükkarci, 2022; Saraswaty, 2018). Prior investigations conducted in Sindh (the third largest province of Pakistan), Yemen, Turkey and elsewhere assert that the complexities with English words, unfamiliar topics, meaning, and a lack of interest in English are recognized as the leading factors for learning problems. Students experiencing a lot of anxiety and difficulty tend to struggle with learning and perform poorly compared to those without these issues. To date, prior studies have concluded that secular and Islamic school students in Indonesia and other countries tend to have sufficient motivation to learn and improve their proficiency, but they still encounter significant problems. In this case, numerous research has highlighted that the effects of learning motivation and issues vary depending on their characteristics (Bećirović, 2017; Bećirović & Hurić-Bećirović, 2017; Hussain et al., 2011; Özsari & Büyükkarci, 2022), learning interest (Al-Sohbani, 2018; Hermida, 2021) and wellbeing (Brumariu et al., 2022; Huang, 2022; Kiefer et al., 2015; Mikami et al., 2017; OECD, 2017; Turunen et al., 2017). Subsequently, research addressing the paradox of student learning behaviours in various school contexts and what factors affect the issues is strongly needed.

### ***1.3.3 Student wellbeing on achievement, the stigma and concepts are still elusive.***

The positive effects of wellbeing on student learning achievement have been widely acknowledged internationally, but in Indonesia, it remains problematic for some reasons. Firstly, wellbeing issues in Indonesia are often stigmatized as personal problems involving mental health disorders (Hartini et al., 2018), inferring negative attitudes, stereotypes and discrimination against those suffering from mental health issues. Stigmatization might deter Indonesian students from seeking help and support for their issues, which worsens the quality of their life and what they can achieve. Moreover, very different ‘black and white’ views of wellbeing that are held by secular and Islamic perspectives might contribute to different understandings that emerge in the Indonesian dual schooling system. Wellbeing is generally labelled as life quality where the psychological, social and physical characteristics are good (Butler & Kern, 2016; Gillett-Swan, 2014; Seligman, 2018; Zajenkowska et al., 2021), for example, emotions, social relationships and physical health, and these help students’ learning progress. In Islam, wellbeing is defined as personal happiness made possible by adherence to religious beliefs and practices (Joshnloo, 2017; Joshnloo & Weijers, 2019). Religiosity, specifically Islamic beliefs, faith, and social values have become robust aspects of wellbeing for people who follow that creed. People with little or no religious values are certainly troubled

by worthlessness, and they lack the underlying reasons for what a meaningful life entails. In this case, the Islamic view of wellbeing has become more concentrated on attachment to religiousness, while plural possibilities, a secular outlook, and subjective wellness are typical of Western countries.

Although there is stigmatization and different attitudes to wellbeing, several investigations (e.g., in global, and Islamic schools) report the great influence of student wellbeing on their learning outcomes, including English competencies. As an example, an investigation by Ismail (2015) conducted in Taif, a city in Saudi Arabia, revealed that students' psychological emotions explained 65.8% of the variance in their English scores. It emerged that student happiness, hope and pride have positive effects on English expertise achievement, while anger, anxiety and hopelessness lead to negative outcomes. These findings are supported by some observations in different school settings and countries which report significant positive links between student enjoyment (Jin & Zhang, 2018; Li, 2020; Reindl et al., 2018), optimism (Huang, 2022) and English achievement, while negative relationships between student anxiety levels (Brumariu et al., 2022; Lindorff, 2020) and English results were also revealed. So students who possess a high level of happiness and optimism, traits which are required for better English learning and achievement, tend to have a lot of self-worth and do not experience depression.

Furthermore, focusing on the effects of student social wellbeing on their achievement, numerous studies conducted across different education settings in Indonesia, India and elsewhere report the importance of student peer-belonging (Finley, 2018; Mikami et al., 2017) and problems posed by bullying (Alotaibi, 2019; Rahmawati et al., 2021; Turunen et al., 2017) on student language learning. It has been claimed that students who have good relationships with their peers are more likely to receive more academic and non-academic support. Conversely, those who experienced more bullying or teasing tend to struggle and lose their motivation to learn, which spirals into attaining poor grades. Other observations suggest that students' emotional, psychological and social wellbeing influence one another (Coyle et al., 2021; Demirtaş, 2020; Emerson et al., 2022; Oberle et al., 2018; Zapata-Lamana et al., 2021), and the effects of wellbeing on student outcomes might vary depending on student characteristics (Aunampai et al., 2022; Çikrikci et al., 2019; Rana et al., 2020; Roussi-Vergou et al., 2018) and school demographics (Badri et al., 2018; Mirahmadizadeh et al., 2020). The reviewed literature claims the significant influence of student wellbeing on their school performance in various school contexts (e.g., Islamic, and non-Islamic schools) such as Indonesia. Prior studies tend to fail to address the binary perceptions of wellbeing that exist in

secular and Islamic schools and fail to quantify the gaps between them. Studies which address those issues and examine how wellbeing affects student achievement differently across school types are required.

#### ***1.3.4 Disparities in the status of teaching and its effects on teacher education opportunities, attitudes, performance, and collaboration.***

Lack of consistency in the status afforded to teaching in Indonesian secular and Islamic schools hinders the quality and equality of education. Several studies noted that the disadvantages of *Madrasah* teachers in terms of occupational status may mean they struggle to provide high-quality lessons compared to those in secular institutions. The data show that the vast majority of teachers in Islamic institutions (81%) are categorized as non-civil servant/ honorarium/non-permanent teachers, while the remaining 19% work as public sector employees and permanent teachers (ADB, 2014a; Bahri et al., 2018; Muhajir, 2016; Stern & Smith, 2016). Of the total secular teachers under the MoEC, in contrast, 40% are public sector teachers and 25% are permanent in the community's profit-based foundations, and 35% are non-civil servant/honorarium and non-permanent teachers (Afkar et al., 2020; World Bank, 2019). Permanent teachers mostly working in secular schools tend to benefit from high salaries, certification programs and teacher training programs. Civil service teachers and permanent teachers have standardized, and regular wages paid by the government and for-profit foundations. As teachers employed by the government, *Pegawai Negeri Sipil/ PNS* or civil servant teachers also receive additional financial benefits, including housing allowances, transport subsidies, automatic salary increases, health insurance and pension plans, and bonuses based on their performance and length of service (García & Han, 2022). On the other hand, honorarium or non-permanent teachers in the *Madrasah* institutions earn low wages due to the availability of funding in their workplace (*Dana Bantuan Operasional Sekolah/BOS*). Reports have shown that a non-civil servant teacher only receives Rp.320,000 (US\$21) and non-permanent teachers earn US\$40 per month (Afkar et al., 2020; World Bank, 2019). Public service teachers receive US\$600 and other financial allowances from the government. The wage gap between these groups is one possible factor hindering equity in the education sector.

In terms of teacher education accessibility, civil servant teachers in many countries, including Indonesia, have more teacher training and professional improvement opportunities (Kusumawardhani, 2017). They have better access to government-funded training and certification programs made possible by other education-related authorities to enhance their pedagogical knowledge and skills. For those 'non-civil servant teachers', in contrast, they may

not receive enough support from their school, thus, they have limited access to professional development opportunities (ADB, 2014; Afkar et al., 2020; Kholis & Murwanti, 2019). Consequently, non-civil servant teachers and non-permanent teachers are typically responsible for their teacher training costs including fees for course and learning materials. This financial burden can be a significant problem for them, especially for teachers who do not earn enough money.

The disadvantages of the honorarium and non-permanent teachers, who are mostly found in *Madrasah* institutions, suggest that teachers in secular or non-Islamic schools are doing better financially and have more resources compared to those in Indonesian Islamic schools. This problem does not only affect teaching performance but also attitudes, such as efficacy and job satisfaction, which compromise their commitment to the school community. This claim has highlighted that teacher income and job status strongly influence how confident and satisfied with their job they feel, as well as how they engage with the school community and teach effectively (OECD, 2014). Similar issues of lower-paid and untrained teachers are still widespread in Islamic education in some countries such as Bangladesh (Mullick & Sheesh, 2008), Malaysia (Ilias et al., 2022), and Pakistan (Gul & Shah, 2019). It is a major reason for the low teacher quality in Islamic schools worldwide.

However, other studies conducted in Indonesian and Malaysian Islamic school contexts tend to argue against this claim. They suggest that spiritual levels are strongly associated with high teaching confidence (Dewi et al., 2021; Dimiyati & Avicenna, 2022) and job fulfilment (Amaliah et al., 2015; Yafiz et al., 2022) is allied with high teaching performance. *Madrasah* teachers are recognized as having high religiosity levels and are more likely to possess high teaching confidence and effectiveness in their work. Other findings also support that *Madrasah* teachers are happier working collaboratively with their peers, for example through group coaching (Ma'arif et al., 2022), sharing learning materials (Arkiang & Adwiah, 2020) and teaching-learning techniques (Tasrim & Supriyanto, 2017). These enhance their professional growth and students' learning and foster a culture of creativity and innovation. The great benefits of spiritual values on teacher attitude and performance, as well as cooperation for Islamic school teachers, are some recompenses for the lower wages and teacher education issues. A report by the OECD (2009) argues that teachers' personal and professional characteristics, different school settings and countries might explain the different effects on how confident and satisfied they are in teaching, as well as how they cooperate with the school communities. International debate over different factors that lead to



different teaching quality in secular and Islamic schools warrants further comparative investigation.

### ***1.3.5 Insufficient government financial support is still problematic in ‘Private’ Madrasah schools.***

The large discrepancies in the school sector and the separation between Indonesian secular and Islamic schools might be the main explanation for the inequality in education. Of the total number of institutions in Indonesia, around 92% of secular schools operate in the public or government sector, while 82% of *Madrasah* or Islamic schools are mostly governed by private and non-profit foundations (OECD/ADB, 2015). Both secular and Islamic schools in the public/government and private sectors get financial support from the government, such as subsidized funds for daily operations (*Dana Bantuan Operasional Sekolah/BOS*). However, non-government schools, which are mostly *Madrasah* schools, receive less financial support compared to public schools (mostly in secular-school institutions) receiving between 40-75% of the funds depending on the district and provincial government priorities (Afkar et al., 2020; Stern & Smith, 2016). Moreover, 92% of Islamic schools are registered as community-based charities or non-profit foundations, and are attended by students from low-middle socioeconomic groups (ADB, 2014; Ghazali et al., 2013; Shaturaev, 2021); they are not allowed to receive school fees as directed by the National Education System Law No. 20/2003. They rely heavily on government financial support and charitable donations, which might not be enough to meet all their financial needs, for example, improving facilities, resources, and paying teachers. Therefore, these issues have caused problems to emerge in *Madrasah* schools that affect teaching and student learning outcomes.

### ***1.3.6 Lack of school resources in Islamic schools affects their effectiveness and might relate to poor school life quality.***

Due to the lack of government funding support, several challenges, especially resourcing issues faced by Islamic schools, still need to be solved. Numerous studies have reported that most private schools, which are mostly *Madrasah* institutions, have insufficient and poor-quality materials (ADB, 2014; Ali et al., 2011; Ependi, 2020; Muhajir, 2016). As well, Islamic schools experience more challenges in teacher quality compared to secular schools. As most of them are operated by private authorities, many teachers in Islamic schools are not government employees and are non-permanent teachers. They earn low wages from the school budget and do not receive standard salaries from the government, unlike the teachers in public schools

(ADB, 2014; Bahri et al., 2018; Muhajir, 2016). Moreover, 28% of *Madrasah* teachers do not complete their Bachelor of Teaching degree (Ahid, 2010), nor do they have sufficient opportunities to participate in professional development and certification programs to update their knowledge and skills (ADB, 2014; Kholis & Murwanti, 2019). Therefore, insufficient and low-quality school facilities and human resources strongly contribute to poor teaching and learning effectiveness in *Madrasah* schools.

Furthermore, the efficiency of school resources in non-Islamic schools is highly correlated with positive school life and school success. This is evident in a study by Damanik and Aldridge (2017) who sampled 27 secondary schools in three provinces in Indonesia, revealing that school resource quality is strongly associated with the quality of the environment. This claim corroborates several findings from various countries which concur that sufficient school resources lead to good outcomes, for example, teachers being highly enthusiastic, confident and fulfilled (Huang et al., 2021), how the schools deal with discipline (Maingi et al., 2017), how teachers provide support to students, and how the schools view students' academic outcomes (Uline & Tschannen-Moran, 2008). On the other hand, with regard to the claims of poor school resources negatively affecting school life in Islamic schools, several observations have asserted that school resources are not the only aspect required for a positive school climate. Na'imah et al. (2022) sampled Indonesian and Malaysian Islamic schools, highlighting the impact of religiosity on school culture. Spiritual aspects, such as Islamic values and traditions, strengthen the quality of the school and this is in line with an investigation by Abdullah (2019) who reported spiritual values, norms and behaviours can support individual and community socio-emotional demands, generating a sense of belonging and security in the school. The factors influencing a school's quality of life are supported by the OECD (2012) findings; however, a specific study focusing on these issues is strongly needed.

### ***1.3.7 Autonomous schools exist but this system is inequitable.***

To promote an equitable system of education, the central ministries of Indonesia, MoEC and MoRA, have transferred their authority regarding operational and management matters to school-based management (SBM) in the name of decentralization (Rosser, 2018). The schools now have the authority to manage their own resources more effectively and address local needs. According to Afandi et al. (2022), school-based authority has several advantages that lead to better school effectiveness. For example, schools can produce their own curriculum content,

which must still align with the national curriculum. They are also allowed to select effective teaching and learning strategies based on the subject characteristics, student needs and school circumstances. Schools can use their authority to hire honorarium, contract, and non-permanent teachers. The great benefit of greater operational autonomy is that it produces better school performance than those with less autonomy, as has been claimed in some early literature (OECD, 2011; Patrinos et al., 2015). Schools which have a high level of authority over their assessment, textbook and subject content selections, as well as staff recruitment, are better at dealing with school-community demands. Studies highlight that greater autonomy in decisions relating to the teaching and learning policies, especially when the schools operate within a culture of accountability, is strongly associated with better student outcomes.

Furthermore, some investigations have reported that school-based autonomy in line with decentralization is well-suited to Indonesia's education system (Chang et al., 2013; The World Bank, 2019). Nevertheless, several districts and schools still struggle to be efficient, which can lead to negative outcomes. This problem is predicted to create teaching and learning quality shortfalls in both secular and Islamic schools, public and private institutions, as well as schools located in different areas. A report by the World Bank suggests that the majority of Indonesian schools, including those under MoEC and MoRA, do not have enough legal authority to manage non-salary budget issues such as the continual training of staff (Afandi et al., 2022). Another recent study by Fuad et al. (2022) assessing the implementation of School-based Management (SBM) in Indonesia highlights that the central government has supported the available funding mechanism for schools. However, the study revealed some challenges affecting the SBM effectiveness, for example, poor knowledge and competencies of the school communities on concepts and practices found in autonomous schools. Another problem is parents' participation and representation, especially in rural areas, in terms of school management and how decisions are made. They tend to lack awareness and commitment to school management practices, and simply accept the decisions made by the school's leaders. For this reason, a sense of community, cooperation and trust between parents and schools is not realistic, and decisions about teaching and learning practices do not address all stakeholders' needs. Therefore, large gaps in school-based management effectiveness, which might influence the effectiveness of teaching and learning differently, are evident in many settings in Indonesia. A study which concerns on the issues is urgently needed.

## 1.4. Aim and Research Questions

To address the rationales of the challenges and discrepancies between the secular and Islamic schools in Indonesia and global contexts, this study aims to investigate the disparities in students' English achievement, and how certain factors influence student outcomes differently. For this reason, meaningful comparisons of the issues are offered by proposing specific research questions, as follows:

- 1) What are the discrepancies in English achievement between the students attending secular (*Sekolah*) and Islamic (*Madrasah*) schools? How do school sectors and student gender affect these gaps?
- 2) What are the significant differences between students from secular and Islamic schools in terms of wellbeing, learning motivation, anxiety, and difficulties in English learning? Is there any similarity between them?
- 3) How do student demographics, wellbeing, learning motivation, anxiety and difficulties influence their English proficiency in *Sekolah* and *Madrasah* schools differently? How do those student-level factors influence one another?
- 4) What are the disparities between teachers in secular and Islamic schools regarding their demographic features, job characteristics, cooperative competencies, job-related attitudes and teaching effectiveness? What are the relationships and effects of those factors on their teaching of English and how do these align with student outcomes?
- 5) What are the differences between *Sekolah* and *Madrasah* schools in terms of demographics, autonomy, resources, and environment? What are the relationships and effects of those school-level factors and how are they reconciled with teaching and learning effectiveness?
- 6) How do those explained factors at the student, teacher, and school levels influence students' English reading and listening scores in secular and Islamic schools? How do those factors interact with one another and what differences emerge?

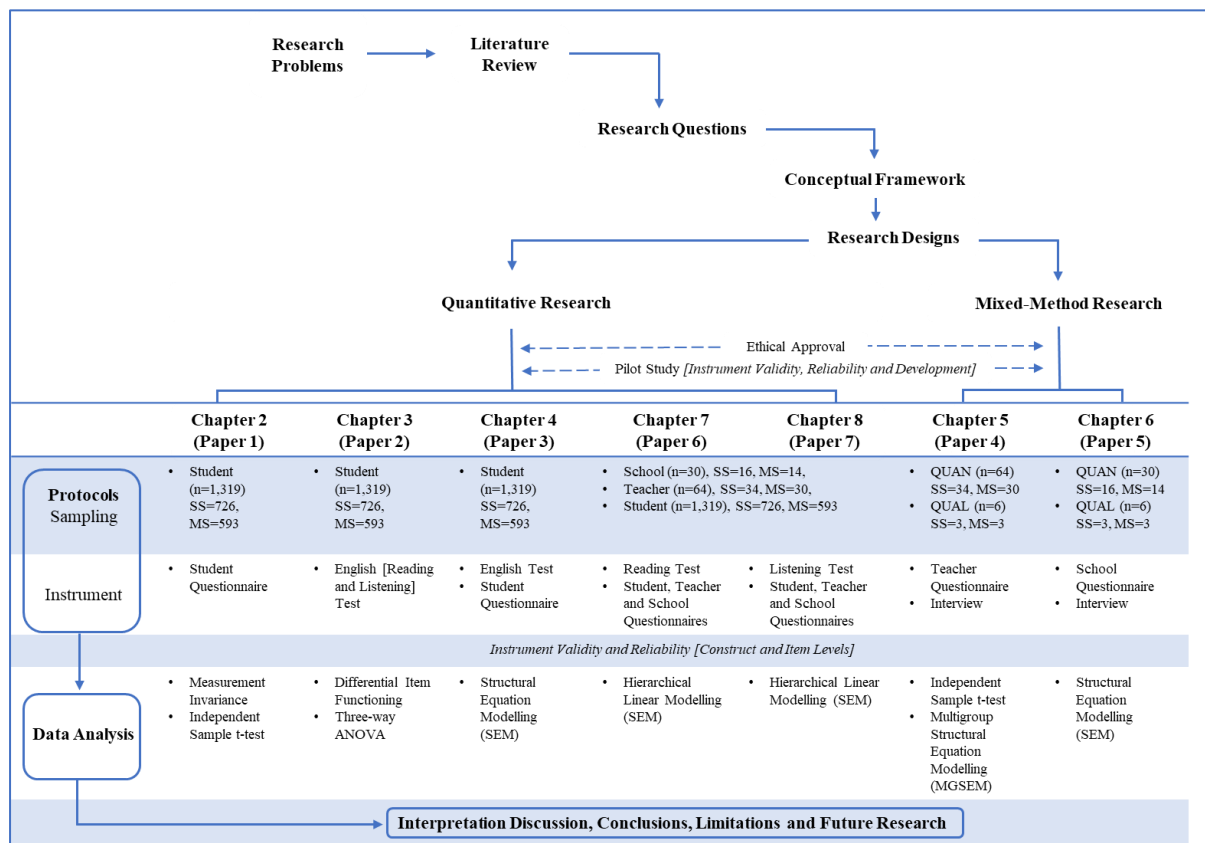
## 1.5. Research Procedure: Administration and Method

As shown in Figure 1. 3, this study involves several major steps and is based on the work done by Cohen (2013). Firstly, research problems were identified based on the prior literature and debates over the discrepancy between religious and non-religious schools, especially secular-Islamic education regarding the school, teaching and learning effectiveness as discussed in Section 2 of this chapter. A review of the literature was conducted to understand the published

research and debates related to the topics covered in this study. Research questions and a conceptual framework were generated based on the stated problems and arguments found in the literature review. Moreover, in this study, a quantitative research design was utilized in Chapters 2, 3, 4 7 and 8, while Chapters 5 and 6 both used an explanatory sequential mixed-method approach for the issues covered there. The quantitative method was utilized to quantify the disparities and examine the relationships among the tested variables, while the mixed-method design involved quantitative analysis followed by qualitative methods using interviews to develop and strengthen the study's conclusions (Mills & Gay, 2016).

**Figure 1. 3**

*Research Method / Structure of the Study*



Prior to the study's commencement, ethics approval and permission were obtained from the University of Adelaide and the Government of South Sulawesi, Indonesia. Initially, ethics clearance was sought from the Human Research and Ethics Committee (HREC) of the University of Adelaide, and this was granted on 8 April 2020. The final approval was given the designation Project No. H-2020-038 (Appendix A) and included several conditions: 1) an Information Sheet and consent form were to be provided to the participants; 2) consent from the parents or guardians was to be attained for those taking part who were under 18 years of

age; 3) the participants' identities were to be kept confidential at all times when doing the survey, test and interviews; 4) data collection was not to be conducted during instructional and learning times in the schools; 5) participation was entirely voluntary, and every participant was free to withdraw at any time; 6) the schools' reputation, teachers' employment, and students' academic grades were not to be identified. These conditions were explained clearly to the participants before the collection of data started, in order to minimize or remove all doubts and to ensure that the study met the ethical requirements.

Furthermore, approval was sought from the Ministry of Education and Culture (MoEC) and Ministry of Religious Affairs (MoRA) in Indonesia at the national provincial and regional levels. The permission to commence in South Sulawesi province was granted (No. 5048/S.01/PTSP/2020) on 24 August 2020 by the Research Integrity Committee of the Government of South Sulawesi (Appendix B). Regionally, permissions were obtained from the Department of Religious Affairs (DepRA) on 28 August 2020 (No. B2105/KK.21.03/2/PP.00/08/2020) and the Department of Education and Culture (DepEC) on 11 September 2020 (No. 867/605-CD.WIL.III/DISDIK) for the researcher to conduct the study in both *Madrasah*/Islamic and *Sekolah*/general schools within the division. Moreover, permission letter requests and ethics conditions were sent to the schools to ask for their participation in this study. The approvals granted signalled the researcher's right to embark on collecting data from the principals, teachers and students. All participants were assured of confidentiality by giving a clear explanation that their responses would be strictly used for research purposes and nothing else.

After obtaining ethical approval, a pilot study was conducted on the targeted samples, namely school principals, English teachers, and Year 12 students from both *Sekolah* and *Madrasah* schools to refine the items, reliability of the research instruments, and time needed to complete the questionnaires and tests. The results obtained here were only used to improve the instruments employed in the actual study. The questionnaires, English achievement tests and interview questions were initially checked by the researcher and his supervisors who commented on the relevance and suitability of all items. After incorporating the recommendations and modifying some items, online questionnaires using Qualtrics software were tested on 40 students, 9 English teachers and 4 school principals from both targeted groups. Then, the student survey and test results were analyzed using SPSS (v.26) and CITAS 2016 software. The reliability coefficient results for each construct on the questionnaire and item reliability from the test showed an acceptable (>0.80) consistency range. Due to the sample size, only face validity was used for teacher and principal questionnaires, thus

comments and suggestions from participants were noted for further modification and review of the instruments. Participants in the pilot study were neither the actual nor potential respondents for the main study.

After all relevant modifications and revisions, the instruments used in this study were named ‘English Test’, ‘Student Questionnaire’, ‘Teacher Questionnaire’ and ‘School Questionnaire’. The English test consisted of 20 items of reading and listening, which included three dimensions of each (Appendix J). The student questionnaire contained four sections, that is, demographics, motivation, anxiety, and difficulty in English reading and listening, as well as wellbeing (Appendix I). The teacher questionnaire included four sections of personal and professional profiles, professional development, job-related attitudes, cooperation, and English teaching practices (Appendix H). In the school questionnaire, four sections concerning school demographics, autonomy, resources, and climates were included (Appendix G). Cover letters were attached with the questionnaires and achievement tests to explain the aims of the study to the participants, institutions, and departments, and to ensure the ethical and appropriate administration of the instruments.

**Table 1. 4**

*Number of Participants in this Study*

<i>District</i>	<b>Group</b>						<b>Total Sample</b>		
	<b>Secular/Sekolah</b>			<b>Islamic/Madrasah</b>			<b>School</b>	<b>Teacher</b>	<b>Student</b>
	<b>School</b>	<b>Teacher</b>	<b>Student</b>	<b>School</b>	<b>Teacher</b>	<b>Student</b>			
District 01	2	5	100	1	2	40	3	7	140
District 02	1	2	40	1	2	34	2	4	74
District 03	1	2	41	1	2	40	2	4	81
District 04	1	2	50	1	2	40	2	4	90
District 05	1	2	42	1	2	42	2	4	84
District 06	2	4	68	1	4	97	3	8	165
District 07	2	4	80	1	2	40	3	6	120
District 08	1	3	97	1	2	39	2	5	136
District 09	1	2	39	1	2	40	2	4	79
District 10	2	4	86	1	2	34	3	6	120
District 11	1	2	50	2	4	77	3	6	127
District 12	1	2	33	2	4	70	3	6	103
Total	16	34	726	14	30	593	30	64	1319

Research instrument questionnaires, tests and information sheets (Appendices C, D, E and F) were distributed to the participants (November 2020 – February 2021) who were selected using a multi-stratified sample design dividing the population into similar groups and randomly sampled from different strata (Cohen et al., 2002; Mills & Gay, 2016). Firstly, twelve districts were selected using the probabilities (at least one secular and one Islamic school) to

their school types ‘secular or *Sekolah* and Islamic or *Madrasah*’ as the main interest of this study. Then, the *Sekolah* ( $n=16$ ) and *Madrasah* ( $n=14$ ) schools which have Year 12 students, and two English teachers were systematically selected following school size and school sampling frame, as taken from the regional lists of the eligible schools. Teachers and classrooms were selected using probability random stratified and purposive sampling. Once the schools were chosen for the sample, the schools prepared a list of Year 12 student classrooms and their English teachers. At least two classrooms with two different English teachers from secular ( $n=34$ ) and Islamic ( $n=30$ ) schools were selected. Simultaneously, 726 students from *Sekolah* and 593 students from *Madrasah* schools were sampled by probability and purposive samples. In total, 30 schools, 64 English teachers and 1,319 students participated in this study as documented in Table 1. 4.

For the qualitative stage, a random purposive sampling technique was employed. This stage is different from the quantitative phase, which dealt with sufficient sample size or representativeness and redundancy based on numerical/statistical evaluation (Mills & Gay, 2016). In this stage, sample selection was based on the sample that is believed to represent the given group population. For example, in this study, six school principals, three from secular and three from Islamic schools and with different school demographics, such as sector, service and location, were interviewed (June 2022). This study also selected three *Sekolah* and three *Madrasah* English teachers who were purposively sampled and interviewed (July 2022); these people had different demographic backgrounds including school sector, job status and employment history, and represented the given group population. Sample designs used in this study are more accurate in proportional and non-proportional sampling, and guarantee that they represent the related subgroups within the sample (Mills & Gay, 2016; Ross, 2005). Furthermore, instrument validation → data analysis → reporting stages, including interpretation, discussion, conclusion, implications, and limitations, were carried out (see Table 1. 3). These phases are more specifically and separately reported in each findings’ chapter, depending on what is being analyzed.

## **1.6. Structure of Thesis**

As discussed in the previous sections, this thesis opens with a brief explanation of why this study needs to be conducted and an extensive introduction (Chapter 1) to Indonesia’s ‘secular-Islamic’ education system. The chapter also provides the specific challenges relating to the discrepancies between secular and Islamic education in school, teacher, and student-level factors, and how these shape their outcomes. Four stages of the research process - exploring,



investigating, processing, and creating phases - were likewise discussed to provide information on how all research procedures were undertaken. The remaining eight chapters of this thesis (Chapter 2 to Chapter 8) are the main analytical results/findings which address the major research questions and objectives. These chapters are designed to be 'stand-alone' chapters, written and structured based on what the publishing journals required for formatting and style requirements. The research design, sampling technique, number of participants, instrument use and validations explained in each paper require some repetition; however, they are paraphrased to avoid verbatim duplication.

Chapter 2 addresses the scarcity of comparative investigation between secular-Islamic schools in language achievement. Classifying three subskills of English reading and three subskills of listening as the same cognitive tests tested in both *Sekolah* ( $n=726$ ) and *Madrasah* ( $n=593$ ) groups using a three-way ANOVA, we investigated whether students enrolled in secular and Islamic schools significantly differed in locating information, understanding ideas and information, evaluating text content and textual elements in the reading test, as well as listening for gist or general, or specific and detailed information in the listening test. Concurrently, the analysis considered discrepancies in the tested skills between the students from public and private schools, as well as between male and female students. Other investigations of the interaction effects of the school system, sector and student gender on student English achievement were also undertaken. The fairness of the measurement tools using the Differential Item Functioning (DIF) was initially established to guarantee that these tools were used in the same way for both groups. Empirical findings on the gaps in the tested variables among the students from different school systems and sectors, as well as boys and girls, were established. Practical implications of promoting equity and equality of education across the groups are discussed.

In Chapter 3, the study addresses the very different beliefs and discrepancies in psychological education terms and wellbeing domains that are evident in secular 'Western' as opposed to Islamic perspectives. In this chapter, an advanced validation analysis, 'Multi-Group Confirmatory Factor Analysis (MGCFA)', using a measurement invariance test was conducted. This aims to address the issues of whether the 726 students from secular, and 593 students in Islamic schools, differ in concepts and levels of psychological behaviours in learning English, for example in reading and listening motivation, anxiety, difficulty, and wellbeing aspects. Further analysis using a three-way ANOVA was run to identify the significant differences in those tested psychometric factors and wellbeing domains across the school systems, sectors and student gender. Empirical knowledge on the presence of similar or dissimilar

understandings of several tested factors between secular and Islamic groups was revealed. Simultaneously, the gaps in the tested measures across the school sectors and student gender were detected. Methodological implications of the fairness of measurement tools used for cross-group comparisons and practical recommendations are discussed.

Similar to the previous chapters, in Chapter 4, the student data consisting of 1,319 students grouped into *Sekolah* ( $n=726$ ) and *Madrasah* ( $n=593$ ) groups were used. This chapter combines the tested measures in Chapter 2 and students' reading and listening scores explained in Chapter 3, by investigating the possible factors that influence their English reading and listening differently across the comparable groups. Firstly, the conceptual model, which is theoretically adapted from previous research, shows how the possible factors directly and indirectly affect student language achievement. Using the Structural Equation Modelling (SEM) analysis, this chapter generates statistical comparisons and explorations of the influence of the school sector, student demographics, learning motivation, learning anxiety, learning difficulty and wellbeing on students' English achievement. Empirical evidence for the emerging issues concerning the direct and indirect influences of tested factors on students' English achievement in secular and Islamic education was revealed. Numerous practical implications in addressing the effects of the school sector and gender, as well as learning behaviours and wellbeing needs on their achievement in both groups, are established.

In Chapter 5, we compared the differences between teachers working in secular and Islamic schools regarding their job-related attitudes, cooperative competencies, and English teaching effectiveness, as well as how the tested variables contributed to direct and indirect effects relating to how they use ICT and how they teach English reading and listening effectively. Involving 34 teachers from *Sekolah* and 30 teachers from *Madrasah* schools and using a mixed-method study, this chapter first proposed a conceptual framework based on the reviewed literature to illustrate the expected relationships between the measured factors. Moreover, statistical comparison using independent sample *t*-test and explorations with Multi-Group Structural Equation Modelling (MGSEM) examined the influences of the school sector, teachers' personal and professional demographics, professional development, job-related attitudes, and teacher cooperation on their teaching performances. A follow-up investigation using thematic analysis based on the interview results was carried out to confirm and explain the findings obtained from the statistical analysis between the groups. Altogether, this study has offered practical knowledge on the direct and indirect influences of teacher attitudes, cooperative competence, and professional development on teaching performance in secular and

Islamic school settings. Likewise, practical and policy recommendations to improve teachers' English pedagogical competencies by focusing on teacher needs in both groups are discussed.

An investigation of the school-level factors influencing teaching and learning effectiveness between 16 secular schools and 14 Islamic schools is provided in Chapter 6. This mixed-method study first proposed a conceptual framework drawn from early studies to identify associations among the tested variables. Then, Structural Equation Modelling (SEM) was undertaken to compare the significant differences and explain the relationships between measured variables, such as school demographics, autonomy, resources, and climates. Interviews ( $n=6$ ) were conducted to confirm the findings obtained from the statistical analyses, as well as to explore the *Sekolah* and *Madrasah* school leaders' perspectives on how those factors guide teaching and learning effectiveness. Evidence for the discrepancy between secular and Islamic schools over school autonomy, resources and climates and their impacts on teaching and learning performances is offered. Simultaneously, practical and policy recommendations which address the importance of school autonomy, resources, and positive school culture to the school community and environment are discussed.

In Chapter 7 and Chapter 8, analyses of Hierarchical Linear Modelling (HLM) using school ( $n=30$ ), teacher ( $n=64$ ), and student ( $n=1,319$ ) data were done separately in both secular and *Madrasah* groups. The differences are that, firstly, in Chapter 7, we investigated how the school, teacher and student-level factors have direct and moderating effects on students' English reading achievement across the groups. An investigation of the direct and indirect influences of the predictors at school, teacher, and student levels on English listening scores in both *Sekolah* and *Madrasah* schools is described in Chapter 8. These studies have presented empirical evidence for the multilevel factors influencing students' English reading and listening outcomes in secular and Islamic schools in Indonesia. Likewise, Chapter 7 and Chapter 8 discussed the proportions of variance in students' English reading and listening performance explained by student, teacher, and school-level factors in both groups. In conclusion, both chapters offer practical and policy implications and recommendations for secular and Islamic schools regarding the importance of resources, autonomy, climate, teacher attitudes, cooperative competencies, and teaching effectiveness on students' English learning behaviours, wellbeing, and achievements.

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## **Chapter 2:**

Indonesian Secular vs *Madrasah* Schools:  
Assessing the Discrepancy in English Reading and  
Listening Tests

# Statement of Authorship Declaration

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- I. the candidate's stated contribution to the publication is accurate (as detailed above);
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# Indonesian Secular vs *Madrasah* Schools: Assessing the Discrepancy in English Reading and Listening Tests

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## Abstract

The greater emphasis on the significance and difference in English performance between the school types has mainly been investigated across Asian countries. However, not much is known about what language skills differentiate their overall language achievement. Using an English test, this study measured the reading and listening skills of 1,319 Indonesian students who were selected using a stratified sample design and grouped them into secular (*Sekolah*, n=726) and Islamic (*Madrasah*, n=593) groups. The three-way ANOVA results showed a significant difference ( $p < 0.05$ ) in reading and listening subskills between the groups. Highly significant results of *Madrasah* students in reading and listening subskills indicate they are better at constructing what text means in a variety of contexts, as a literary experience in reading texts and obtaining general and specific information from listening tests compared to those attending secular schools. Poor performance of boys and students who enrolled in public secular schools may become the main explanation for achievement gaps across the groups. The main and interaction effects of the school system, sectors and gender on the tested subskills were also explained in this study. Additionally, the result of the DIF test confirmed that the equity of the tested items between them was supported.

**Keywords:** *Madrasah*, secular, Islamic, English, reading, listening

## 2.1 Introduction

The majority of Asian countries including Indonesia have reformed their English language curriculum, including reading and listening literacy since it is part of the economic competitiveness that is shaping the world (Pajarwati et al. 2021; Isadaud, Fikri, and Bukhari 2022). This claim has been highlighted by the Organization for Economic Co-operation and Development (OECD) about the prominent roles of foreign languages (e.g., English skills) today. According to the OECD (2021), a foreign language is not solely used as a tool of communication but is in fact developed for the purposes of cross-cultural understanding, economic growth and cognitive thinking. Learning a foreign language is not only for interacting with people from other countries, it is also to understand and develop their cultural awareness and cross-cultural communicative skills (Porto, Houghton, and Byram 2018). Moreover, English receptive skills such as reading and listening competencies have become essential in the workplace to help with economic progress. People with better English reading and listening expertise are more likely to be employed as they are considered to possess superior communication skills in cooperating and negotiating with their work colleagues in more than one country (OECD 2021; Araújo et al. 2015; Mohamed et al. 2014; Longweni and Kroon 2018). Simultaneously, reading and listening skills enhance metalinguistic understanding and critical thinking. People with better reading (Mart 2012; Mermelstein 2015) and listening (Ahmadi 2016; Leong and Ahmadi 2017; Bozorgian 2012) tend to do better in tasks such as writing and speaking. Similarly, those performing better in reading (Whitten, Labby, and Sullivan 2016; Duru and Koklu 2011) and listening (Zhang et al. 2017; Arthur et al. 2017) skills are associated with high critical thinking and problem-solving. Therefore, the roles of English skills, such as reading and listening competencies are now recognized as life-long learning skills which apply to many domains.

Over the years, theories regarding reading and listening skills have taken various forms. In 1968, Davis initially defined reading comprehension as the ability to critically understand written text, emphasizing aspects like text meaning, drawing conclusions, recognizing writing techniques, discerning mood, and answering questions. Grabe (1991) presented a technical definition of reading that included recognition skills, vocabulary and text knowledge, content comprehension, and evaluation abilities. These concepts align with Keenan, Betjemann, and Olson (2008) notion that reading comprehension is a holistic process involving the interaction between passage meaning, emphasizing understanding the entire text rather than individual words and sentences. Similarly, listening skills, historically defined as

the ability to comprehend spoken language (Dirven and Taylor 1984), have been further developed in second language studies. Linguists like Bowen, Madsen, and Hilferty (1985) describe listening comprehension as a process involving speech comprehension, recognition, and perception, explaining it as receiving and understanding spoken language, including sound recognition and message comprehension. These ideas correspond with the definition of listening skills as a cognitive, metacognitive, and socio-affective process (Bingol et al. 2014). The cognitive process decodes incoming information for memory, metacognitive skills assist in recognizing aspects of oral input, such as planning and evaluation, and socio-affective skills involve cooperation and reduced anxiety during listening, all influenced by factors like language and prior knowledge.

Due to the development of the essential roles of reading and listening skills today, OECD (2019) particularly emphasized the prominent subskills in reading assessment. Firstly, locating information involves a comprehension skill to get the main ideas and reflect on the entire text. It draws on the reader's understanding of what the text demands; the text organizes knowledge and evaluates the relevance of the passage. Secondly, text understanding is seen by the reader as the construction of understanding the meaning conveyed by the text. Specifically, this skill is based on the core process of attaining a representation of the literal meaning of the passage and constructing an integrated text with prior knowledge through mapping and inference. Thirdly, text evaluation and reflection require readers to assess the quality of the information in the passage and reflect on the writing style. This process enables the readers to make justifications, draw their interpretations, and evaluate their understanding of the texts. Overall, these comprehension processes acknowledge the goal-driven, critical, and intertextual nature of reading skills and practices. Readers are required to construct what text means in a variety of contexts and for numerous reasons as a literary experience.

Similar to reading skills, listening competency is not just understanding the spoken language, it also involves some language process and learning acquisition: the ability to get a general idea, specific information, and every detail, and to make inferences (Solak and Erdem 2016). Three abilities are key, and they are as follows. First is the ability to get a general idea or listen to the gist involves general thematic understanding, without focusing on detailed information. Listeners are only expected to understand the main idea of the speaker or general information than comprehend the entire text. Second is the ability to obtain a specific piece of information or listen for specific information requires the listeners to discover one piece of information uttered by the speaker. It involves a listening process to establish whether the information is stated or not; thus, they should have some idea before and while the listening



process. Third is the ability to comprehend every detail and understand how listeners feel or hear; here the inference is focusing on a specific kind of information from the speaker. Listeners are expected to narrow down and get the details they need and ignore anything which does not sound relevant. Simultaneously, they are supposed to extract information that is not explained and any unfamiliar meaning that appears in the listening material. Those subskills emphasize the combination of knowledge, skill, and prior knowledge of listeners.

With the extended roles and specific subskills in English competencies established and needed today, concerns in exploring possible factors affecting students' English reading and listening skills differently have grown markedly in many countries. For example, in Indonesia, the disparity in English performance between and within different school systems and contexts has been noted as the main problem. This issue has been recognized by Newhouse and Beegle (2006) who examine the effect of school types on student performance in Indonesia, highlighting a major difference in what secular or non-Islamic and *Madrasah* or Islamic school students achieved. Using the national examination data, the study revealed that public secular schools did better than private secular and Islamic school students in three subjects including the English test. This finding has been supported by Hendajany (2016) who provides evidence of disparities, showing that private secular schools were superior in performance compared to those attending private Islamic institutions. However, an investigation by Asadullah, Chaudhury, and Dar (2007) tends to slightly discard the early findings. Their study comparing the religious and secular secondary schools in Bangladesh concludes that even though no significant difference was noted between secular and *Madrasah* schools, students who attend Islamic schools tended to perform worse compared to those in non-*Madrasah* schools.

In this case, several studies have reported some explanations leading to poor school performance in Islamic schools. For instance, Stern and Smith (2016) suggest that school funding and resources have become the main issues in the poor performance of students from Indonesian Islamic schools (mostly in the private sector). Most secular schools operate under public or government authority, they receive consistent government funding and most of their teachers are civil-servant teachers who are paid standard wages or higher by the government. Contrarily, the majority of teachers in *Madrasah* schools are non-permanent teachers; they receive low salaries which hinge on the availability of funding subsidies from the government given to these schools. This claim is confirmed in several investigations which have acknowledged that low standards of resources, such as facilities and learning materials (Ali et al. 2011; Ependi 2020), low-paid teachers (Muhajir 2016; ADB 2014) as well as untrained teachers (Kholis and Murwanti 2019; ADB 2014) are still problematic in Islamic schools in

Indonesia. This can undermine teaching effectiveness and student performance. Similarly, different investigations looking at the same issues have noted that lack of school funding, poor school infrastructure and unqualified teachers in other countries, such as England (Ameli, Azam, and Merali 2006) and the Philippines (Lamla 2018) have become serious problems in Muslim or *Madrasah* schools. For this reason, Islamic schools tend to struggle in delivering a high-quality education compared to secular schools.

Furthermore, several investigations (Ali et al. 2011; Muttaqin et al. 2019) conducted in Indonesian *Madrasah* schools have noted that evidence of the discrepancy in learning achievement has existed in all school sectors. The studies revealed that students from public Islamic schools obtained high scores in English which indicates they did better in English learning compared to students attending private *Madrasah* schools. Consistent with prior literature, the studies acknowledge that the advantages of public *Madrasah* schools as government-funded entities enable them to have better resources and outcomes. This claim is echoed in the study by Asadullah, Chaudhury, and Dar (2007) who sampled secondary school students in Bangladesh, confirming that Islamic schools in the private sector did poorly in language subjects compared to non-Islamic schools. Conversely, a conflicting result suggests that better English scores, including reading, were recorded in public schools and independent schools in non-religious contexts (Magulod 2017). However, other analyses revealed a different trend and contended the type of school did not influence students' English skills as far as secular education was concerned (Nyarko et al. 2018; Berends and Waddington 2018; Eng, Mohamed, and Javed 2013).

The study by Ali et al. (2011) also discovered that student diversity, such as gender was found to differ in English achievement in Indonesian *Madrasah* schools. Female students achieved high scores in English examination tests, including reading and listening than male students. This finding is echoed by Murtafi'ah and Putro (2020) who report that boys were more likely to be less motivated and achieved poorly compared to boys doing English in Islamic schools. This is in line with several studies conducted in secular or global school contexts. For example, a specific investigation by Mirizon, Diem, and Vianty (2018) in Indonesian schools has reaffirmed that female students performed better in English reading comprehension. Focusing on the reading subskills, the study revealed that females obtained higher scores than males in comprehension tasks, such as inferring the main idea, details, and cause and effect. In the same education context, a systematic review by Trang (2022) on gender gaps in listening skills concludes that males seem better at listening than females. Boys tend to focus more on specific ideas in listening tests than females. This is not denied by some studies in different

countries (Mulualem, Mulu, and Gebremeskal 2022; Musa, Dauda, and Umar 2016) showing that boys outperformed girls in English. However, other research seems to reject prior findings which found that boys and girls performed similarly (Attah and Ita 2017; Akinwumi 2017; Rahman et al. 2021). Additionally, several investigations have acknowledged that students' learning motivation (Saaty 2022; Bećirović 2017) and anxiety (Al-Sohbani 2018; Hussain, Shahid, and Zaman 2011) influence how differently boys and girls perform. In the research on this topic, the reviewed evidence seems to generally confirm the discrepancy and the inconsistent results of students' English performance across the school system, school sector and student gender. However, they tend to fail to quantify what language skills differentiate their overall English performance across the groups.

Although the disparities in language tests have become a growing issue between secular and Islamic schools, public and private schools, as well as male and female students, the prior investigations primarily focused on general English literacy, while some research empirically examined separate school settings and was concerned with the possible external factors affecting the disparities. Published investigations on what language subskills differentiate their overall English language achievement between them remain scarce. Therefore, this study aims to address the issues by offering the research questions:

- 1) What are the differences in reading and listening subskills between the students attending secular and Islamic schools as well as private and public?
- 2) How do the school system and school sector interact with female and male students' reading and listening performances differently?

As the country implementing both a secular and Islamic education system, this current investigation addresses the gaps in our knowledge by conducting a comparative investigation between secular or *Sekolah* and Islamic or *Madrasah* schools in Indonesia. Using the same cognitive tests, i.e., English reading and listening tests, this study aims to provide strong evidence for the presence of discrepancies in reading and listening sub-skills, such as in locating information, understanding ideas and information, evaluating text content and textual element in the reading test as well as listening for gist or general, specific information and detail in the listening test between students enrolled in *Sekolah* and *Madrasah* schools. Simultaneously, this study explains the discrepancy in the tested skills across the school sector and student gender as well as the interaction effects of the school system, sector and student gender on their reading and listening subskills. To support reliable and meaningful cross-group

comparison, the fairness of the measurement tools must be established to guarantee that these tools were used in the same way for both groups.

## **2.2 Study Context: Schooling System in Indonesia**

This study was conducted in Indonesia which has a dual system of secular and Islamic education managed by two separate governments. Secular or non-Islamic schools are governed by the Ministry of Education and Culture (MoEC), while Islamic schools are under the Ministry of Religious Affairs (MoRA). The dualistic system is historically due to the Muslim and secular nationalists' reactions and political considerations in 1945 once independence was achieved, concerning the character of education for national and religious reasons (Sirozi 2004). The majority (84%) of Indonesian schools are secular in nature, while a small portion (16%) are Islamic schools. According to the national education system number 20 in 2003, all schools in Indonesia, including public and private schools under MoEC and MoRA operate with the same regulations and policies. As an example, both secular and Islamic schools have the same schooling levels—basic (*Sekolah Dasar/SD* and *Madrasah Ibtidaiyah/MI*), lower secondary (*Sekolah Menengah Pertama/SMP* and *Madrasah Tsanawiyah/MTs*), upper secondary (*Sekolah Menengah Atas/SMA* and *Madrasah Aliyah/MA*) and university/college on to Islamic university/college as the higher education level (MoEC 2017a). Additionally, both secular and Islamic schools adhere to curriculum guidelines set forth by the Ministry of Education and Culture (MoEC) and are obligated to align with specific educational standards encompassing moral, cognitive, affective, and psychometric developmental domains. Beginning in the 2000s, the central government, in cooperation with the MoEC and the Ministry of Religious Affairs (MoRA), has initiated efforts to devolve their control over education policy, while preserving the foundational framework of the national education system. This shift aims to enhance the delivery, effectiveness, quality, and equity of education across diverse school types and geographical areas within Indonesia. However, as explained earlier, several studies have identified a discrepancy in school resources (Ali et al. 2011; Stern and Smith 2016; ADB 2014), such as school funds, facilities, and teacher quality between secular and Islamic schools which leads to different student outcomes. As most Islamic or *Madrasah* schools are managed by non-government authorities, they receive insufficient financial support from the government, while secular schools receive consistent government funding. In secular schools, they have more access to school facilities while the availability and quality of school facilities in Islamic schools remain problematic. Additionally, most secular school teachers are civil-servant teachers who are paid standard wages or higher by the government and have more access to

participate in teacher training. In contrast, low-paid and untrained teachers are mostly found in *Madrasah* schools which struggle to deliver a high-quality education compared to secular schools. For this reason, an investigation which addresses the issues aligned with student diversity is strongly suggested.

## **2.3 Methodology**

### ***2.3.1 Participants***

In this study, the population of interest encompassed secondary schools in Bone Regency, South Sulawesi, Indonesia, which totalled about 84 schools (36 secular and 48 Islamic schools) and 16,021 with 9,205 students from secular and 6,816 Islamic/*Madrasah* students. To construct a representative sample, a two-stage stratified sampling design by categorizing them into similar groups and randomly choosing from separate strata (Cohen, Manion, and Morrison 2002; Mills and Gay 2016). The stratification procedure concerned multilevel phases at the district and school levels. In the first phase, 12 districts were chosen based on the probability of each district comprising at least one secular (*Sekolah*) and one Islamic (*Madrasah*) school. Moreover, the total number of student samples was nominated within 30 schools in the second phase. Specifically, as presented in Table 2. 1, 726 students were from secular schools grouped into *Sekolah*, while 593 Islamic school students were clustered into the *Madrasah* group. In the *Sekolah* group, 621 students enrolled in public schools, while 105 secular students were in private institutions. In contrast, the majority of *Madrasah* students (n=428) were administered in private schools and only 165 students were in public Islamic schools. Simultaneously, about 487 students in *Sekolah* and 398 students in *Madrasah* are females, while 239 (SS) and 195 (MS) are males.

By dividing the population into distinct subgroups or strata, this sampling technique can enhance the accuracy, representativeness and generalizability of research findings (Mills and Gay 2016; Ross 2005). More specifically, this approach ensures that each subgroup within the population is adequately represented in the sample. It also can improve the reliability of the research findings by addressing the potential biases and providing a precise reflection of the entire population. Likewise, stratification allows for better insights into specific subgroups and enables more meaningful comparisons which lead to more robust and trustworthy conclusions. For this reason, the use of a multi-stratified sample design used in this study is to ensure the adequate representation of secular and Islamic school students as the target population and to offer meaningful research outcomes.

**Table 2. 1***Distribution of Student Participants between the Groups*

<b>School System</b>				
<b>School Sector</b>	<b>Gender</b>	<b>Sekolah (SS)</b>	<b>Madrasah (MS)</b>	<b>Total</b>
Public School	Female	428	119	547
	Male	193	46	239
	Total	621	165	786
Private School	Female	59	279	338
	Male	46	149	195
	Total	105	428	533
Total	Female	487	398	885
	Male	239	195	434
	Total	726	593	1319

### **2.3.2 Measures: Reading and Listening Tests**

**Table 2. 2***English Reading and Listening Subskills and Items*

<b>Skill</b>	<b>Subskills</b>	<b>Item No.</b>
<b>Reading</b>	Locating information (READ01)	READ1, READ4, READ7
	Understanding the ideas and information (READ02)	READ2, READ6, READ9, READ10
	Evaluating the text content and textual elements (READ03)	READ3, READ5, READ8
<b>Listening</b>	Listening for gist (LIST01)	LIST1, LIST7, LIST9
	Listening for specific information (LIST02)	LIST5, LIST6, LIST8
	Listening in detail (LIST03)	LIST2, LIST3, LIST4, LIST10

The student's achievements - English reading and listening proficiency - were measured using the standardized English National Test developed by the Department of National Standard Education of the Ministry of Education and Culture of Indonesia (MoEC 2017b). The multiple choice test consisted of 20 items, i.e. 10 items of reading, and 10 items of listening were selected and as part of the item analysis, student age, grade, experience, task requirement, and content were taken into account (Cohen, Manion, and Morrison 2002). As shown in Table 2. 2, ten items of reading proficiency covered three reading subskills (OECD 2019), these being: READ01 or locating information (reading items 1, 4 and 7); READ02 or understanding the ideas and information (reading items 2, 6, 9 and 10); and READ03 or evaluating the text content and textual elements (reading items 3, 5 and 8). Simultaneously, 10 items in the listening test were classified into three listening subskills (Solak and Erdem 2016), namely: LIST01 or listening for gist (listening items 1, 7 and 9); LIST02 or listening for specific information

(listening items 5, 6 and 8); and LIST03 or listening in detail (listening items 2, 3, 4 and 10). All items within the reading and listening scenarios were measured using multidimensional item analysis, transformed into six derived weighted likelihood estimate (WLE) scores through Rasch analysis to reduce or remove any scoring bias (Warm 1989) and identified as dependent or outcome variables in this study. In addition, three categorical variables of the school system (SCSYSTM, 0= Secular, 1=Islamic), school sector (SCSECTOR, 0= Public, 1= Private) and student gender (GENDER, 0 Female, 1= Male) were recognized as independent variables in this study. These variables were used to compare the students attending secular and Islamic/*Madrasah* schools, enrolled in the public/government and private/non-government schools as well as female and male students regarding their English reading and listening subskills.

### ***2.3.3 Methods of Analysis***

#### *Item Validity: Rasch Measurement Model (RMM)*

The Rasch measurement model (RMM) is generally employed to measure how well the test items are distributed regarding the test-takers' ability (Bond and Fox 2015). This analysis explicitly enables researchers to use the participants' scores or responses to measure their performance on a linear scale that accounts for the unequal difficulties between the test items. For this reason, RMM is important as it provides an estimate of the difficulty of the item according to the frequency of the sample's response to the measured items. In this study, Rasch techniques including differential item functioning (DIF) and multidimensional analysis of dichotomously scored items using the Conquest software were carried out. The differential item functioning technique confirmed the fairness and equity of the test item between the compared groups (Bond and Fox 2015; Brown and Bonsaksen 2019). Looking at the level of difficulty concerning the element between the *Sekolah* and *Madrasah* groups for all 20 measured items, this analysis makes it possible to determine whether the tested items work the same for both groups. Furthermore, the multidimensional analysis consisted of a subset of items measured as a single latent dimension (Adams, Wu, and Wilson 2017), i.e. 10 items of reading and 10 items of listening measured into six dimensions (see the previous section).

Fit statistics indices served to determine whether the items fit the expected Rasch model. Following the suggestion made in other research (Alagumalai, Curtis, and Hungi 2005; Wu, Tam, and Jen 2016; Bond and Fox 2015), the fit of the tested items was established based on item logit (expected value =1), discrimination ( $\pm 2$ ), and item differentiation for DIF analysis

(0.5). For their Mean Square Scores/MNSQ, this study adopts the acceptable range between 0.8 and 1.2 (Wright and Linacre 1994). The items with their infit MNSQ values which are greater than 1.00 specify the underfit model with large residuals. In contrast, the values which are less than 1.00 indicate an overfit model and their residuals are smaller than expected. Moreover, the items with positive logit scales denote difficult items while the negative logit scores mean that the items can be endorsed. The tested items whose item discrimination was greater than 0.2 are specified as good items, while less than 0.2 designates them as misleading items. Additionally, t-statistics values which are less than -2 and greater than 2 indicate unacceptable values, but the studies also argue that t-statistics values are sensitive to the sample size. For the acceptable item differentiation in DIF analysis, a value of  $\pm 0.5$  means that the items work in the same way for both groups. A study by Dorans and Holland (1992) argues that item differentiation values greater than 0.5 are still acceptable. In this case, misfitting items are typically acknowledged and removed from the model. As well, more focus is given here to the acceptable MNSQ values and item discrimination since the items fit with the Rasch model. In addition, before performing the DIF analysis, item fit analysis needs to be undertaken to ensure the tests (English reading and listening) function properly and confirm the quality and validity of measurement instruments. This analysis assesses the alignment between the individual item tests and the underlying measurement model, ensuring the tests effectively contribute to accurate measurement.

### *Three-way Analysis of Variance (ANOVA)*

In this study, a series of comparative analyses using SPSS software was conducted. First, a descriptive statistical analysis was undertaken using the exploration method to compare central tendencies of the observed measures (WLE), such as reading and listening subskills between the students from secular and Islamic schools, and those from different school sectors and gender within the groups. Moreover, a three-way analysis of variance (ANOVA) was undertaken to determine if there is an interaction effect between three predictors—school system, school sectors and student gender—on reading and listening subskills as the outcome variables. The significance of the mean differences between the groups is according to their p-value of 0.05. The interaction effects hold a unique significance in understanding the complex relationships between multiple independent variables (Pallant 2016; Jaccard 1998). However, Field (2013) suggests that when significant interaction effects are observed, interpreting the main effects in such a context often leads to ambiguity. By more focusing on the interaction



effects than the main effects, this study can gain a deeper and more nuanced understanding of the factors influencing their dependent variables, leading to more robust and informed research findings.

In addition, before conducting the three-way ANOVA, the initial tests of normality and homogeneity of variance as assumptions of the tests are conducted to determine whether the data used follows a normal distribution and to assess whether the variability of the dependent variable is approximately constant across different levels of independent variables. In this study, the normality of the data is assessed using  $2$  and  $\pm 10$  for its skewness and kurtosis (Griffin and Steinbrecher 2013; T.A. Brown 2015), while the homogeneity of variance assumption is based on Levene's test results of significant value less than 0.5 suggesting the variance of independent variables across the groups is not equal (Pallant 2016). However, a study by Pallant (2016) points out that the main output of the ANOVA test is the results of tests of between-subjects effects which explain the main and interaction effects of the tested variables.

## **2.4 Findings**

### ***2.4.1 Rasch Modelling: Differential Item Functioning (DIF)***

Before performing the Differential Item Functioning (DIF) tests, the initial run of the fit analysis shown in Table 2. 3 was executed to examine how well the reading and listening items are distributed regarding the level of the test-takers. The results of 20 items of reading and listening indicate that the items are acceptable. This is evident with the item discrimination revealed of greater than 0.2 and the INFIT MNSQ are within the 0.8 - 1.2 range, signifying that the tested items fit the Rasch model well. Furthermore, the DIF was undertaken to assess the fairness of the test items as applied to the *Sekolah* (SS) and *Madrasah* (MS) groups. As documented in Table 2. 4, similar results for the 20 items of reading and listening indicating the acceptable values of item discrimination ( $>0.2$ ) and INFIT MNSQ (0.8-1.2) are listed for both respondent groups. Two items of READ2 and READ7 for the MS group and the item of READ1 for the SS group have INFIT MNSQ values of 1.00, which is the expected value of the infit mean square. The INFIT MNSQ values of other items for both groups range between 0.95 and 1.08 and they are close to 1.00. The items with infit values greater than 1.00 indicate an underfit model whose residuals are larger than expected. The overfit model, in contrast, is revealed from those items with infit values lower than 1.00 and has low residuals which are exposed. Similarly, the estimate and standard error of measurement for the items are

summarized in Table 2. 4, which presents the position of the logit scale. As 0 (zero) is the average value for the difficulty level of the tested items, this shows that most of the items are close to the average estimate. Positive logit values of READ3, READ4, READ7 and READ8 for the SS group indicate that those reading test items are more difficult for the *Sekolah* students than the *Madrasah* group. More difficult items, positive logit values, are revealed for the *Madrasah* group in the listening test except for items LIST8, LIST9 and LIST10, which indicate that the other seven items in the listening test are easier for *Sekolah* students.

**Table 2. 3**

*Results of Item Fit Analysis of Reading and Listening Subskills*

	Item	Estimate	S. E	Infit			Item Delta	Item Discr.
				MNSQ	CI	t		
READING	<b>Dimension 1</b>							
	READ1	-0.028	0.04	1.00	(0.96, 1.04)	0.20	-0.03	0.44
	READ4	-0.054	0.04	1.04	(0.96, 1.04)	2.10	-0.05	0.35
	READ7	0.082*	0.06	0.96	(0.96, 1.04)	-1.70	0.08	0.52
	<b>Dimension 2</b>							
	READ2	-0.181	0.04	1.00	(0.96, 1.04)	0.00	-0.18	0.45
	READ6	0.527	0.04	1.00	(0.94, 1.06)	-0.10	0.53	0.37
	READ9	-0.256	0.04	1.01	(0.97, 1.03)	0.30	-0.26	0.37
	READ10	-0.091*	0.07	1.00	(0.96, 1.04)	0.20	-0.09	0.35
	<b>Dimension 3</b>							
	READ3	0.544	0.04	1.03	(0.95, 1.05)	1.30	0.54	0.39
	READ5	-0.204	0.04	1.01	(0.97, 1.03)	0.70	-0.20	0.39
READ8	-0.340*	0.06	0.98	(0.97, 1.03)	-1.30	-0.34	0.50	
LISTENING	<b>Dimension 1</b>							
	LIST1	-0.806	0.04	1.00	(0.96, 1.04)	0.10	-0.81	0.42
	LIST7	0.292	0.04	1.00	(0.96, 1.04)	0.00	0.29	0.34
	LIST9	0.514*	0.06	1.00	(0.96, 1.04)	0.10	0.51	0.34
	<b>Dimension 2</b>							
	LIST5	0.188	0.04	0.93	(0.95, 1.05)	-3.10	0.19	0.50
	LIST6	-0.501	0.04	0.99	(0.96, 1.04)	-0.80	-0.50	0.43
	LIST8	0.313*	0.06	1.03	(0.95, 1.05)	1.10	0.31	0.33
	<b>Dimension 3</b>							
	LIST2	0.005	0.04	0.95	(0.96, 1.04)	-2.40	0.00	0.48
LIST3	0.167	0.04	1.01	(0.96, 1.04)	0.40	0.17	0.39	
LIST4	-0.691	0.04	0.97	(0.96, 1.04)	-1.80	-0.69	0.48	
LIST10	0.520*	0.08	1.03	(0.95, 1.05)	1.20	0.52	0.33	

Note: \*Constraint. Chi-square test of parameter equality = 1854.05, df = 19, Sig Level = 0.000.

**Table 2. 4**

*Reading and Listening Item Fit Differences between Groups*

	Item	Group	Estimate	S. E	Infit		t	Item Delta	Item Disc	Item Diff.	
					MNSQ	CI					
READING	Dimension 1—Locating Information—										
	READ1	SS	-0.083	0.041	1.00	(0.95, 1.05)	-0.2	0.04	0.39	0.17	
		MS	0.083*	0.041	1.02	(0.95, 1.05)	0.9	0.04	0.33		
	READ4	SS	0.185	0.042	1.04	(0.94, 1.06)	1.3	0.27	0.23	0.37	
		MS	-0.185*	0.042	1.01	(0.96, 1.04)	0.6	-0.27	0.21		
	READ7	SS	0.112	0.042	0.93	(0.94, 1.06)	-2.3	0.33	0.44	0.22	
		MS	-0.112*	0.042	0.98	(0.95, 1.05)	-0.7	-0.07	0.30		
	Dimension 2—Understanding the ideas and information—										
	READ2	SS	-0.067	0.041	0.95	(0.95, 1.05)	-2.1	-0.04	0.46	0.13	
		MS	0.067*	0.041	1.00	(0.95, 1.05)	-0.2	-0.08	0.36		
	READ6	SS	-0.229	0.043	0.96	(0.93, 1.07)	-1.1	0.51	0.34	0.46	
		MS	0.229*	0.043	1.07	(0.91, 1.09)	1.4	0.80	0.26		
	READ9	SS	-0.088	0.041	0.98	(0.95, 1.05)	-0.8	-0.14	0.32	0.18	
		MS	0.088*	0.041	1.07	(0.96, 1.04)	3.1	-0.14	0.21		
	READ10	SS	-0.006	0.125	0.98	(0.95, 1.05)	-0.6	0.10	0.34	0.12	
		MS	0.006*	0.125	1.05	(0.95, 1.05)	2.2	-0.06	0.24		
Dimension 3—Evaluating the text content and textual elements—											
READ5	SS	-0.003	0.041	1.02	(0.96, 1.04)	1.0	-0.32	0.40	0.01		
	MS	0.003*	0.041	0.98	(0.96, 1.04)	-1.1	-0.49	0.26			
READ3	SS	0.171	0.042	1.05	(0.92, 1.08)	1.3	0.57	0.31	0.34		
	MS	-0.171*	0.042	1.01	(0.95, 1.05)	0.5	0.05	0.28			
READ8	SS	0.009	0.041	0.95	(0.96, 1.04)	-2.3	-0.45	0.43	0.02		
	MS	-0.009*	0.041	0.98	(0.96, 1.04)	-1.0	-0.64	0.30			
LISTENING	Dimension 1—Listening for Gist or Getting general Idea—										
	LIST1	SS	-0.022	0.043	0.95	(0.95, 1.05)	-2.0	-0.95	0.40	0.04	
		MS	0.022*	0.043	0.99	(0.94, 1.06)	-0.3	-1.08	0.31		
	LIST7	SS	-0.090	0.043	1.05	(0.95, 1.05)	1.9	0.12	0.32	0.18	
		MS	0.090*	0.043	1.00	(0.94, 1.06)	-0.1	0.13	0.22		
	LIST9	SS	0.326	0.044	1.05	(0.91, 1.09)	1.2	0.75	0.24	0.65	
		MS	-0.326*	0.044	1.02	(0.95, 1.05)	0.9	-0.08	0.22		
	Dimension 2— Listening for Specific Information—										
	LIST5	SS	-0.015	0.044	0.98	(0.93, 1.07)	-0.6	0.40	0.42	0.03	
		MS	0.015*	0.044	0.97	(0.94, 1.06)	-1.1	0.25	0.35		
	LIST6	SS	-0.066	0.043	0.99	(0.96, 1.04)	-0.5	-0.31	0.33	0.13	
		MS	0.066*	0.043	0.97	(0.96, 1.04)	-1.3	-0.35	0.35		
	LIST8	SS	0.114	0.044	1.03	(0.92, 1.08)	0.8	0.64	0.26	0.23	
		MS	-0.114*	0.044	1.01	(0.94, 1.06)	0.3	0.24	0.27		
	Dimension 3— Listening in Detail—										
	LIST2	SS	-0.158	0.043	0.95	(0.95, 1.05)	-2.2	-0.03	0.45	0.32	
MS		0.158*	0.043	0.98	(0.94, 1.06)	-0.8	0.11	0.38			
LIST3	SS	-0.209	0.044	1.07	(0.95, 1.05)	2.6	0.08	0.25	0.42		
	MS	0.209*	0.044	0.95	(0.93, 1.07)	-1.4	0.33	0.31			
LIST4	SS	-0.179	0.043	0.97	(0.96, 1.04)	-1.5	-0.73	0.40	0.36		
	MS	0.179*	0.043	0.98	(0.96, 1.04)	-1.1	-0.54	0.35			
LIST10	SS	0.300	0.131	1.08	(0.90, 1.10)	1.6	0.91	0.24	0.60		
	MS	-0.300*	0.131	1.03	(0.94, 1.06)	1.1	0.13	0.24			

Note: \*Constraint. Chi-square test of parameter equality = 90.57, df = 18, Sig Level = 0.000.

### 2.4.2 Three-way Analysis of Variance (ANOVA)

**Table 2. 5**

*Results of Three-way ANOVA concerning the Effects of School System, School Sector and Gender on Reading Subskills*

Tests of Between-Subjects Effects							
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	READ01	86.038 <sup>a</sup>	7	12.291	9.330	<.001	.047
	READ02	62.974 <sup>b</sup>	7	8.996	7.221	<.001	.037
	READ03	123.036 <sup>c</sup>	7	17.577	13.490	<.001	.067
Intercept	READ01	132.884	1	132.884	100.865	<.001	.071
	READ02	191.580	1	191.580	153.778	<.001	.105
	READ03	46.771	1	46.771	35.897	<.001	.027
SCSYTM	READ01	31.848	1	31.848	24.174	<.001	.018
	READ02	9.474	1	9.474	7.604	.006	.006
	READ03	36.177	1	36.177	27.766	<.001	.021
SCSECTOR	READ01	3.775	1	3.775	2.865	.091	.002
	READ02	.034	1	.034	.028	.868	.000
	READ03	2.756	1	2.756	2.116	.146	.002
GENDER	READ01	.074	1	.074	.056	.813	.000
	READ02	12.841	1	12.841	10.307	.001	.008
	READ03	13.081	1	13.081	10.040	.002	.008
SCSYTM *	READ01	2.758	1	2.758	2.094	.148	.002
SCSECTOR	READ02	.477	1	.477	.383	.536	.000
	READ03	4.358	1	4.358	3.345	.068	.003
SCSYTM *	READ01	8.425	1	8.425	6.395	.012	.005
GENDER	READ02	14.787	1	14.787	11.869	<.001	.009
	READ03	13.518	1	13.518	10.375	.001	.008
SCSECTOR *	READ01	5.310	1	5.310	4.031	.045	.003
GENDER	READ02	.073	1	.073	.059	.808	.000
	READ03	5.052	1	5.052	3.877	.049	.003
SCSYTM *	READ01	.000	1	.000	.000	.993	.000
SCSECTOR *	READ02	1.476	1	1.476	1.185	.277	.001
GENDER	READ03	.012	1	.012	.009	.924	.000
Error	READ01	1727.170	1311	1.317			
	READ02	1633.271	1311	1.246			
	READ03	1708.123	1311	1.303			
Total	READ01	2029.680	1319				
	READ02	1995.452	1319				
	READ03	1874.220	1319				
Corrected Total	READ01	1813.208	1318				
Total	READ02	1696.245	1318				
	READ03	1831.159	1318				

a. R Squared = .047 (Adjusted R Squared = .042)

b. R Squared = .037 (Adjusted R Squared = .032)

c. R Squared = .067 (Adjusted R Squared = .062)

**Table 2. 6**

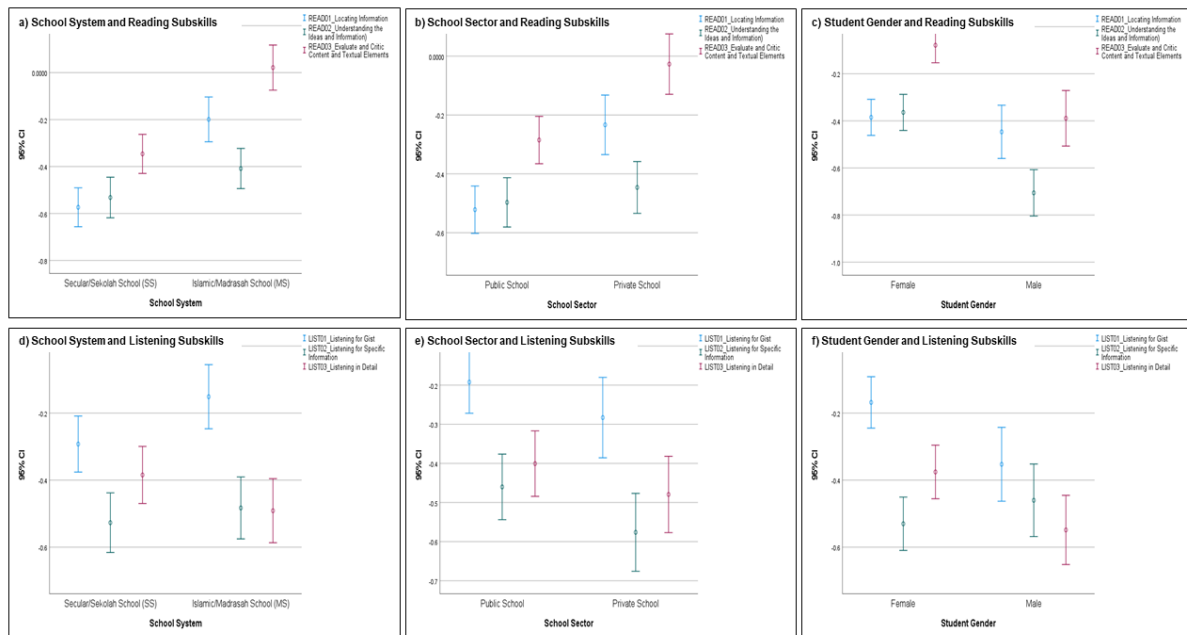
*Results of Three-way ANOVA concerning the Effects of School System, School Sector and Gender on Listening Subskills*

Tests of Between-Subjects Effects							
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	LIST01	37.528 <sup>a</sup>	7	5.361	4.005	<.001	.021
	LIST02	30.977 <sup>b</sup>	7	4.425	3.179	.002	.017
	LIST03	15.386 <sup>c</sup>	7	2.198	1.594	.133	.008
Intercept	LIST01	70.577	1	70.577	52.723	<.001	.039
	LIST02	261.931	1	261.931	188.157	<.001	.126
	LIST03	149.278	1	149.278	108.264	<.001	.076
SCSYTM	LIST01	14.582	1	14.582	10.893	<.001	.008
	LIST02	7.413	1	7.413	5.325	.021	.004
	LIST03	1.376	1	1.376	.998	.318	.001
SCSECTOR	LIST01	10.758	1	10.758	8.037	.005	.006
	LIST02	8.669	1	8.669	6.227	.013	.005
	LIST03	.289	1	.289	.209	.647	.000
GENDER	LIST01	2.604	1	2.604	1.945	.163	.001
	LIST02	.590	1	.590	.424	.515	.000
	LIST03	3.686	1	3.686	2.673	.102	.002
SCSYTM *	LIST01	3.087	1	3.087	2.306	.129	.002
SCSECTOR	LIST02	16.792	1	16.792	12.062	<.001	.009
	LIST03	.635	1	.635	.461	.497	.000
SCSYTM *	LIST01	3.852	1	3.852	2.878	.090	.002
GENDER	LIST02	1.086	1	1.086	.780	.377	.001
	LIST03	.485	1	.485	.352	.553	.000
SCSECTOR *	LIST01	2.926	1	2.926	2.186	.140	.002
GENDER	LIST02	2.911	1	2.911	2.091	.148	.002
	LIST03	1.720	1	1.720	1.247	.264	.001
SCSYTM *	LIST01	.919	1	.919	.686	.408	.001
SCSECTOR *	LIST02	1.077	1	1.077	.774	.379	.001
GENDER	LIST03	.894	1	.894	.649	.421	.000
Error	LIST01	1754.950	1311	1.339			
	LIST02	1825.022	1311	1.392			
	LIST03	1807.656	1311	1.379			
Total	LIST01	1861.516	1319				
	LIST02	2194.993	1319				
	LIST03	2069.623	1319				
Corrected Total	LIST01	1792.479	1318				
	LIST02	1855.999	1318				
	LIST03	1823.042	1318				

a. R Squared = .021 (Adjusted R Squared = .016)  
b. R Squared = .017 (Adjusted R Squared = .011)  
c. R Squared = .008 (Adjusted R Squared = .003)

**Figure 2. 1**

*The Main Effects of School System, School Sector and Student Gender on Reading and Listening Subskills*



*Main Effects of School System (SCSYTM), School Sector (SCSECTOR) and Student Gender (GENDER)*

Table 2. 5 and Table 2. 6 display differences in students' reading and listening skills based on the type of school system (SCSYTM). In the reading test, significant distinctions emerged in locating information (READ01,  $p < 0.05$ ), understanding ideas and information (READ02,  $p < 0.05$ ), and evaluating text content and elements (READ03,  $p < 0.05$ ) between students from different school systems. Madrasah students outperformed secular school students in READ01 (Madrasah:  $M = -0.20$ ,  $SD = 1.18$ ; Sekolah:  $M = -0.57$ ,  $SD = 1.14$ ), READ02 (Madrasah:  $M = -0.41$ ,  $SD = 1.06$ ; Sekolah:  $M = -0.53$ ,  $SD = 1.19$ ), and READ03 (Madrasah:  $M = -0.48$ ,  $SD = 1.14$ ; Sekolah:  $M = -0.53$ ,  $SD = 1.14$ ), indicating their better skills in locating information, comprehending ideas, and evaluating text in reading tests (see Figure 2. 1. a). In listening skills, differences across SCSYTM were observed only in listening for the main idea (LIST01,  $p < 0.05$ ) and listening for specific information (LIST02,  $p < 0.05$ ). Sekolah students scored lower in LIST01 (Sekolah:  $M = -0.29$ ,  $SD = 1.15$ ; Madrasah:  $M = -0.15$ ,  $SD = 1.19$ ) and LIST02 (Sekolah:  $M = -0.53$ ,  $SD = 1.14$ ; Madrasah:  $M = -0.48$ ,  $SD = 1.14$ ) compared to Madrasah students schools (shown in Figure 2. 1. d), indicating poorer performance among secular-school students in grasping the main idea and specific details during listening tests. No significant difference

( $p > 0.05$ ) was found in LIST03, suggesting that *Sekolah* and *Madrasah* students performed similarly in listening tests when it came to detailed listening skills.

Furthermore, as shown in the tables above, only LIST01 ( $p < 0.05$ ) and LIST02 ( $p < 0.05$ ) display significant differences among students from different school systems. Public school students excelled in LIST01 (Public:  $M = -0.19$ ,  $SD = 1.14$ ; Private:  $M = -0.28$ ,  $SD = 1.21$ ) and LIST02 (Public:  $M = -0.46$ ,  $SD = 1.20$ ; Private:  $M = -0.58$ ,  $SD = 1.17$ ) compared to their private school counterparts (find Figure 2. 1. e). This suggests that private school students performed less well in understanding the main idea and specific information during listening tests than public school students. Additionally, there were no significant achievement gaps ( $p > 0.05$ ) in LIST03, as well as all three reading subskills shown in shown in Figure 2. 1. b, indicating that students in public and private schools perform similarly when it comes to detailed comprehension in listening tests and finding information, understanding ideas, and critiquing text content and elements in reading assessments. Regarding students' reading and listening performance based on gender (GENDER), significant differences were observed in READ02 ( $p < 0.05$ ) and READ03 ( $p < 0.05$ ). As depicted in Figure 1. c, female students scored higher in READ02 (Female:  $M = -0.36$ ,  $SD = 1.16$ ; Male:  $M = -0.71$ ,  $SD = 1.04$ ) and READ03 (Female:  $M = -0.08$ ,  $SD = 1.13$ ; Male:  $M = -0.39$ ,  $SD = 1.25$ ) compared to male students. This indicates that males tend to struggle with reading skills, especially in understanding ideas and information and evaluating text content and elements. No significant differences ( $p > 0.05$ ) were found in READ01 and all listening subskills (Figure 2. 1. f), indicating that male and female students performed similarly in locating information in reading tests and listening subskills. As suggested by Field (2013), interpreting main effects in the presence of significant interaction effects tends to be ambiguous when interaction effects are significant. Thus, deeper and more nuanced explanations of the interaction effects of the school system, sector and gender influencing their dependent variables, leading to more robust and informed research findings are discussed in the next section.

### *Interaction Effects of School System, School Sector and Student Gender on Reading and Listening Subskills.*

The interaction effects of the predictors on reading and listening subskills are separately illustrated in Table 2. 5 and Table 2. 6. In the reading tests, the significant moderation effects of the school system and gender (SCSYTM\*GENDER), as well as the school sector and gender (SCSECTOR \*GENDER), are revealed. More specifically, the significant interaction effects of SCSYTM\*GENDER on READ01 ( $F(1,1311) = 6.395$ ,  $p < 0.05$ ), READ02 ( $F(1,1311)$

=11.869,  $p < 0.05$ ) and READ03 ( $F(1,1311) = 10.375$ ,  $p < 0.05$ ) indicate there were significantly different reading skills between girls and boys in the different school systems. As shown in Figure 2. 2. a-c in secular schools, females achieved higher scores than males, while boys did better than girls in *Madrasah* schools. This suggests that female students from secular schools and males from Islamic schools did better in three subskills; they did better in locating information, understanding the ideas and information as well and evaluating the text content and textual elements in reading tests compared to boys in the secular group and girls in the *Madrasah* group. Regarding the reading achievement discrepancies between female and male students according to the school system, girls in *Sekolah* (READ01,  $M = -0.46$ ,  $SD = 1.18$ ; READ02,  $M = -0.34$ ,  $SD = 1.21$ ; READ03,  $M = -0.13$ ,  $SD = 1.10$ ) and *Madrasah* (READ01,  $M = -0.29$ ,  $SD = 1.13$ ; READ02,  $M = -0.40$ ,  $SD = 1.10$ ; READ03,  $M = -0.01$ ,  $SD = 1.16$ ) performed slightly similarly in reading subskills. On the other hand, the biggest differences in reading subskills are illustrated between boys in secular (READ01,  $M = -0.81$ ,  $SD = 1.01$ ; READ02,  $M = -0.93$ ,  $SD = 1.04$ ; READ03,  $M = -0.78$ ,  $SD = 1.11$ ) and Islamic schools (READ01,  $M = 0.00$ ,  $SD = 1.27$ ; READ02,  $M = -0.43$ ,  $SD = 0.98$ ; READ03,  $M = 0.09$ ,  $SD = 1.25$ ), favouring males in *Madrasah* group. The lower scores of males in secular schools might become the key issue of the poor overall scores attained by the *Sekolah* than *Madrasah* schools.

The moderation effects of SCSECTOR\*GENDER are detected in READ01 ( $F(1,1311) = 4.031$ ,  $p < 0.05$ ) and READ03 ( $F(1,1311) = 3.877$ ,  $p < 0.05$ ) signalling the gaps revealed in those reading subskills between females and males from different school sectors. This study found that girls obtained higher scores in READ01 and READ03 than boys in public schools, while females in public schools obtained lower scores than males in private schools. The findings indicate that girls in public schools and boys in private schools obtained high scores in READ01 and READ03 (find Figure 2. 2. d and e) signalling that males in public schools and females in private schools did not achieve well in locating information and evaluating text content also textual elements in reading assessments. Simultaneously, the results also present that female students from the public (READ01,  $M = -0.42$ ,  $SD = 1.17$ ; READ03,  $M = -0.10$ ,  $SD = 1.11$ ) and private (READ01,  $M = -0.32$ ,  $SD = 1.15$ ; READ03,  $M = -0.04$ ,  $SD = 1.16$ ) schools are more likely to perform similarly, on the contrary, boys in public (READ01,  $M = -0.75$ ,  $SD = 1.07$ ; READ03,  $M = -0.70$ ,  $SD = 1.14$ ) and private (READ01,  $M = -0.08$ ,  $SD = 1.24$ ; READ03,  $M = -0.01$ ,  $SD = 1.28$ ) sectors are shown to have biggest discrepancies in favour of male students attending private institutions.

Different from the previous findings, in listening tests, the interaction effects are only revealed between the school system and school sector (SCSTYM\*SCSECTOR) on LIST02 ( $F$

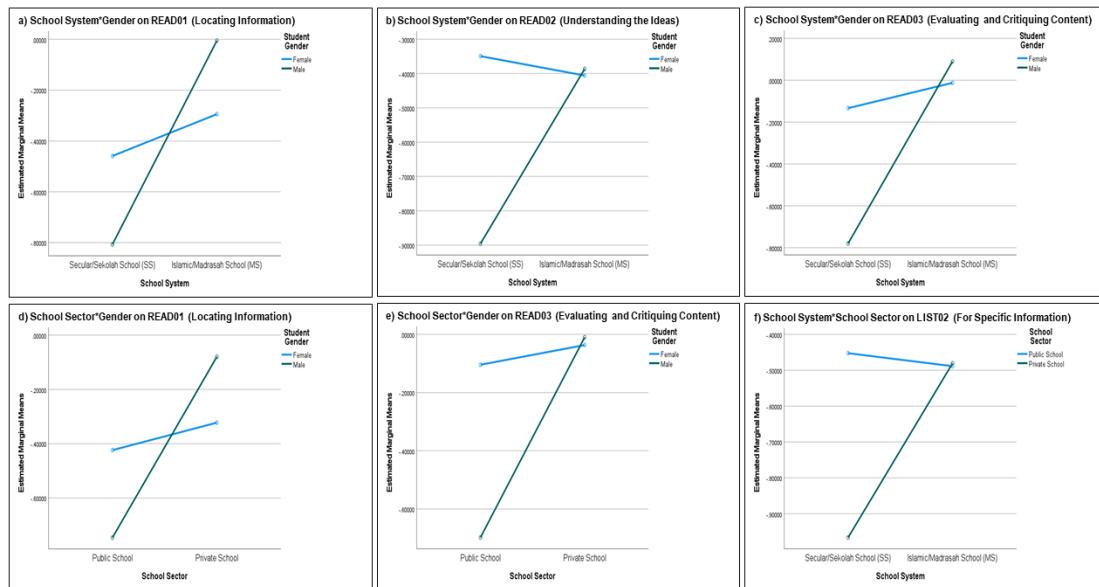


(1,1311) =12.062,  $p < 0.05$ ). The effect of SCSTYM\*SCSECTOR indicates that there was a significant discrepancy between the secular and Islamic students across different school sectors. As documented in Figure 2. 2. f, students attending public secular did better than those in private secular schools, while public Islamic schools achieved lower than students in private *Madrasah* schools. The results signify that the students from public secular and private *Madrasah* schools are better at listening for specific information in listening tests compared to the other groups, such as private secular and public *Madrasah* students. Additionally, it is also shown that students from public *Sekolah* (LIST02,  $M = -0.45$ ,  $SD = 1.22$ ) and *Madrasah* (LIST02,  $M = -0.49$ ,  $SD = 1.12$ ) groups tend to perform similarly. On the other hand, the biggest gap in LIST02 is shown between private secular (LIST02,  $M = -0.97$ ,  $SD = 1.15$ ) and Islamic (LIST02,  $M = -0.48$ ,  $SD = 1.16$ ) schools in favour of private *Madrasah* schools.

Overall, the results also show that adjusted  $R^2$  for the corrected model of 0.42 for READ01, 0.32 for READ02 and 0.62 for READ03. This concludes that around 4% of the variance of the student's scores in locating information, 3% in understanding the ideas and information and 6% in evaluating the text content and textual elements are explained by the predictors of the school system, school sector and student gender. For the listening subskills, the adjusted  $R^2$  results indicate that around 2% or 0.016 on the variable of student scores in listening for gist (LIST01), 1% or 0.011 in listening for specific information (LIST02) and 0.3% or 0.003 in listening in detail (LIST03) are explained by the three-way variables of SCSTYM, SCSECTOR and GENDER. Regarding the effect size of the three-way interaction among variables on reading and listening subskills, the partial eta square (Partial  $\eta^2$ ) is  $< 0.01$  which represents a small partial eta squared (Cohen, Manion, and Morrison 2002). Additionally, the estimates within  $\pm 3$  and  $\pm 10$  for its skewness and kurtosis of the data indicate that a normal distribution is revealed. Likewise, Levene's test was not statically significant shown in the listening and reading achievement  $> 0.05$ , indicating that homogeneity of variance is evident across the groups (see Appendix 2.1).

**Figure 2. 2**

*The Significant Interaction Effects among SCSYTM\*GENDER on Reading and Listening Subskills*



## 2.5 Discussion

This paper was motivated by published findings (Newhouse and Beegle 2006; Hendajany 2016) which claim there is a discrepancy between secular and Islamic schools in English performance. However, such studies fail to identify what language skills differentiate their overall language performance. For this reason, this present research sets out to specifically prove there are disparities in English language reading and listening subskills between the students from secular and Islamic schools, public and private schools as well as male and female students in Indonesia. Simultaneously, the interaction effects of the school system, school sector and gender on students' English skills were investigated. Before assessing the main and interaction effects of the predictors of students' reading and listening skills, the equality of measurement tools using differential item functioning (DIF) analysis was first checked to ensure they functioned equally for both groups. The results confirmed that the equity of the test items for the *Sekolah* (SS) and *Madrasah* (MS) groups was supported; it was evident by obtaining the acceptable thresholds of item fit statistics garnered from previous studies (Alagumalai, Curtis, and Hungi 2005; Wu, Tam, and Jen 2016; Bond and Fox 2015). Moreover, the findings verify that the implemented English proficiency tests work in the same way as designed by MoEC (2017b) on the listening and reading test for grade 12 students in different types of schools in Indonesia. Concurrently, the multidimensional item analysis of the

instrument used for the reading test adapted from the OECD (2019) and the listening test from Solak and Erdem (2016) were also relevant to this study. As a result, the three-way ANOVA analysis used here does offer some interesting findings:

Firstly, the findings of this study illuminate compelling discrepancies in the tested items as dependent variables between the school system ‘secular and Islamic schools’, favouring the students enrolled in Islamic schools. This study serves as a pivotal indicator, signalling that *Madrasah* students demonstrate better English proficiency, especially in the complex task of interpreting textual meanings in reading tests and discovering specific information in listening tests. The findings are aligned with the theories of reading and listening skills highlighting that students with better reading comprehension (e.g. Islamic school students) tend to have an ability to critically understand written text, emphasizing aspects like text meaning, drawing conclusions, recognizing writing techniques, discerning mood, and answering questions (Davis 1968a); they can interact with passage meaning, emphasize and understand the entire text rather than individual words and sentences (Keenan, Betjemann, and Olson 2008). With better listening literacy, the students in *Madrasah* schools did well in understanding spoken language, including sound recognition and message comprehension (Bowen, Madsen, and Hilferty 1985) as well as decoding incoming information for memory in listening tests (Bingol et al. 2014). This new trend of better English achievement in Islamic schools has changed the prior tendencies and rejects the previous studies (Newhouse and Beegle 2006; Hendajany 2016) showing that secular students performed better in English than Islamic school students. Therefore, the outcomes of this study carry significant implications which extend beyond the scope of educational assessment. Likewise, this study sheds light on the distinctive pedagogical methods and approaches employed in Islamic schools, which contribute to fostering students’ advanced skills in English reading and listening subjects.

Other findings of this study offer an intriguing insight into the academic performance landscape by indicating that students enrolled in public schools outperformed their counterparts attending private schools. Public school students excelled in discerning both general and specific pieces of information in listening assessments challenging preconceived notions about the superiority of private schools. Better performance achieved by students enrolled in public schools is associated with greater resources, especially government funds (Stern and Smith 2016); leading to better learning outcomes. The findings also corroborate the prior studies (Ali et al. 2011; Stern and Smith 2016; ADB 2014) highlighting that Indonesian schools managed by the government authority are beneficial with the school facilities and teacher quality. Public schools have greater access to educational resources and infrastructure, whereas the availability

and quality of school facilities in private schools continue to pose challenges. The majority of educators in public schools are government-employed civil-servant teachers who receive standard or higher government wages. They also have increased opportunities to engage in teacher training programs, enabling them to provide high-quality education, resulting in enhanced learning outcomes when compared to their counterparts in private schools.

It is important to note that, the specific results of the discrepancies in language achievement across the school system and sectors revealed in this study are strongly affected and moderated by the student gender. Higher scores among girls in secular schools and boys in Islamic schools underscore their superior performance in key aspects of reading comprehension. The enhanced scores among girls in secular schools in terms of understanding the text's demands, comprehending the conveyed meaning, justifying points, and drawing conclusions reflect a nuanced interaction between gender and the educational setting. Moreover, a notable trend of underperformance among boys attending public schools and girls in Islamic schools in terms of locating information and evaluating text content during reading assessments is also shown in this study. These inconsistent results on the effect of student gender on their performance have been stated in the prior studies (Mulualem, Mulu, and Gebremeskal 2022; Musa, Dauda, and Umar 2016; Ali et al. 2011) generally recognizing whether boys or girls are better in language performances. Simultaneously, other studies supported that contradicting results on boys and girls across school settings, such as Islamic and non-Islamic schools are strongly affected by their learning behaviours, such as language learning motivation (Saaty 2022; Bećirović 2017) and anxiety (Al-Sohbani 2018; Hussain, Shahid, and Zaman 2011) possibly lead to different outcomes for students' English achievement. Recognizing the strengths and challenges present in each context is essential for designing targeted interventions that can address the girls' and boys' learning behaviours across different school settings through effective teaching and learning.

Altogether, the existence of poor English performance by boys, in secular schools was identified as the key factor contributing to lower English achievement in secular schools than those in Islamic schools. In order to ensure fairness and parity in education for both male and female students in both secular and Islamic schools, this research yields practical results. One of these outcomes involves the pivotal role that *Sekolah* teachers play in high-quality instruction that accommodates student diversity, such as a wide range of learning needs and preferences. This encompasses the application of tailored teaching approaches, offering individualized assistance to tackle the distinct learning needs of male students, and fostering collaborative and peer-based learning endeavours that enable mutual knowledge exchange.

Additionally, these efforts can boost students' enthusiasm and motivation for learning English and mitigate learning obstacles, such as English difficulty and anxiety. Consequently, it is highly recommended to formulate a comprehensive educational policy and receive governmental backing to address imbalances in educational quality based on student gender and school attributes. This could involve allocating sufficient resources, enhancing teacher quality, implementing evidence-based methodologies, and closely monitoring progress in school achievements to ensure that every Indonesian student enjoys equitable access and accomplishments. Moreover, the findings reflect practical evidence for the consistency of measurement tools using the Differential Item Functioning (DIF) technique with Rasch analysis employed in the cross-group comparison. Unfortunately, the generalizability of these findings is limited by the scope of the research, as it only looked at the secular and Islamic education systems in Indonesia. Further studies on this topic should explore other contexts, measures, and methods, and use more varieties and sizes of samples.

## **2.6 Conclusion**

This study proves notable differences in English proficiency between secular and Islamic schools, favouring Islamic school students. It highlights the impressive language skills of *Madrasah* students, showcasing their ability to grasp intricate language tasks like understanding text nuances and extracting precise information. This finding breaks from past trends where secular students excelled over their Islamic peers, showcasing significant progress in *Madrasah* language learning despite limited resources. Moreover, this study also noted that the performance of the students from *Sekolah* and *Madrasah* schools varied depending on school sectors and gender. Girls in secular schools and boys in Islamic schools perform better in English reading comprehension. Girls in secular schools excel in understanding text demands, text meanings, and text conclusions. Conversely, boys in public schools and girls in Islamic schools struggle with tasks like locating information and evaluating text content in reading assessments. Thus, the poor performance of boys and those in public secular schools are the main contributors to the overall low scores obtained by secular schools. For this reason, recognizing these dynamics is crucial for designing effective interventions tailored to their learning behaviours and needs are urgently needed in all school settings, including in secular-Islamic schools. This perspective shift encourages further exploration of students' learning attitudes, and teaching methods across school types, enhancing our understanding of diverse factors affecting English proficiency.

## 2.7 Abbreviations

OECD	Organization for Economic Co-operation and Development
MoEC	Ministry of Education and Culture
MoRA	Ministry of Religious Affairs
WLE	Weighted Likelihood Estimate
RMM	Rasch Measurement Model
DIF	Differential item functioning
MNSQ	Mean Square Scores
ANOVA	Analysis of Variance
SS	Sekolah Schools
MS	Madrasah Schools
SECTOR	School Sector
GENDER	Student Gender
M	Mean Score
SD	Standard Deviation

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## 2.9 Appendices

### Appendix 1 *Distribution and Homogeneity Test of the Students' Reading and Listening Performance in Sekolah and Madrasah Groups*

<b>Distribution of Student English Achievement</b>										
		N	Min	Max	Mean	SD	Skewness		Kurtosis	
							Statistic	SE	Statistic	SE
Secular/Sekolah School (SS)	Listening	726	-3.18	3.15	-0.44	0.90	-0.11	0.09	0.77	0.18
	Reading	726	-3.10	3.10	-0.54	0.99	0.42	0.09	1.50	0.18
Islamic/Madrasah School (MS)	Listening	593	-3.18	1.93	-0.43	0.90	-0.30	0.10	0.62	0.20
	Reading	593	-3.10	3.10	-0.24	0.81	-0.03	0.10	1.11	0.20

<b>Homogeneity Test of Student English Achievement (Levene's Test of Equality of Error Variances)</b>		
English Achievement	F	Sig.
Listening	3.32	0.07
Reading	0.07	0.80

# **Chapter 3:**

Secular-Islamic Education:  
Are They Different in Concepts and Levels of  
Learning Motivation, Anxiety, Difficulty, and  
Wellbeing?

# Statement of Authorship Declaration

## Statement of Authorship

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Name of Principal Author (Candidate)	<b>Abu Nawas</b>		
Contribution to the Paper	Contributed to data collection, performed analysis, interpreted data, wrote, revised the manuscript also acted as the corresponding author.		
Overall percentage (%)	65		
Certification:	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am the primary author of this paper.		
Signature		Date	07 August 2023

### Co-Authors' Contributions

By signing the statement of authorship, each author certifies that:

- I. the candidate's stated contribution to the publication is accurate (as detailed above);
- II. permission is granted for the candidate to include the publication in the thesis; and
- III. the sum of all co-author contributions is equal to 100% less the candidate's stated contribution.

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# **Secular-Islamic Education: Are They Different in Concepts and Levels of Learning Motivation, Anxiety, Difficulty, and Wellbeing?**

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## **Abstract**

This study aims to address a binary view in educational terms, such as learning motivation, anxiety, difficulty, and wellbeing in secular and Islamic education contexts. Samples (n=1,319) were grouped according to their school system with 726 Indonesian students from secular/*Sekolah* and 593 from Islamic/*Madrasah*. Although Islamic values influence the educational and psychological terms in Islamic education, results of measurement invariance confirm that secular and Islamic schools can infer the same understanding of learning motivation, anxiety, difficulty, and wellbeing concepts. Simultaneously, findings show evidence of significant differences between the groups; *Madrasah* students were highly motivated in listening lessons, but they felt highly anxious in listening and reading tests. Students attending secular schools more struggled in English reading and experienced less bullied compared to Islamic school students. The different levels of the tested measures were moderated by the school sector and student gender. The implications of knowledge, methodology and practice are discussed.

**Keywords:** *Sekolah, Madrasah*, secular, Islamic, Concepts



### 3.1 Introduction

The past decades have seen an upsurge in a global issue on the prominent roles of psychological aspects on students' English performances across different school contexts. This has been evident in some research in specific educational settings, such as in religious and non-religious contexts, showing the strong effects of the students' psychological factors on their English learning. Taking evidence-based findings from the investigations separately conducted in religious 'Islamic' and non-religious schools in English classes, the studies report that students' learning psychological behaviours, such as motivation (Farid & Lamb, 2020; Purwanti & Puspita, 2019), anxiety (Ahmad & Nisa, 2019; Hashemi, 2011), difficulty (Hermida, 2021; Nafsiah, 2019) and wellbeing domains (Finley, 2018; Jin & Zhang, 2018; Li, 2020; Na'imah et al., 2022), have significant effects on their English performance. The results show the positive effect of motivation, which indicates that highly motivated students tend to perform better, while the negative effect of learning problems, such as learning anxiety and difficulty results in poor English scores. Moreover, students with high wellness levels possess high learning enthusiasm and perform better academically. The investigations also claim that students from different school types showed higher motivation and faced the same psychological and technical problems in learning. In contrast, the studies focusing on the wellbeing measures claim that a tendency to suffer from inconsistent levels of wellbeing is shown for students in secular schools. The studies sampled in Islamic or *Madrasah* schools, otherwise, revealed high levels of wellbeing domains which turn them to obtain high English achievement. Therefore, those psychological factors are predicted as the key aspects to developing the students' English achievement across different school contexts.

Furthermore, the renewed interest in investigating student learning motivation, problems and wellbeing in secular and Islamic educational settings has increased in the last few years. For example, several observations separately conducted in non-religious schools across different countries found that student interest in cognitive, communication, cross-cultural, travelling and job prospect goals are the main reasons to learn English (Bernardo et al., 2015; Idikut et al., 2021; Kim, 2017; Purwanti & Puspita, 2019). Similar reasons (Altiner, 2018; Rahman et al., 2021) and Islamic propagation aims (Farid & Lamb, 2020; Setiyadi & Sukirlan, 2016) motivate Islamic or *Madrasah* students to study English. Moreover, some current studies (Hashemi, 2011; Hermida, 2021; Nafsiah, 2019; Zubaidi, 2021) have reported that psychological and technical concerns affect the experience of greater anxiety and struggle to learn English. Highly feeling worried about making mistakes and lacking confidence

decreases their motivation which compromises their English performance. Similar problems, including English word issues and lack of interest, are identified as the predominant causes of learning issues faced by students attending secular schools (Ahmad & Nisa, 2019; Özsari & Büyükkarci, 2022; Saraswaty, 2018). Regarding the student wellbeing interest in the global school contexts, a study by Ramli et al. (2016) conducted in Indonesia discovered that student wellbeing in the social domain, such as relationships among peers shows a high level and followed by the cognitive, psychological, and physical domains. In another observation in the same school settings in Latvia, Usca et al. (2020) revealed that student wellbeing in the health aspect was at high levels, while low levels are revealed in other aspects such as school-belonging and social domains. Simultaneously, studies conducted in Islamic schools in Indonesian, Turkish and English contexts (Masroom et al., 2017; Na'imah et al., 2022) similarly suggest that emotional, psychological, and social wellbeing domains are at high levels. However, student wellbeing in Islamic education is strongly influenced by religious values, traditions, and morals, signifying that students with high levels of religiosity tend to have a high wellness. Additionally, the prior studies generally argue that the student levels of learning behaviours and wellbeing are potentially changeable and depend on student demographics (Aunampai et al., 2022; Çikrikci et al., 2019; Lapidot-Lefler & Dolev-Cohen, 2015; Rana et al., 2020; Roussi-Vergou et al., 2018) and other factors, such as school (Bernardo et al., 2015; Idikut et al., 2021; Kim, 2017).

While there is agreement on the same strong influences and levels of the explained factors on student English outcomes in Islamic and secular schools, these might measure and infer different perspectives. This claim has been highlighted in some literature arguing that there is a binary view in the general perception of education and pedagogical terms, including learning behaviours (Dato'Mansor & Jaharuddin, 2020; Radzi et al., 2014; Sahin, 2018) and wellbeing (Joshnloo & Weijers, 2019) between Islamic and secular education. For example, in global or secular concepts, learning motivation goes back to the idea by Brown (1987), which is defined as “an inner drive, impulse, emotion, or desire that moves one to a particular action” (p. 114). Brown's theory points out that motivation is generally used to express the increase or decrease in the frequency of personal goal-seeking behaviour. This concept is supported by Svinicki and Vogler (2012), defining learning motivation as always related to student learning involving “the learner and the environment, which is marked by selection, initiation, increase, or persistence of goal-directed behaviour” (p. 2081). Specifically, the OECD (2013) defines student learning motivation as “the drive to perform an activity purely for the joy gained from the activity itself” (p. 65), which is specifically influenced by external and internal factors

defined as intrinsic and extrinsic motivation (Jovanovic & Matejevic, 2014; Murphy & Alexander, 2000; Ryan & Deci, 2000). Intrinsic motivation refers to the performance of behaviour as the action of doing an activity for its integral satisfaction rather than for divisible consequences. In contrast, extrinsic motivation is defined as a concept that is related whenever an activity is performed to achieve some separable result with rewards or pressures. Both domains are globally represented as learning enthusiasm that involves the student's personal interest, autonomy, and competence.

Learning anxiety and difficulty, in contrast, are expressed as learning problems. MacIntyre (1999) has defined the theory of learning anxiety as "the worry and negative emotional reaction aroused when learning" (p. 27). This theory is aligned with the literature that defines learning anxiety as feeling discomfort, nervousness, and fear influenced by threats, and the pressure of learning, including schoolwork or tests (Alrabai, 2014; OECD, 2017). In a different concept, learning difficulty is regarded as problematic in the ability to understand, which may manifest itself in imperfect learning (Elkins, 2002; Hamouda, 2013). However, recent studies have claimed that learning anxiety and difficulty have a comparable meaning since both concepts strongly correlate. This is evident in a systematic review of learning anxiety and difficulty by Fong and Soni (2022) which has expressed that learning difficulty is highly aligned with learning anxiety. Students with learning difficulties tend to have high levels of learning anxiety. Likewise, those with high anxiety in learning have difficulty learning. This agreement is similar to those acknowledged by Sainio et al. (2019) and Thakkar et al. (2016), which recognize that high-anxiety students experience difficulty in school and learning, and those with learning difficulties are more likely to develop mental health problems, including anxiety. Given all that has been defined so far in global or secular contexts, learning anxiety generally refers to the negative emotion of learners due to some psychological factors and the learning difficulty concept is technically referred to as a lack of learning ability.

Furthermore, the global conceptual meaning of wellbeing is defined as the quality of life related to positive emotions (Cohn et al., 2009; Kahneman & Krueger, 2006). Specifically, some theoretical and measurement studies have proposed the concept of wellbeing rooted in a multidimensional concept. For example, Seligman (2011) proposed the concept of wellbeing into PERMA: positive emotion, engagement, relationship, meaning, and achievement. Seligman's idea separates the theory of wellbeing from the multidimensions of good feelings, meaningful life, supportive and friendly connections, goal achievement, and full-life engagement (Butler & Kern, 2016; Seligman, 2018; Zajenkowska et al., 2021). The multidimensions of general wellbeing concepts for students have given rise to higher-order

constructs used in any research discipline to measure the flourishing of individual and group levels involving some aspects, such as mental states, emotional and social life (Borgonovi & Pál, 2016; OECD, 2017). The domains include the students' happiness, optimism, anxiety, peer-belonging and bullying experiences which contribute strongly to the student's learning performance. Of the various theories of wellbeing established, scholars similarly define student wellbeing as a state of psychological functioning that relates to the student's quality of life.

In the Islamic context, the terms of learning behaviours, such as motivation, anxiety, and difficulty, as well as wellbeing, are similarly defined as the desire to do something and gain goals; the feeling of discomfort, nervousness, fear, and quality of life related to positive emotions. However, the concepts are slightly different to the secular view, as those are strongly influenced by religious values and tradition (Sirozi, 2004). This claim has been endorsed and proven by prior studies which confirm the presence of binary views of education between Islamic and secular "Western" institutions. In Islamic viewpoints, learning motivation is the process which initiates goal-oriented behaviours and is closely tied to the concept of purpose by seeking the acceptance of religious values (Alawneh, 1998; Dato'Mansor & Jaharuddin, 2020). The feature of motivation is the vitality and high importance of the goals and aims of the individuals. When the aim is essential, this can strongly encourage individuals to enhance their effort to achieve it. Moreover, anxiety and difficulty are regarded as feeling fear or lacking self-control, and a lack of ability to perform is affected by low attachment to the Islamic aspects, practice and faith (Radzi et al., 2014). These concepts are developed within the individual's religious and psychological attitudes which include the weakness in contending control through the mind and faith system. Moreover, the wellbeing view, according to Islam, is defined as life quality moderated by Islamic beliefs, faith, and social aspects. This indicates that the quality of life involves individual faith, personal practices of worship and social responsibility (Joshanloo, 2017; Joshanloo & Weijers, 2019). People with no religious faith are certainly plagued by worthlessness and they lack the objectives to achieve a meaningful life. The claims are in line with the Islamic studies of *Aqidah* and *Fiqh* teachings as the compulsory lessons in Islamic schools across the countries including in Indonesia (Zurqoni, 2018). The teachings cover the Islamic knowledge related to personal, mental, and moral development based on faith and obedience to God. The subjects are aimed to ensure that students gain a comprehensive understanding of Islamic law, values, tradition, and morals, and equip the individual students with the knowledge to navigate various life situations, including life and learning challenges and fulfil their responsibilities as Muslims. Likewise, the students are required to actively participate in social life following Islamic teachings and principles.

Accordingly, the Islamic views of psychological education terms and wellbeing have become more centred on attachment to spirituality, while plurality and subjective happiness are regarded in secular or Western contexts. This claim has been evident in prior literature, concluding the strong positive correlations between religiosity and learning motivation and wellbeing, and the negative association between learning problems and spirituality. This suggests that students with high religiosity values tend to possess high learning motivation (Farhan & Rofi'ulmuiz, 2021), low learning problems (Abdel-Khalek et al., 2019; Şen, 2021) and better life quality (Masroom et al., 2017; Na'imah et al., 2022). Thus, different conceptions regarding educational and psychological terms between secular and Islamic school settings might contribute to potential measurement bias.

Although the prior investigations have claimed that students' behaviours towards learning and wellbeing are predicted as the essential factors influencing the students' English achievement in secular and Islamic education, there is a lack of clarity in dealing with the different concepts between them. Likewise, the findings revealed in the previous studies were separately conducted in different contexts with different measurement tools which cannot draw conclusions about the existence of the gaps between them. For this reason, this current study sheds new light on the issues established by conducting a series of statistical analyses, such as measurement invariance test to examine whether the students from *Sekolah* and *Madrasah* differ in concepts of psychological behaviours in learning English, such as motivation, anxiety, difficulty as well as wellbeing aspects. If the results show full invariance indicates although those tested terms are defined and strongly influenced by the Islamic values and teachings in Islamic education, the students in *Madrasahs* can infer a similar psychometric understanding of the tested constructs with those from secular schools. On the contrary, if the invariance results are rejected, this signals that both groups infer differently, and meaningful cross-group comparison analysis might be biased. Moreover, once this study concludes that both groups can infer a similar understanding of the tested constructs, three-way ANOVA is conducted to provide the evidence or the presence of discrepancies between *Sekolah* as secular and *Madrasah* as Islamic schools in learning motivation, anxiety, difficulty, and wellbeing domains, as well as how the school sectors and student gender interact the levels of the tested variables differently. Therefore, this study aims to address the issues by offering two major research questions:

- 1) Do the students from secular (*Sekolah*) and Islamic (*Madrasah*) schools infer the same interpretations regarding the terms of learning motivation, anxiety, difficulty, and wellbeing domains?
- 2) What are the significant differences between *Sekolah* and *Madrasah* students in their levels of learning motivation, anxiety, difficulty, and wellbeing domains? How do the school sectors and student gender interact with the levels of the tested variables differently?

### **3.2 Study Context: Secular-Islamic Schools in Indonesia**

Dualistic systems of secular and Islamic education in Indonesia are historically rooted in the reactions and political issues in 1945 between secular and religious nationalists over the role of education for society (Nasution, 1983; Sirozi, 2004). The secular nationalists reacted that the Indonesian education system to fulfil the secular needs of the society, while the Islamic leaders insisted on adopting the religious model for the national education system. The issue became the most difficult challenge for the government, especially, the first Ministry of Education, Instruction and Culture ‘Ki Hadjar Dewantara’ due to the problem of overcoming conflicts. This problem could threaten the education system development and struggle to define the character of the national education system in Indonesia. For this reason, the government has issued the laws in Article 31, number 2 of the UUD-45 constitution to establish and implement a dual education system (Sirozi, 2004, p. 134). This ‘educational model’ system is now recognized as ‘general’ or secular schools run by the Ministry of Education and Culture (MoEC) and ‘religious’ or Islamic/*Madrasah* schools under the Ministry of Religious Affairs (MoRA). However, the adoption of dual systems has led to discrepancies in pedagogical and philosophical perceptions between them. Secular schools were designed to fulfil the state's needs, including social aspects, while Islamic schools were characterized by Islamic values, religious responsibility, and Muslim identity. Nowadays, the Indonesian government continuously reforms the education system to minimize the gap between secular and Islamic education toward a more unified school system. Around 84% of schools in Indonesia are secular or non-religious schools, while 16% are *Madrasah* or Islamic schools. The majority (92%) of secular schools are in public education and 82% of Islamic schools are in the private sector (OECD/ADB, 2015). Based on the law of the national education system (20/2003), the schools under MoEC and MoRA are subject to the same regulations and policies, such as national curriculum, academic calendar, school level, and teacher quality standards, to achieve equity and equality of education in Indonesia.

### 3.3 Methodology

#### 3.3.1 Participants

This study used a two-stage stratified sampling design by dividing the samples into similar groups and randomly selecting from separate strata (Cohen et al., 2002; Mills & Gay, 2016). The number of participants that participated in this study was 1,319 secondary school students grouped according to the school system with 726 (55%) from secular (*Sekolah*) and 593 (45%) from Islamic (*Madrasah*) groups in Indonesia. The *Sekolah* schools adopt secular or global education, while the *Madrasah* schools are more focused on Islamic values, traditions, and moral teachings. The stratification process involved multilevel stages at the district and school levels. In the first stage, 12 districts were nominated based on the probability of each district consisting of at least one *Sekolah* and one *Madrasah* school. Then, the total number of student participants was sampled within 30 schools during the second stage. This sample design is more accurate in proportional and non-proportional sampling and ensures the representation of the related subgroups within the sample (Mills & Gay, 2016; Ross, 2005). Therefore, this certifies an adequate representative of Indonesian secular and Islamic school students as the target population in this study.

#### 3.3.2 Measures: Questionnaire

The variables employed in this study were adapted from the previous literature and modified based on the study's purposes. **1) Learning Motivation: Reading and Listening Motivation**, 12 items of learning motivation adapted from OECD (2019) grouped into motivation in reading (MOTREAD1-MOTREAD6) and listening (MOTLIST1-MOTLIST6). The items describe how students were motivated to learn English reading and listening, such as for the cognitive, communication, travelling and job prospect goals. **2) Learning Problems; Anxiety and Difficulty**, 28 items of learning anxiety and difficulty adapted from Hamouda (2013) were categorised into anxiety in reading (ANXREAD1-ANXREAD7) and listening (ANXLIST1-ANXLIST7), and difficulty in reading (DIFREAD1-DIFREAD7) and listening (DIFLIST1-DIFLIST7). Those items cover questions on the students' negative behaviours in learning English, such as how anxious they were to learn and how they faced problems in terms of practical and textual complexities in English reading and listening, including technical and psychological problems. **3) Wellbeing Domains: Happiness, Optimism, Anxiety, Peer-belonging, and Bullying**, 27 items of wellbeing adapted from OECD (2017) were classified into five dimensions: happiness (HAPPY1-HAPPY6), optimism (OPT1-OPT6), anxiety

(ANX1-ANX5), peer belonging (PEER1-PEER6) and bullying (BULLY1-BULLY4), which cover statements about their emotional, psychological and social life experiences. These include how they are satisfied, how enthusiastic and anxious with their life and environment they are, as well as how they get along with their peers and how they experienced bullying in their life.

Furthermore, for the analysis purposes, all items were measured using a four-point Likert scale (*1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree*) and converted to the Weighted Likelihood Estimate (WLE) scales using Rasch analysis to reduce bias in scoring (Warm, 1989). From the Rasch analysis, 11 scales of reading motivation (MOTREAD), anxiety (ANXREAD), difficulty (DIFREAD), listening motivation (MOTLIST), anxiety (ANXLIST), difficulty (DIFLIST), happiness (HAPPY), optimism (OPT), anxiety (ANX), peer-belonging (PEER) and bullying (BULLY) were recognized as derived measures in this study. Moreover, two stages—scale and item levels—of validity and reliability were undertaken for both *Sekolah* and *Madrasah* groups. At the scale level, the results of the confirmatory factor analysis (CFA) designated that each scale fitted the data very well with the acceptable factor loading of  $>0.40$ , average variance extracted (AVE) of  $>0.7$  (Hair et al., 2014), GOF ratio of  $X^2/df$  value of  $\leq 3$  (Kline, 2015), comparative fit index (CFI) and Tucker-Lewis index (TLI) values of  $>0.90$  (Wang & Wang, 2019), root mean square error of approximation (RMSEA) value of 0.08 or less (Bialosiewicz et al., 2013) and the weighted root mean square residual (WRMR) values of 0.10 or less (DiStefano et al., 2018). Moreover, at the item level, the results of item fit statistics using the rating scale model (RSM) in Rasch analysis obtained acceptable results with item discrimination value  $>0.20$  and item logit/MNSQ value between 0.60-1.40 (Bond & Fox, 2015). In addition, the acceptable construct reliability (CR) and item separation reliability (ISR) findings were greater than 0.80 for each construct and are similarly marked in this study. More specific descriptions of the items and scales used in this study are shown in appendices.

### ***3.3.3 Methods of Analysis***

#### ***Multigroup Confirmatory Factor Analysis (MGCFA)***

Analysis of multigroup confirmatory factor analysis (MGCFA) using measurement invariance testing was undertaken to examine whether *Sekolah* (SS) and *Madrasah* (MS) students can infer the same psychometric understanding of the underlying constructs (Bialosiewicz et al., 2013; Wang & Wang, 2019). Using Mplus7 software (Muthén & Muthén, 1998-2017), the



manifest items tested are considered categorical variables, and the weighted least-square means and variances (WLSMV) estimator was used, which are indicated as non-normal distribution data is employed (Liang & Yang, 2014). To perform measurement invariance (Byrne, 2013), firstly separate confirmatory factor analysis (CFA) for each group was conducted. The model fit of each group is assessed using the cut-off value of Goodness of Fit (GOF) and convergent indices adopted. The GOF diagnostics consist of normed, or relative Chi-square ( $\chi^2/df$ ) is  $\leq 3$  (Kline, 2015), Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) are  $>0.90$  (Wang & Wang, 2019), the Root Mean Square Error of Approximation (RMSEA) is 0.08 or less (Bialosiewicz et al., 2013) or less than 0.1 (MacCallum et al., 1996), and the Weighted Root Mean Residual (WRMR) values of 1.0 or less (DiStefano et al., 2018). The acceptable cut-off values of their convergent validity, including the factor loading ( $\lambda \geq 0.30$ ), Average Variance Extracted (AVE)  $> 0.60$ , and Construct Reliability (CR)  $>0.80$  (Hair et al., 2014) are also considered as the model fit indices.

Furthermore, a measurement invariance analysis involving four hierarchical levels: Configural, Metric, Scalar, and Strict Invariance levels is carried out. Firstly, a configural invariant analysis is run to verify whether the *Sekolah* and *Madrasah* groups can infer the same conceptual pattern and whether the tested constructs have the same free and fixed loading pattern in both groups (Putnick & Bornstein, 2016; Wang & Wang, 2019). The configural invariance evaluation is similar to the separate CFA for each group examined based on their GOF, factor loadings, AVE and CR estimates. The acceptable results of the model fit indices signify that the observed variables establish the same constructs across the groups. Secondly, the analysis of metric invariance is performed to ensure the equivalent associations between a latent construct and its items by compelling the factor loadings and allowing the item intercepts to freely differ. If the factor loadings are invariant across the groups, this indicates that both groups respond to the items similarly. Moreover, the scalar invariance model is carried out to assess the mean variances in the latent hypothesis by restricting the item intercepts to be invariant. Then, the final model of strict invariance is conducted to measure the error invariance by constraining the item residuals.

To examine the invariance model fits between constrained and unconstrained models, model examinations are based on insignificant  $\Delta\chi^2$  with a  $p$ -value of  $>0.05$ . Non-significant Chi-square differences between the nested models are considered full measurement invariance. However, given the known oversensitivity of Chi-square differences ( $\Delta\chi^2$ ) and minor misspecification, other studies (Cheung & Rensvold, 2002; Dimitrov, 2010) suggest the decrease in the Comparative Fit Index ( $\Delta CFI$ ) between nested models as a diagnostic of model

assessment between measurement invariance levels. If the  $\Delta CFI$  is greater than 0.01, it shows that the rejection of invariance is valid. In contrast, in a  $\Delta CFI$  value is less than -0.01; the result is signalled by a lack of invariance; thus, it seems safe to conclude that partial invariance holds. Wang and Wang (2019) and other recent studies (Alivernini et al., 2018; Kern et al., 2019; Liou & Lin, 2021; Pezirkianidis et al., 2021; Stutz et al., 2017) agree that full invariance can be evident if the configural, metric, and scalar levels are supported. This indicates that the comparative groups can infer a similar psychometric understanding of the tested constructs.

### *Three-way Analysis of Variance (ANOVA)*

Once the invariance results are confirmed in the previous analysis, a three-way analysis of variance (ANOVA) was run to examine whether the school sectors and student gender moderate the levels of the tested variables in both secular and Islamic school groups. The significance of the mean differences between the groups is according to their  $p$ -value of 0.05. In addition, the effect size differences between groups are verified based on the results of Cohen's  $d$  (Pallant, 2016).

## **3.4 Findings**

### ***3.4.1 Multigroup Confirmatory Factor Analysis (MGCFA) Results***

Measurement invariance analysis was carried out to examine whether the measurement scales used in this study work equally for the *Sekolah* (SS) and *Madrasah* (MS) groups. First, the baseline models of CFA on 11 scales: Reading Motivation (MOTREAD), Listening Motivation (MOTLIST), Reading Anxiety (ANXREAD), Listening Anxiety (ANXLIST), Reading Difficulty (DIFREAD), Listening Difficulty (DIFREAD), Happiness (HAPPY), Optimism (OPT), Anxiety (ANX), Peer-belonging (PEER) and Bullying (BULLY) were separately performed for both groups. The CFA results of the 11 scales indicate a very good fit for both groups with acceptable values of GOF indices (see Appendix 3. 1, Appendix 3. 2 and Appendix 3. 3): CFI and TLI ( $>0.90$ ), RMSEA ( $<0.10$ ), and WRMR ( $< 1.0$ ) except for the Chi-square outputs ( $X^2$ ). Insignificant Chi-squared ( $p>0.05$ ) results are only revealed in some scales, which might be affected by sample size (Bialosiewicz et al., 2013; Chen, 2007; Dimitrov, 2010). Simultaneously, the acceptance of factor loading  $>0.40$ , AVE $>0.60$  and CR $>0.80$  were documented. Judging by these outcomes, the study concludes that all items belong to the corresponding constructs, and the measurement model can be confirmed for both groups.

**Table 3. 1***Model Comparisons of Measurement Invariance for MOTREAD, MOTLIST, ANXREAD, ANXLIST, DIFREAD and DIFLIST*

Model	$\Delta$ Model	$\chi^2$	df	$\chi^2/df$	GOF							
					CFI	$\Delta$ CFI	TLI	$\Delta$ TLI	RMSEA	$\Delta$ RMSEA	WRMR	$\Delta$ WRMR
<b>MOTREAD</b>												
1. Configural		27.141	13	0.011	0.999		0.998		0.041		0.951	
2. Metric	2--1	50.432	20	2.522	0.998	-0.001	0.997	-0.001	0.048	0.007	1.086	0.135
3. Scalar	3--2	52.998	29	1.828	0.999	0.001	0.999	0.002	0.035	-0.013	1.122	0.036
4. Strict	4--3	169.047	30	5.635	0.992	-0.007	0.992	-0.007	0.084	0.049	2.224	1.102
<b>MOTLIST</b>												
1. Configural		31.782	12	2.649	0.992		0.979		0.050		0.696	
2. Metric	2--1	33.705	13	2.593	0.991	-0.001	0.980	0.001	0.049	-0.001	0.759	0.063
3. Scalar	3--2	35.812	19	1.885	0.993	0.002	0.989	0.009	0.037	-0.086	0.810	0.051
4. Strict	4--3	39.287	24	1.637	0.994	0.001	0.992	0.003	0.031	-0.006	0.883	0.073
<b>ANXREAD</b>												
1. Configural		62.158	22	2.825	0.997		0.995		0.053		1.052	
2. Metric	2--1	70.429	26	2.709	0.997	0.000	0.995	0.000	0.051	-0.002	1.228	0.176
3. Scalar	3--2	92.672	34	2.726	0.996	-0.001	0.995	0.000	0.051	0.000	1.403	0.175
4. Strict	4--3	94.989	41	2.317	0.996	0.000	0.996	0.001	0.045	-0.006	1.455	0.052
<b>ANXLIST</b>												
1. Configural		41.387	20	2.069	0.997		0.994		0.040		0.773	
2. Metric	2--1	46.780	24	1.949	0.997	0.000	0.995	0.001	0.038	-0.002	0.886	0.113
3. Scalar	3--2	73.091	43	1.700	0.996	-0.001	0.996	0.001	0.033	-0.005	1.050	0.164
4. Strict	4--3	138.034	44	3.137	0.988	-0.008	0.989	-0.007	0.057	0.024	1.489	0.439
<b>DIFREAD</b>												
1. Configural		56.276	17	3.310	0.990		0.974		0.059		0.845	
2. Metric	2--1	58.724	23	2.553	0.991	0.001	0.983	0.009	0.049	-0.010	0.967	0.122
3. Scalar	3--2	62.825	36	1.745	0.993	0.002	0.992	0.009	0.034	-0.015	1.034	0.067
4. Strict	4--3	94.523	37	2.555	0.985	-0.008	0.983	-0.009	0.049	0.015	1.279	0.245
<b>DIFLIST</b>												
1. Configural		40.826	15	2.722	0.995		0.985		0.051		0.751	
2. Metric	2--1	46.796	20	2.340	0.995	0.000	0.989	0.004	0.045	-0.006	0.894	0.143
3. Scalar	3--2	68.112	34	2.003	0.993	-0.002	0.991	0.002	0.039	-0.006	1.108	0.214
4. Strict	4--3	70.306	35	2.009	0.993	0.000	0.991	0.000	0.039	0.000	1.148	0.040

**Table 3. 2***Model Comparisons of Measurement Invariance for HAPPY, OPT, ANX, PEER and BULLY*

Model	$\Delta$ Model	$\chi^2$	df	$\chi^2/df$	CFI	$\Delta$ CFI	GOF		RMSEA	$\Delta$ RMSEA	WRMR	$\Delta$ WRMR
							TLI	$\Delta$ TLI				
<b>HAPPY</b>												
1. Configural		4.046	1	4.046	0.998		0.982		0.068		0.290	
2. Metric	2--1	9.814	4	2.454	0.997	-0.001	0.991	0.009	0.047	-0.021	0.230	-0.060
3. Scalar	3--2	18.630	10	1.863	0.997	0.000	0.996	0.005	0.031	-0.016	0.733	0.503
4. Strict	4--3	75.563	11	6.869	0.968	-0.029	0.965	-0.031	0.094	0.063	1.563	0.830
<b>OPT</b>												
1. Configural		27.218	11	2.474	0.993		0.980		0.047		0.611	
2. Metric	2--1	29.285	13	2.253	0.993	0.000	0.983	0.003	0.044	-0.003	0.679	0.068
3. Scalar	3--2	37.430	20	1.872	0.992	-0.001	0.988	0.005	0.036	-0.008	0.850	0.171
4. Strict	4--3	38.126	24	1.589	0.994	0.002	0.992	0.004	0.030	-0.006	0.942	0.092
<b>ANX</b>												
1. Configural		21.297	7	3.042	0.997		0.992		0.056		0.812	
2. Metric	2--1	22.223	9	2.469	0.997	0.000	0.994	0.002	0.047	-0.009	0.852	0.040
3. Scalar	3--2	38.659	21	1.841	0.997	0.000	0.997	0.003	0.036	-0.011	0.975	0.123
4. Strict	4--3	125.512	22	5.705	0.980	-0.017	0.982	-0.015	0.084	0.048	2.016	1.041
<b>PEER</b>												
1. Configural		45.578	15	3.039	0.990		0.981		0.056		0.824	
2. Metric	2--1	47.698	18	2.650	0.991	0.001	0.985	0.004	0.050	-0.006	0.933	0.109
3. Scalar	3--2	53.742	32	1.679	0.993	0.002	0.994	0.009	0.032	-0.018	1.041	0.108
4. Strict	4--3	74.659	33	2.262	0.987	-0.006	0.988	-0.006	0.044	0.012	1.282	0.241
<b>BULLY</b>												
1. Configural		25.927	4	6.482	0.989		0.908		0.091		0.908	0.601
2. Metric	2--1	28.158	7	4.023	0.989	0.000	0.981	0.073	0.068	-0.023	1.014	0.106
3. Scalar	3--2	50.400	18	2.800	0.983	-0.006	0.989	0.008	0.052	-0.016	1.290	0.276
4. Strict	4--3	45.486	14	3.249	0.984	0.001	0.986	-0.003	0.058	0.006	1.157	-0.133

Furthermore, in Table 3. 1 and Table 3. 2, the results for the four-level model comparison of measurement invariance for the 11 constructs are as follows. The results of the configural models for all variables indicate a good model fit with their CFI >0.98, TLI >0.90, RMSEA < 1.00, and WRMR <1.00, which confirms that the configural models are supported. Due to the sample size, most of the constructs, unfortunately, indicate a lack of invariance between configural, metric, scalar, and strict models based on their  $X^2$  test. Invariance rejection is designated for the scales between the models with a  $p$ -value of <0.05. However, this study considers the  $\Delta$ CFI value between less than 0.01 and less than -0.01 as the evidence of measurement invariance tests adopted (Cheung & Rensvold, 2002). As revealed, the  $\Delta$ CFI (<0.01) outcomes for four nested model comparisons of those constructs are statistically supported, except for the Strict Level of ANX and HAPPY. Subsequently, the study considers that fully invariant results are found in the MOTREAD, MOTLIST, ANXREAD, ANXLIST, DIFREAD, DIFLIST, OPT, PEER, and BULLY constructs, while the partial invariance up to scalar levels across the groups is shown for ANX and HAPPY. According to Wang and Wang (2019) and other recent studies (Liou & Lin, 2021; Pezirkianidis et al., 2021) using the same scales, the evidence of full measurement is in place if the full scalar is supported. For this reason, this study concludes the equality of measurement tools between SS and MS groups is confirmed, which means that the students from secular and Islamic schools infer a similar understanding regarding the tested scales, such as learning motivation, anxiety, difficulty, and wellbeing domains.

### **3.4.2 Three-way ANOVA Results**

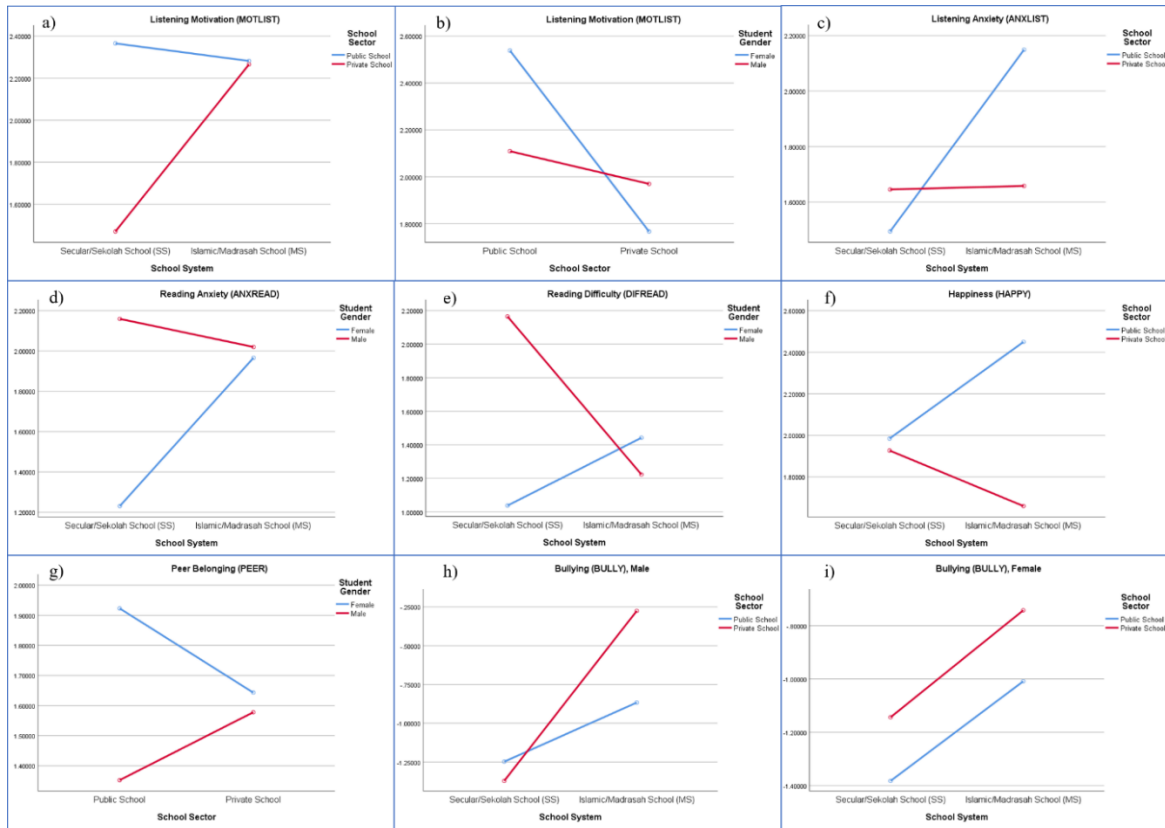
As documented in this study, the significant ( $p < 0.05$ ) differences between *Sekolah* (SS) and *Madrasah* (MS) school students were revealed in five measures. These are listening motivation (MOTLIST, SS=2.28, MS=2.31,  $F(1,1311) = 23.36$ ,  $P < 0.05$ ), listening anxiety (ANXLIST, SS=1.51, MS=1.77,  $F(1,1311) = 20.58$ ,  $P < 0.05$ ), reading anxiety (ANXREAD, SS=1.66, MS=1.87,  $F(1,1311) = 16.38$ ,  $P < 0.05$ ), reading difficulty (DIFREAD, SS=1.77, MS=1.43,  $F(1,1311) = 13.34$ ,  $P < 0.05$ ), and bullying (BULLY, SS=-1.33, MS=-0.69,  $F(1,1311) = 58.58$ ,  $P < 0.05$ ). The findings indicate that students in *Madrasah* schools were more motivated in listening lessons, but they more felt anxious in listening and reading tests. In secular schools, the high average score in reading difficulty and low mean score in bullying designate that they more struggled in English reading and experienced less bullied compared to those who attended Islamic schools. For the effect size, it shows the magnitudes of the differences between the

groups in the tested variables are very small ( $<0.03$ ). The effect size results revealed in this study suggest that the differences between the means of the two groups are meaningful, however, not strong enough to be considered substantial.

Furthermore, the interaction effect of  $SCSYTM*SCSECTOR$  was revealed in MOTLIST (see Figure 3. 1. a) and ANXLIST (see Figure 3. 1. c) signalling that the gaps detected in listening motivation between *Sekolah* and *Madrasah* students under public and private schools. Specifically, this study found that students in public *Sekolah* schools obtained high scores in MOTLIST and low scores in ANXLIST than those in private secular schools. On the other hand, a slight mean difference in MOTLIST between public and private schools and high ANXLIST mean scores for public schools were found in the *Madrasah* group. This suggests that students in public *Sekolah* schools possessed high motivation and low anxiety levels for listening tests. The findings obtained in the *Madrasah* group signify that the students who enrolled in public and private *Madrasah* schools were likely to have the same level of listening motivation, however, students attending public Islamic schools were more anxious in listening tests than those from private schools. Simultaneously, this study also found that the school sector (SCSECTOR) interacted between student gender (GENDER) and listening motivation (MOTLIST). High MOTLIS scores were revealed in females in public and males in private schools (see Figure 3. 1. b) suggesting that girls attending public schools were more motivated in listening lessons, while females in public schools possessed less listening motivation. Likewise, the results illustrate the big gaps across the school sectors are revealed in favour of private *Madrasah* schools in listening motivation and public Islamic schools in listening anxiety.

**Figure 3. 1**

*Interaction Effects of the Student Predictors on their Learning Behaviours and Wellbeing*



In the reading lesson, the moderation effect of  $SCSYTM * GENDER$  is shown in ANXREAD (Figure 3. 1. d) and DIFREAD (Figure 3. 1. e) which designates that there were discrepancies in reading anxiety and difficulty between boys and girls from secular and Islamic schools. This study revealed that boys in the *Sekolah* group were higher in ANXREAD and DIFREAD than girls. In contrast, slight gaps across the student gender in favour of males in ANXRED and females in DIFREAD were detected in the MS group. The findings suggest that boys in secular schools felt more anxious and struggled in reading tests than girls. In *Madrasah* schools, male and female students tended to have the same levels of reading anxiety, however, girls possessed high reading difficulty compared to boys. The big differences in those variables were shown across the student gender. The girls in the MS group show high mean scores in reading anxiety than girls in the SS group, while boys in the SS group obtained high reading difficulty.

Several moderation effects of the predictors on student wellbeing domains are also shown in this study. For example, the effects of  $SCSYSTM$  between  $SCSECTOR$  and happiness (HAPPY) indicate that levels of student happiness in *Sekolah* and *Madrasah* schools varied according to their school sectors (find Figure 3. 1. f). The students in public and private

secular schools were more likely to have the same happiness levels, while the high HAPPY mean score was in public *Madrasah* schools than in private schools. This indicates that the levels of student happiness in secular schools were similar across the school sectors, while students in public Islamic schools were happier than those attending private *Madrasahs*. Moreover, the interaction effect of SCSECTOR\*GENDER on peer-belonging (PEER) was also revealed in this study, where high PEER levels were revealed in girls from public and private schools. This suggests that female students felt more belonging to their peers compared to males. Simultaneously, the three-way interactions of SCSYSTEM\*SCSECTOR\*GENDER on student bullying (BULLY) were revealed in this study (see Figure 3. 1. h and Figure 3. 1. i). The results show that female students in private Islamic schools achieved high scores than males in public *Madrasahs*. In the SS group, high levels of BULLY for females than males in private schools were found. On the other hand, a slight difference in BULLY for male students in favour of those in public secular schools. The findings conclude that male and female students in private *Madrasah* experienced more bullying than those in public schools. This trend was similarly found in females enrolled in secular schools, where females in public *Sekolah* schools experienced less bullying compared to private schools. For the boys in the *Sekolah* group, this study signifies male students enrolled in public secular schools experienced more bullying. In addition, the big gaps in bullying experiences between boys across private schools in favour of Islamic private institutions.

### **3.5 Discussion and Conclusion**

The major aim of the present is first to address the lack of clarity in dealing with different conceptions of educational terms (Sahin, 2018; Sirozi, 2004) and wellbeing (Joshani & Weijers, 2019), as well as discrepancies in terms of measures between secular and Islamic educational contexts. More specifically, this paper is to examine whether binary understandings of education pedagogical and psychological terms, such as learning motivation, anxiety, difficulty, and wellbeing between *Sekolah* (secular) and *Madrasah* (Islamic) education settings are revealed or rejected. Also, it is to determine whether comparable groups perform similarly or differently in the levels of their learning behaviours and wellbeing domains. To address the issue, the specific investigation of the equality of measurement tools and the discrepancy of the measured scales of reading and listening motivation, anxiety, difficulty, and wellbeing domains were undertaken and several interesting findings were offered in this study.

Firstly, this study shows evidence for full measurement invariance in measured scales of learning motivation, problems, and wellbeing domains. Full configural, metric, and scalar



invariance across the groups (Liou & Lin, 2021; Pezirkianidis et al., 2021) indicate that the students of *Sekolah* and *Madrasah* appear to conceptualise the scales of learning motivation, anxiety, difficulty, and wellbeing in a very similar way, and interpret their corresponding items similarly. Particularly, this study confirms that although the Muslims' concepts of learning motivation (Alawneh, 1998; Dato'Mansor & Jaharuddin, 2020), anxiety, difficulty (Radzi et al., 2014) and wellbeing are more centred on attachment to spirituality (Joshnloo, 2017; Joshnloo & Weijers, 2019), Islamic values and traditions, they can infer the same meaning as those in secular or non-Islamic school contexts. This implies that the *Madrasah* students are capable of comprehending the tested measures which are mostly employed in the secular or global educational contexts. As measured in this study, both groups can define learning motivation (e.g., English reading and listening) as the drive to perform an activity purely for the joy and goals gained from the activity (OECD, 2019). They tend to similarly agree that both students are motivated to learn English for cognitive, communication, travelling and job prospect purposes. Moreover, they also infer English learning anxiety as a feeling of discomfort, nervousness, and fear influenced by threats, and the pressure of learning (Alrabai, 2014; OECD, 2017), and difficulty as problematic in their ability to understand which affects imperfect learning (Elkins, 2002; Hamouda, 2013), including the issues of practical, contextual in English reading and listening as well as psychological problems. Simultaneously, the concepts of wellbeing domains are similarly inferred by secular and *Madrasah* groups as the quality of life-related to positive emotion, psychological and social aspects (OECD, 2017). This includes how they are pleased, eager and worried about their life and environment as well as how they belong to their peers and how they get bullied in their life experiences. For this reason, this study confirms that the measurement tools used in this work are similar in secular and *Madrasah* students indicating that they can infer the same understanding of learning motivation, anxiety and difficulty as well as wellbeing domains. Likewise, this paper expands the knowledge that Islamic values do not affect how the students in *Madrasah* schools infer the educational and psychological terms which would lead to fundamentally different interpretations of the tested constructs with those in secular schools.

Furthermore, this current study found that there were significant differences between *Sekolah* and *Madrasah* students in five scales of listening motivation, listening anxiety, reading anxiety, reading difficulty and bullying. The results indicate that students enrolled in *Madrasah* schools were highly motivated in listening lessons, but they felt highly anxious in listening and reading tests. In contrast, students attending secular schools more struggled in English reading and experienced less bullied compared to Islamic school students. However, this study also

supports that the levels of those measures varied and were moderated by the school sector and student gender. For example, the lowest listening motivation in private secular schools and the highest listening anxiety in public *Madrasah* schools have become the main explanations for the gaps revealed in listening motivation and anxiety between secular and Islamic schools. Moreover, the high mean scores of reading anxiety for female students in *Madrasah* schools and the lowest reading difficulty obtained by boys in secular schools are predicted to become the main factors for the disparities between the students from different school sectors in reading problems. In addition, boys in private *Madrasah* schools experienced highly bullied than in Islamic schools is the main reason for the differences in bullying experience between secular and Islamic schools. Although there is a lack of single investigations comparing the measured scales between the comparative groups, some separate studies in secular and Islamic samples tend to support these findings. For example, the results are consistent with the previous studies (Hamouda, 2013; Hashemi, 2011; Hermida, 2021; Nafsiah, 2019) which claim that Islamic and secular school students were highly anxious and struggled with English learning. The findings of highly motivated students in listening tend to support and expand the prior literature conducted in Islamic institutions (Alrabai, 2018; Rahman et al., 2021). However, the separate previous investigations only provide the general conclusions of high English motivation levels possessed by the students. Simultaneously, the finding obtained in this study is in line with the previous literature (Masroom et al., 2017; Na'imah et al., 2022), the evidence of the high level of bullying in the Islamic school context and boys experienced more bullying than girls (Lapidot-Lefler & Dolev-Cohen, 2015).

To sum up, this study supports the implications of students in secular and Islamic schools can infer the same understanding of educational and psychological terms aligned with the idea of equality and the influence of Islamic values, traditions, and morals which possibly lead to different interpretations between them. This study also highlights the importance of the fairness of measurement tools for different sample groups and helps to yield reliable results for comparative studies as well as promote equitable education practices. The findings also offer specific empirical knowledge on the presence of gaps in students' learning motivation, anxiety, difficulty, and wellbeing levels between secular and Islamic schools in Indonesia aligned with some practical recommendations, such as 1) enhancing students' learning motivation in all English skills (e.g. reading and listening) for both groups by creating a positive and supportive English learning environment and identifying the factors that can enhance the students English learning motivation; 2) minimizing the students' English problems, anxiety and complexities by improving teaching and learning effectiveness, using appropriate teaching methods, and

enhancing teacher support in *Madrasah* schools; and 3) more promoting positive school climates and collaborative learning as well as building strong relationships among school communities in Islamic schools to improve the student wellbeing level, including minimizing student bullying experience. This study, unfortunately, has only been considered in the Indonesian context and is based on students' self-report. Further studies, which take other religious and non-religious school contexts in different countries, other psychological measures, and methods, such as correlations and regressions into account, will need to be undertaken.

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### 3.7 Appendices

#### Appendix 3. 1

*GOF Results of MOTREAD, MOTLIST, ANXREAD, ANXLIST, DIFREAD, DIFLIST and WELLBEING Domains*

Derived Variable	Group	$\chi^2$	df	$\chi^2/df$	P-Value	CFI	TLI	RMSEA	WRMR
Reading Motivation (MOTREAD)	Sekolah ( <i>SS, n = 726</i> )	11.66	6	1.94	0.07	0.99	0.99	0.04	0.38
	Madrasah ( <i>MS, n=593</i> )	8.05	5	1.61	0.15	1.00	0.99	0.03	0.30
Listening Motivation (MOTLIST)	Sekolah ( <i>SS, n = 726</i> )	6.80	5	1.36	0.24	0.99	0.99	0.02	0.20
	Madrasah ( <i>MS, n=593</i> )	6.40	5	1.28	0.27	0.99	0.99	0.02	0.36
Reading Anxiety (ANXREAD)	Sekolah ( <i>SS, n = 726</i> )	27.77	12	2.31	0.01	0.99	0.99	0.04	0.71
	Madrasah ( <i>MS, n=593</i> )	36.55	11	3.32	0.00	0.99	0.99	0.06	0.79
Listening Anxiety (ANXLIST)	Sekolah ( <i>SS, n = 726</i> )	19.88	10	1.99	0.03	0.99	0.99	0.04	0.49
	Madrasah ( <i>MS, n=593</i> )	26.03	12	2.17	0.01	0.99	0.99	0.04	0.62
Reading Difficulty (DIFREAD)	Sekolah ( <i>SS, n = 726</i> )	27.99	9	3.11	0.00	0.99	0.97	0.05	0.53
	Madrasah ( <i>MS, n=593</i> )	32.8	9	3.65	0.00	0.99	0.98	0.06	0.71
Listening Difficulty (DIFLIST)	Sekolah ( <i>SS, n = 726</i> )	34.70	9	3.86	0.00	0.99	0.97	0.06	0.61
	Madrasah ( <i>MS, n=593</i> )	45.93	10	4.59	0.00	0.99	0.98	0.07	0.94
Happiness (HAPPY)	Sekolah ( <i>SS, n = 726</i> )	7.54	2	3.77	0.02	0.99	0.99	0.06	0.40
	Madrasah ( <i>MS, n=593</i> )	6.48	2	3.24	0.04	0.99	0.98	0.06	0.51
Optimism (OPT)	Sekolah ( <i>SS, n = 726</i> )	20.00	6	3.33	0.00	0.99	0.97	0.06	0.46
	Madrasah ( <i>MS, n=593</i> )	12.69	7	1.80	0.04	0.99	0.99	0.04	0.47
Anxiety (ANX)	Sekolah ( <i>SS, n = 726</i> )	10.23	3	3.41	0.02	0.99	0.99	0.05	0.42
	Madrasah ( <i>MS, n=593</i> )	8.72	3	2.91	0.03	0.99	0.99	0.05	0.62
Peer-Belonging (PEER)	Sekolah ( <i>SS, n = 726</i> )	11.47	8	1.43	0.18	0.99	0.99	0.02	0.27
	Madrasah ( <i>MS, n=593</i> )	20.90	6	3.48	0.07	0.99	0.99	0.06	0.68
Bullying (BULLY)	Sekolah ( <i>SS, n = 726</i> )	7.39	2	3.70	0.02	0.99	0.98	0.06	0.51
	Madrasah ( <i>MS, n=593</i> )	5.42	1	5.42	0.02	0.99	0.98	0.08	0.31

## Appendix 3. 2

### Results of Factor Loadings, AVE and CR for MOTREAD, MOTLIST, ANXREAD, ANXLIST, DIFLIST and DIFLIST

Scale	Item	Description	Convergent					
			SS (n=726)			MS (n=593)		
			$\lambda$	AVE	CR	$\lambda$	AVE	CR
Reading Motivation (MOTREAD)	MOTREAD1	Listening activity is important in English lessons.	0.73	0.78	0.94	0.72	0.75	0.93
	MOTREAD2	The listening practice helped to improve my English skills.	0.76			0.80		
	MOTREAD3	I can use my listening skill in conversations with the foreigner.	0.88			0.76		
	MOTREAD4	Listening skill helps me think critically.	0.70			0.63		
	MOTREAD5	I will use my listening skill when travelling too overseas.	0.82			0.81		
	MOTREAD6	I will use my listening skill in future jobs.	0.78			0.79		
Listening Motivation (MOTLIST)	MOTLIST1	Reading activity is important in English lessons.	0.74	0.72	0.92	0.57	0.65	0.88
	MOTLIST2	The reading practice helped to improve my English skills.	0.77			0.56		
	MOTLIST3	I can use my reading skill in reading English books.	0.84			0.73		
	MOTLIST4	Reading skill helps me think critically.	0.66			0.60		
	MOTLIST5	I will use my reading skill when travelling overseas.	0.60			0.79		
	MOTLIST6	I will use my reading skill in future jobs.	0.74			0.66		
Reading Anxiety (ANXREAD)	ANXREAD1	I feel worried when the ideas in the text are unclear.	0.73	0.78	0.95	0.65	0.70	0.92
	ANXREAD2	I get upset when I lack previous knowledge about the ideas in the text.	0.70			0.81		
	ANXREAD3	I am worried when I cannot get the text's gist.	0.80			0.68		
	ANXREAD4	I am nervous when I cannot spot the main idea of a particular paragraph.	0.80			0.57		
		I feel worried when an unknown word is difficult to pronounce.	0.82			0.77		
	ANXREAD5	I am nervous when I get long sentences with complex structures.	0.80			0.77		
	ANXREAD6	I feel upset when the tense of a certain sentence is unclear to me.	0.80			0.67		
ANXREAD7								
Listening Anxiety)	ANXLIST1	I was nervous when I got unfamiliar topics in the listening test.	0.67	0.73	0.93	0.78	0.72	0.93
	ANXLIST2	I get nervous and confused when I do not understand every word.	0.82			0.80		
	ANXLIST3	I get annoyed when I listen words that I do not understand.	0.75			0.70		
	ANXLIST4	I get nervous if a listening passage is read-only once.	0.78			0.59		
	ANXLIST5	I feel uncomfortable when listening to English without written text.	0.70			0.71		
	ANXLIST6	I cannot concentrate on what English speakers are saying.	0.72			0.73		
	ANXLIST7	I get worried when I have little time to think during the test.	0.66			0.71		

Reading Difficulty (DIFREAD)	DIFREAD1	I found difficulties comprehending the unfamiliar passage.	0.69	0.67	0.90	0.626	0.61	0.87
	DIFREAD2	There were many words I could not understand.	0.81			0.728		
	DIFREAD3	Many texts were too complex for me.	0.74			0.831		
	DIFREAD4	I was lost when I had to navigate different pages.	0.67			0.663		
	DIFREAD5	I felt that I had limited time to complete the tasks.	0.59			0.483		
	DIFREAD6	I needed to read the text repeatedly.	0.63			0.496		
	DIFREAD7	I cannot understand and answer questions promptly in noisy places.	0.56			0.437		
Listening Difficulty (DIFLIST)	DIFLIST1	Long-spoken text interfered with my listening comprehension.	0.61	0.71	0.94	0.555	0.64	0.89
	DIFLIST2	I found difficulties understanding unfamiliar listening topics.	0.76			0.734		
	DIFLIST3	I lose my concentration when I think about the meaning of the words.	0.70			0.665		
	DIFLIST4	I am unable to focus when I think of another question.	0.72			0.650		
	DIFLIST5	I cannot understand speakers who say words less clearly.	0.73			0.610		
	DIFLIST6	I cannot understand and answer questions promptly in noisy places.	0.71			0.604		
	DIFLIST7	I cannot remember the details of spoken directions or requests.	0.71			0.642		

### Appendix 3. 3

#### Results of Factor Loadings, AVE and CR for WELLBEING Domains

Scale	Item	Description	Convergent					
			SS (n=726)			MS (n=593)		
			$\lambda$	AVE	CR	$\lambda$	AVE	CR
Happiness (HAPPY)	HAPPY1	I feel happy.	<i>Deleted</i>	0.75	0.90	<i>Deleted</i>	0.69	0.86
	HAPPY2	I have a lot of fun.	<i>Deleted</i>			<i>Deleted</i>		
	HAPPY3	I love my life.	0.91			0.72		
	HAPPY4	I am a cheerful person.	0.85			0.73		
	HAPPY5	I feel I am satisfied with my life	0.68			0.63		
	HAPPY6	I find most things amusing.	0.58			0.69		
Optimism (OPT)	OPT1	I am optimistic about my future.	0.63	0.73	0.92	0.64	0.66	0.89
	OPT2	I think good things are going to happen to me.	0.69			0.54		
	OPT3	I believe that things will work out, no matter how difficult they seem.	0.82			0.85		
	OPT4	I have been feeling good spirit.	0.82			0.72		
	OPT5	I am confident in my ability to solve problems.	0.74			0.80		
	OPT6	I feel able to take anything on.	0.67			0.42		
Anxiety (ANX)	ANX1	I worry a lot about things at home.	0.58	0.71	0.90	0.69	0.67	0.87
	ANX2	I worry a lot about things at school.	0.67			0.61		
	ANX3	I worry a lot about the mistakes that I make.	0.78			0.71		
	ANX4	I worry about things.	0.82			0.72		
	ANX5	I sometimes feel panic about things.	0.68			0.62		
Peer Belonging (PEER)	PEER1	I feel part of a group of friends that do things together.	0.68	0.75	0.93	0.75	0.70	0.91
	PEER2	I feel that I usually fit in with other kids around me.	0.80			0.62		
	PEER3	When I am with others my age, I feel I belong.	0.80			0.71		
	PEER4	I feel that I have social support.	0.79			0.70		
	PEER5	I have fun with other people.	0.77			0.73		
	PEER6	I have a peer in my life who would provide me with a sense of belonging	0.66			0.70		
Bullying (BULLY)	BULLY1	<u>Physical Bullying</u> (for example, someone hit, shoved, or kicked you, spat at you, beat you up, or damaged or took your things without permission).	0.76	0.80	0.93	0.57	0.71	0.87
	BULLY2	<u>Verbal Bullying</u> (for example, someone called you names, teased, humiliated, threatened you, or made you do things you didn't want to do).	0.81			0.67		
	BULLY3	<u>Social Bullying</u> (for example, someone left you out, excluded you, gossiped and spread rumours about you, or made you look foolish).	0.84			0.77		
	BULLY4	<u>Cyberbullying</u> (for example, someone using the computer or text messages to exclude, threaten, humiliate you, or hurt your feelings).	0.78			0.83		

### Appendix 3. 4

*Results of Three-way ANOVA of the Effects of School System, School Sector and Student Gender on Listening Motivation, Anxiety and Difficulty*

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Listening Motivation (MOTLIST)	113.49a	7	16.21	4.75	0.00	0.03
	Listening Anxiety (ANXLIST)	54.87b	7	7.84	2.06	0.05	0.01
	Listening Difficulty (DIFLIST)	18.60c	7	2.66	0.94	0.47	0.01
Intercept	Listening Motivation (MOTLIST)	3244.6	1	3244.60	950.07	0.00	0.42
	Listening Anxiety (ANXLIST)	2227.77	1	2227.77	585.27	0.00	0.31
	Listening Difficulty (DIFLIST)	2135.81	1	2135.81	758.80	0.00	0.37
SCSYTM	Listening Motivation (MOTLIST)	23.36	1	23.36	6.84	0.01	0.01
	Listening Anxiety (ANXLIST)	20.58	1	20.58	5.41	0.02	0.00
	Listening Difficulty (DIFLIST)	0.12	1	0.12	0.04	0.84	0.00
SCSECTOR	Listening Motivation (MOTLIST)	38.27	1	38.27	11.21	0.00	0.01
	Listening Anxiety (ANXLIST)	5.34	1	5.34	1.40	0.24	0.00
	Listening Difficulty (DIFLIST)	1.27	1	1.27	0.45	0.50	0.00
GENDER	Listening Motivation (MOTLIST)	2.36	1	2.36	0.69	0.41	0.00
	Listening Anxiety (ANXLIST)	0.01	1	0.01	0.00	0.96	0.00
	Listening Difficulty (DIFLIST)	0.38	1	0.38	0.13	0.71	0.00
SCSYTM *	Listening Motivation (MOTLIST)	35.59	1	35.59	10.42	0.00	0.01
SCSECTOR	Listening Anxiety (ANXLIST)	19.04	1	19.04	5.00	0.03	0.00
	Listening Difficulty (DIFLIST)	7.95	1	7.95	2.82	0.09	0.00
SCSYTM *	Listening Motivation (MOTLIST)	6.04	1	6.04	1.77	0.18	0.00
GENDER	Listening Anxiety (ANXLIST)	7.80	1	7.80	2.05	0.15	0.00
	Listening Difficulty (DIFLIST)	3.72	1	3.72	1.32	0.25	0.00
SCSECTOR *	Listening Motivation (MOTLIST)	18.45	1	18.45	5.40	0.02	0.00
GENDER	Listening Anxiety (ANXLIST)	7.77	1	7.77	2.04	0.15	0.00
	Listening Difficulty (DIFLIST)	4.91	1	4.91	1.75	0.19	0.00
SCSYTM *	Listening Motivation (MOTLIST)	0.16	1	0.16	0.05	0.83	0.00
SCSECTOR *	Listening Anxiety (ANXLIST)	0.27	1	0.27	0.07	0.79	0.00
GENDER	Listening Difficulty (DIFLIST)	0.01	1	0.01	0.00	0.95	0.00
Error	Listening Motivation (MOTLIST)	4477.23	1311	3.42			
	Listening Anxiety (ANXLIST)	4990.19	1311	3.81			
	Listening Difficulty (DIFLIST)	3690.13	1311	2.82			
Total	Listening Motivation (MOTLIST)	11509.57	1319				
	Listening Anxiety (ANXLIST)	8534.71	1319				
	Listening Difficulty (DIFLIST)	7142.95	1319				
Corrected Total	Listening Motivation (MOTLIST)	4590.72	1318				
	Listening Anxiety (ANXLIST)	5045.06	1318				
	Listening Difficulty (DIFLIST)	3708.73	1318				

a R Squared = .025 (Adjusted R Squared = .020)  
b R Squared = .011 (Adjusted R Squared = .006)  
c R Squared = .005 (Adjusted R Squared = .000)

### Appendix 3. 5

*Results of Three-way ANOVA of the Effects of School System, School Sector and Student Gender on Reading Motivation, Anxiety and Difficulty*

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Reading Motivation (MOTREAD)	122.73a	7	17.53	3.62	0.00	0.02
	Reading Anxiety (ANXREAD)	223.60b	7	31.94	7.79	0.00	0.04
	Reading Difficulty (DIFREAD)	218.65c	7	31.24	13.51	0.00	0.07
Intercept	Reading Motivation (MOTREAD)	6261.91	1	6261.91	1293.85	0.00	0.50
	Reading Anxiety (ANXREAD)	2511.67	1	2511.67	612.77	0.00	0.32
	Reading Difficulty (DIFREAD)	1590.05	1	1590.05	687.80	0.00	0.34
SCSYTM	Reading Motivation (MOTREAD)	16.45	1	16.45	3.40	0.07	0.00
	Reading Anxiety (ANXREAD)	16.38	1	16.38	4.00	0.05	0.00
	Reading Difficulty (DIFREAD)	13.34	1	13.34	5.77	0.02	0.00
SCSECTOR	Reading Motivation (MOTREAD)	44.08	1	44.08	9.11	0.00	0.01
	Reading Anxiety (ANXREAD)	35.65	1	35.65	8.70	0.00	0.01
	Reading Difficulty (DIFREAD)	16.74	1	16.74	7.24	0.01	0.01
GENDER	Reading Motivation (MOTREAD)	44.79	1	44.79	9.26	0.00	0.01
	Reading Anxiety (ANXREAD)	44.56	1	44.56	10.87	0.00	0.01
	Reading Difficulty (DIFREAD)	38.09	1	38.09	16.48	0.00	0.01
SCSYTM * SCSECTOR	Reading Motivation (MOTREAD)	16.93	1	16.93	3.50	0.06	0.00
	Reading Anxiety (ANXREAD)	0.12	1	0.12	0.03	0.86	0.00
	Reading Difficulty (DIFREAD)	6.21	1	6.21	2.68	0.10	0.00
SCSYTM * GENDER	Reading Motivation (MOTREAD)	12.03	1	12.03	2.49	0.12	0.00
	Reading Anxiety (ANXREAD)	35.31	1	35.31	8.62	0.00	0.01
	Reading Difficulty (DIFREAD)	83.58	1	83.58	36.16	0.00	0.03
SCSECTOR * GENDER	Reading Motivation (MOTREAD)	0.28	1	0.28	0.06	0.81	0.00
	Reading Anxiety (ANXREAD)	0.08	1	0.08	0.02	0.89	0.00
	Reading Difficulty (DIFREAD)	0.76	1	0.76	0.33	0.57	0.00
SCSYTM * SCSECTOR * GENDER	Reading Motivation (MOTREAD)	15.68	1	15.68	3.24	0.07	0.00
	Reading Anxiety (ANXREAD)	4.11	1	4.11	1.00	0.32	0.00
	Reading Difficulty (DIFREAD)	0.81	1	0.81	0.35	0.55	0.00
Error	Reading Motivation (MOTREAD)	6344.91	1311	4.84			
	Reading Anxiety (ANXREAD)	5373.63	1311	4.10			
	Reading Difficulty (DIFREAD)	3030.77	1311	2.31			
Total	Reading Motivation (MOTREAD)	18533.34	1319				
	Reading Anxiety (ANXREAD)	9671.68	1319				
	Reading Difficulty (DIFREAD)	5546.36	1319				
Corrected Total	Reading Motivation (MOTREAD)	5467.64	1318				
	Reading Anxiety (ANXREAD)	5597.23	1318				
	Reading Difficulty (DIFREAD)	3249.42	1318				

a R Squared = .019 (Adjusted R Squared = .014)

b R Squared = .040 (Adjusted R Squared = .035)

c R Squared = .067 (Adjusted R Squared = .062)

### Appendix 3. 6

*Results of Three-way ANOVA of the Effects of School System, School Sector and Student Gender on Wellbeing Domains*

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Happiness (HAPPY)	87.44a	7	12.49	6.07	0.00	0.03
	Optimism (OPT)	27.66b	7	3.95	1.68	0.11	0.01
	Anxiety (ANX)	23.34c	7	3.33	1.33	0.24	0.01
	Peer Belonging (PEER)	158.75d	7	22.68	8.54	0.00	0.04
	Bullying (BULLY)	177.59e	7	25.37	11.61	0.00	0.06
Intercept	Happiness (HAPPY)	2969.59	1	2969.59	1442.95	0.00	0.52
	Optimism (OPT)	3731.52	1	3731.52	1583.62	0.00	0.55
	Anxiety (ANX)	1248.74	1	1248.74	496.21	0.00	0.28
	Peer Belonging (PEER)	1947.97	1	1947.97	733.57	0.00	0.36
	Bullying (BULLY)	746.10	1	746.10	341.52	0.00	0.21
SCSYTM	Happiness (HAPPY)	1.80	1	1.80	0.88	0.35	0.00
	Optimism (OPT)	3.44	1	3.44	1.46	0.23	0.00
	Anxiety (ANX)	4.04	1	4.04	1.61	0.21	0.00
	Peer Belonging (PEER)	0.33	1	0.33	0.12	0.72	0.00
	Bullying (BULLY)	58.58	1	58.58	26.81	0.00	0.02
SCSECTOR	Happiness (HAPPY)	33.16	1	33.16	16.11	0.00	0.01
	Optimism (OPT)	0.12	1	0.12	0.05	0.83	0.00
	Anxiety (ANX)	1.22	1	1.22	0.48	0.49	0.00
	Peer Belonging (PEER)	0.14	1	0.14	0.05	0.82	0.00
	Bullying (BULLY)	10.92	1	10.92	5.00	0.03	0.00
GENDER	Happiness (HAPPY)	0.11	1	0.11	0.05	0.82	0.00
	Optimism (OPT)	0.70	1	0.70	0.30	0.59	0.00
	Anxiety (ANX)	4.03	1	4.03	1.60	0.21	0.00
	Peer Belonging (PEER)	18.69	1	18.69	7.04	0.01	0.01
	Bullying (BULLY)	3.05	1	3.05	1.40	0.24	0.00
SCSYTM * SCSECTOR	Happiness (HAPPY)	24.76	1	24.76	12.03	0.00	0.01
	Optimism (OPT)	5.07	1	5.07	2.15	0.14	0.00
	Anxiety (ANX)	0.02	1	0.02	0.01	0.93	0.00
	Peer Belonging (PEER)	8.09	1	8.09	3.05	0.08	0.00
	Bullying (BULLY)	6.36	1	6.36	2.91	0.09	0.00
SCSYTM * GENDER	Happiness (HAPPY)	0.11	1	0.11	0.06	0.81	0.00
	Optimism (OPT)	1.97	1	1.97	0.84	0.36	0.00
	Anxiety (ANX)	2.14	1	2.14	0.85	0.36	0.00
	Peer Belonging (PEER)	6.16	1	6.16	2.32	0.13	0.00
	Bullying (BULLY)	5.66	1	5.66	2.59	0.11	0.00
SCSECTOR * GENDER	Happiness (HAPPY)	1.89	1	1.89	0.92	0.34	0.00
	Optimism (OPT)	1.21	1	1.21	0.51	0.48	0.00
	Anxiety (ANX)	3.48	1	3.48	1.38	0.24	0.00
	Peer Belonging (PEER)	11.79	1	11.79	4.44	0.04	0.00
	Bullying (BULLY)	0.02	1	0.02	0.01	0.93	0.00
SCSYTM * SCSECTOR * GENDER	Happiness (HAPPY)	0.70	1	0.70	0.34	0.56	0.00
	Optimism (OPT)	2.02	1	2.02	0.86	0.36	0.00
	Anxiety (ANX)	2.07	1	2.07	0.82	0.37	0.00
	Peer Belonging (PEER)	16.13	1	16.13	6.08	0.01	0.01
	Bullying (BULLY)	5.45	1	5.45	2.50	0.11	0.00
Error	Happiness (HAPPY)	2698.03	1311	2.06			
	Optimism (OPT)	3089.14	1311	2.36			
	Anxiety (ANX)	3299.22	1311	2.52			
	Peer Belonging (PEER)	3481.33	1311	2.66			
	Bullying (BULLY)	2864.05	1311	2.19			



Total	Happiness (HAPPY)	796.75	1319
	Optimism (OPT)	1112.92	1319
	Anxiety (ANX)	197.04	1319
	Peer Belonging (PEER)	106.21	1319
	Bullying (BULLY)	167.50	1319
Corrected Total	Happiness (HAPPY)	785.47	1318
	Optimism (OPT)	116.80	1318
	Anxiety (ANX)	122.56	1318
	Peer Belonging (PEER)	140.08	1318
	Bullying (BULLY)	141.65	1318
a R Squared = .031 (Adjusted R Squared = .026)			
b R Squared = .009 (Adjusted R Squared = .004)			
c R Squared = .007 (Adjusted R Squared = .002)			
d R Squared = .044 (Adjusted R Squared = .039)			
e R Squared = .058 (Adjusted R Squared = .053)			

### Appendix 3.7

*Results of Descriptive Statistics for Listening Motivation, Anxiety and Difficulty across the School System, School Sector and Student Gender*

Variable	School System	School Sector	Student Gender	Mean	SD	N	
Listening Motivation (MOTLIST)	Sekolah School (SS)	Public School	Female	2.50	1.94	428	
			Male	2.23	1.79	193	
			Total	2.42	1.90	621	
		Private School	Female	1.26	1.97	59	
			Male	1.68	2.07	46	
			Total	1.45	2.02	105	
	Total	Female	2.35	1.98	487		
		Male	2.12	1.85	239		
		Total	2.28	1.94	726		
	Madrasah School (MS)	Public School	Public School	Female	2.57	1.74	119
				Male	1.99	1.56	46
				Total	2.41	1.71	165
			Private School	Female	2.27	1.78	279
				Male	2.26	1.83	149
				Total	2.27	1.79	428
		Total	Female	2.36	1.77	398	
			Male	2.20	1.77	195	
			Total	2.31	1.77	593	
Total		Public School	Female	2.52	1.90	547	
			Male	2.18	1.74	239	
			Total	2.42	1.86	786	
	Private School	Female	2.09	1.85	338		
		Male	2.12	1.90	195		
		Total	2.10	1.87	533		
Total	Female	2.36	1.89	885			
	Male	2.16	1.81	434			
	Total	2.29	1.87	1319			
Listening Anxiety (ANXLIST)	Sekolah School (SS)	Public School	Female	1.47	1.99	428	
			Male	1.52	1.79	193	
			Total	1.49	1.93	621	
		Private School	Female	1.87	2.25	59	
			Male	1.42	1.98	46	
			Total	1.67	2.14	105	
	Total	Female	1.52	2.02	487		
		Male	1.50	1.83	239		
		Total	1.51	1.96	726		
	Madrasah School (MS)	Public School	Public School	Female	1.96	2.14	119
				Male	2.34	2.22	46
				Total	2.07	2.17	165
			Private School	Female	1.63	1.72	279
				Male	1.68	2.06	149
				Total	1.65	1.84	428
		Total	Female	1.73	1.86	398	
			Male	1.84	2.11	195	
			Total	1.77	1.95	593	
Total		Public School	Female	1.58	2.03	547	
			Male	1.68	1.91	239	
			Total	1.61	1.99	786	
	Private School	Female	1.67	1.82	338		
		Male	1.62	2.04	195		
		Total	1.64	1.93	533		

			Total	1.66	1.90	533
		Total	Female	1.61	1.95	885
			Male	1.65	1.97	434
			Total	1.63	1.96	1319
Listening Difficulty (DIFLIST)	Sekolah School (SS)	Public School	Female	1.51	1.67	428
			Male	1.58	1.64	193
			Total	1.53	1.66	621
		Private School	Female	1.97	1.84	59
			Male	1.70	1.82	46
			Total	1.85	1.83	105
	Total	Female	1.56	1.70	487	
		Male	1.60	1.67	239	
		Total	1.57	1.69	726	
	Madrasah School (MS)	Public School	Female	1.60	1.95	119
			Male	1.95	2.24	46
			Total	1.70	2.03	165
		Private School	Female	1.63	1.54	279
			Male	1.67	1.42	149
			Total	1.65	1.50	428
Total		Female	1.63	1.67	398	
		Male	1.73	1.65	195	
		Total	1.66	1.66	593	
Total	Public School	Female	1.53	1.73	547	
		Male	1.65	1.77	239	
		Total	1.56	1.75	786	
	Private School	Female	1.69	1.60	338	
		Male	1.67	1.52	195	
		Total	1.69	1.57	533	
	Total	Female	1.59	1.69	885	
		Male	1.66	1.66	434	
		Total	1.61	1.68	1319	

## Appendix 3. 8

*Results of Descriptive Statistics for Reading Motivation, Anxiety and Difficulty across the School System, School Sector and Student Gender*

	<b>School System</b>	<b>School Sector</b>	<b>Student Gender</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
Reading Motivation (MOTREAD)	Sekolah School (SS)	Public School	Female	3.18	2.16	428
			Male	2.76	2.18	193
			Total	3.05	2.17	621
		Private School	Female	3.69	2.25	59
			Male	2.61	2.45	46
			Total	3.22	2.39	105
	Total	Female	3.24	2.17	487	
		Male	2.73	2.23	239	
		Total	3.07	2.20	726	
	Madrasah School (MS)	Public School	Female	2.61	2.15	119
			Male	2.12	2.35	46
			Total	2.47	2.21	165
		Private School	Female	3.15	2.25	279
			Male	3.17	2.15	149
			Total	3.16	2.21	428
Total		Female	2.99	2.23	398	
		Male	2.92	2.24	195	
		Total	2.97	2.23	593	
Total		Public School	Female	3.05	2.16	547
			Male	2.64	2.22	239
			Total	2.93	2.19	786
	Private School	Female	3.25	2.26	338	
		Male	3.04	2.23	195	
		Total	3.17	2.25	533	
	Total	Female	3.13	2.20	885	
		Male	2.82	2.23	434	
		Total	3.02	2.22	1319	
Reading Anxiety (ANXREAD)	Sekolah School (SS)	Public School	Female	1.37	1.94	428
			Male	2.43	2.33	193
			Total	1.70	2.13	621
		Private School	Female	1.09	1.62	59
			Male	1.89	2.07	46
			Total	1.44	1.87	105
	Total	Female	1.34	1.91	487	
		Male	2.33	2.29	239	
		Total	1.66	2.09	726	
	Madrasah School (MS)	Public School	Female	2.28	2.02	119
			Male	2.17	2.61	46
			Total	2.25	2.19	165
		Private School	Female	1.65	1.91	279
			Male	1.87	1.96	149
			Total	1.73	1.93	428
Total		Female	1.84	1.96	398	
		Male	1.94	2.13	195	
		Total	1.87	2.02	593	
Total		Public School	Female	1.57	1.99	547
			Male	2.38	2.38	239
			Total	1.82	2.15	786
	Private School	Female	1.55	1.87	338	
		Male	1.88	1.98	195	
		Total	1.67	1.92	533	

		Total	Female	1.56	1.95	885
			Male	2.15	2.22	434
			Total	1.76	2.06	1319
Reading Difficulty (DIFREAD)	Sekolah School (SS)	Public School	Female	0.86	1.38	428
			Male	1.86	1.55	193
			Total	1.17	1.51	621
		Private School	Female	1.21	1.54	59
			Male	2.47	2.20	46
			Total	1.77	1.95	105
	Total	Female	0.90	1.40	487	
		Male	1.98	1.71	239	
		Total	1.26	1.59	726	
	Madrasah School (MS)	Public School	Female	1.38	1.86	119
			Male	1.17	1.83	46
			Total	1.32	1.85	165
Private School		Female	1.50	1.46	279	
		Male	1.28	1.29	149	
		Total	1.43	1.41	428	
Total	Female	1.47	1.59	398		
	Male	1.25	1.43	195		
	Total	1.40	1.54	593		
Total	Public School	Female	0.97	1.51	547	
		Male	1.72	1.63	239	
		Total	1.20	1.58	786	
	Private School	Female	1.45	1.48	338	
		Male	1.56	1.63	195	
		Total	1.49	1.53	533	
Total	Female	1.16	1.52	885		
	Male	1.65	1.63	434		
	Total	1.32	1.57	1319		

### Appendix 3.9

#### *Results of Descriptive Statistics for Wellbeing Domains across the School System, School Sector and Student Gender*

	<b>School System</b>	<b>School Sector</b>	<b>Student Gender</b>	<b>Mean</b>	<b>SD</b>	<b>N</b>
Happiness (HAPPY)	Sekolah School (SS)	Public School	Female	2.07	1.46	428
			Male	1.90	1.32	193
			Total	2.02	1.42	621
		Private School	Female	1.85	1.54	59
			Male	2.01	1.61	46
			Total	1.92	1.57	105
		Total	Female	2.04	1.47	487
			Male	1.92	1.38	239
			Total	2.00	1.44	726
	Madrasah School (MS)	Public School	Female	2.49	1.13	119
			Male	2.40	1.27	46
			Total	2.47	1.16	165
		Private School	Female	1.66	1.47	279
			Male	1.65	1.59	149
			Total	1.66	1.52	428
		Total	Female	1.91	1.43	398
			Male	1.83	1.55	195
			Total	1.89	1.47	593
Total	Public School	Female	2.16	1.40	547	
		Male	2.00	1.32	239	
		Total	2.11	1.38	786	
	Private School	Female	1.70	1.49	338	
		Male	1.74	1.60	195	
		Total	1.71	1.53	533	
	Total	Female	1.98	1.45	885	
		Male	1.88	1.46	434	
		Total	1.95	1.45	1319	
Optimism (OPT)	Sekolah School (SS)	Public School	Female	2.44	1.64	428
			Male	2.38	1.48	193
			Total	2.42	1.59	621
		Private School	Female	2.23	0.96	59
			Male	2.21	1.33	46
			Total	2.22	1.14	105
		Total	Female	2.42	1.57	487
			Male	2.35	1.46	239
			Total	2.39	1.54	726
	Madrasah School (MS)	Public School	Female	1.93	1.61	119
			Male	2.28	1.47	46
			Total	2.03	1.58	165
		Private School	Female	2.26	1.49	279
			Male	2.24	1.56	149
			Total	2.25	1.51	428
		Total	Female	2.16	1.53	398
			Male	2.25	1.53	195
			Total	2.19	1.53	593
Total	Public School	Female	2.33	1.65	547	
		Male	2.36	1.48	239	
		Total	2.34	1.60	786	
	Private School	Female	2.25	1.41	338	
		Male	2.23	1.51	195	

			Total	2.25	1.45	533	
		Total	Female	2.30	1.56	885	
			Male	2.30	1.49	434	
			Total	2.30	1.54	1319	
Anxiety (ANX)	Sekolah School (SS)	Public School	Female	1.12	1.61	428	
			Male	1.40	1.60	193	
			Total	1.21	1.61	621	
			Private School	Female	1.29	1.79	59
				Male	1.09	1.66	46
				Total	1.20	1.73	105
			Total	Female	1.14	1.64	487
				Male	1.34	1.62	239
				Total	1.21	1.63	726
			Madrasah School (MS)	Public School	Female	1.28	1.67
		Male			1.56	1.39	46
		Total			1.36	1.60	165
		Private School		Female	1.22	1.57	279
				Male	1.44	1.37	149
				Total	1.29	1.51	428
		Total		Female	1.23	1.60	398
				Male	1.47	1.38	195
				Total	1.31	1.53	593
		Total		Public School	Female	1.15	1.63
			Male		1.43	1.56	239
	Total		1.24		1.61	786	
	Private School		Female	1.23	1.61	338	
			Male	1.36	1.45	195	
			Total	1.28	1.55	533	
	Total		Female	1.18	1.62	885	
			Male	1.40	1.51	434	
			Total	1.25	1.59	1319	
Peer Belonging (PEER)	Sekolah School (SS)		Public School	Female	2.04	1.58	428
		Male		0.99	1.90	193	
		Total		1.71	1.76	621	
			Private School	Female	1.67	1.16	59
				Male	1.72	1.32	46
				Total	1.69	1.23	105
			Total	Female	1.99	1.54	487
				Male	1.13	1.83	239
				Total	1.71	1.69	726
			Madrasah School (MS)	Public School	Female	1.81	1.70
		Male			1.72	1.46	46
		Total			1.78	1.64	165
		Private School		Female	1.62	1.61	279
				Male	1.44	1.65	149
				Total	1.55	1.62	428
		Total		Female	1.67	1.64	398
				Male	1.50	1.61	195
				Total	1.62	1.63	593
		Total		Public School	Female	1.99	1.61
			Male		1.13	1.85	239
	Total		1.73		1.73	786	
	Private School		Female	1.63	1.54	338	
			Male	1.50	1.58	195	
			Total	1.58	1.55	533	
	Total		Female	1.85	1.59	885	
			Male	1.30	1.74	434	
			Total	1.67	1.66	1319	

Bullying (BULLY)	Sekolah School (SS)	Public School	Female	-1.38	1.56	428
			Male	-1.25	1.47	193
			Total	-1.34	1.54	621
		Private School	Female	-1.14	1.56	59
			Male	-1.37	1.61	46
			Total	-1.24	1.58	105
		Total	Female	-1.35	1.56	487
			Male	-1.27	1.49	239
			Total	-1.33	1.54	726
	Madrasah School (MS)	Public School	Female	-1.01	1.43	119
			Male	-0.87	1.50	46
			Total	-0.97	1.45	165
		Private School	Female	-0.74	1.36	279
			Male	-0.28	1.40	149
			Total	-0.58	1.39	428
		Total	Female	-0.82	1.38	398
			Male	-0.42	1.45	195
			Total	-0.69	1.42	593
	Total	Public School	Female	-1.30	1.54	547
			Male	-1.17	1.48	239
			Total	-1.26	1.52	786
Private School		Female	-0.81	1.40	338	
		Male	-0.53	1.52	195	
		Total	-0.71	1.45	533	
Total		Female	-1.11	1.51	885	
		Male	-0.89	1.53	434	
		Total	-1.04	1.52	1319	



# **Chapter 4:**

*Sekolah vs Madrasah:*

Debates on Factors Affecting Students' English  
Achievement

# Statement of Authorship Declaration

## Statement of Authorship

Title of Paper	<i>Sekolah vs. Madrasah:</i> <b>Debates on Factors Affecting Students' English Achievement</b>	
Publication Status	<input type="checkbox"/> Published <input checked="" type="checkbox"/> <b>Submitted for Publication</b>	<input type="checkbox"/> Accepted for Publication <input type="checkbox"/> Unpublished and Unsubmitted work written in manuscript style.
Publication Details	The manuscript was submitted to the " <i>Comparative Education Review</i> " Journal and is under review status.	

## Principal Author

Name of Principal Author (Candidate)	<b>Abu Nawas</b>		
Contribution to the Paper	Contributed to data collection, performed analysis, interpreted data, wrote, revised the manuscript also acted as the corresponding author.		
Overall percentage (%)	65		
Certification:	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am the primary author of this paper.		
Signature		Date	07 August 2023

### Co-Authors' Contributions

By signing the statement of authorship, each author certifies that:

- I. the candidate's stated contribution to the publication is accurate (as detailed above);
- II. permission is granted for the candidate to include the publication in the thesis; and
- III. the sum of all co-author contributions is equal to 100% less the candidate's stated contribution.

Name of Principal Author (Candidate)	<b>Dr I Gusti Ngurah Darmawan</b>		
Contribution to the Paper	Supervised the development of work, guided in data analysis and interpretation, and developed, evaluated, and edited the manuscript.		
Signature		Date	07 August 2023

Name of Principal Author (Candidate)	<b>Dr Nina Maadad</b>		
Contribution to the Paper	Supervised development of work, developed, evaluated, and edited the manuscript.		
Signature		Date	07 August 2023

# ***Sekolah vs. Madrasah:*** **Debates on Factors Affecting Students' English Achievement**

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## **Abstract**

This paper compares the scarce evidence focusing on the influence of the school sector and student-level factors on students' English achievements between secular and Islamic schools. This involved a group of 1,319 Indonesian students based on their school system, secular (*Sekolah*, n=726) and Islamic (*Madrasah*, n=593) schools. The results of Structural Equation Modelling (SEM) indicate that the discrepancy in students' English achievement was only revealed between public and private *Sekolah*, while a significant difference across student gender was revealed in the *Madrasah*. Although English difficulty and anxiety can undermine students' English achievements in both groups, the effect of motivation on achievement is only found in secular schools. Student wellbeing domains have direct and indirect effects on students' English achievement. However, strongly positive effects of peer-belonging and the negative influence of bullying in secular and anxiety in Islamic schools on their English performance are found. Implications of these findings are discussed.

**Keywords:** *Madrasah, Sekolah*, Islamic, secular, English, SEM

## 4.1 Introduction

A growing body of literature on the religious-secular education debate in most Western countries has recognized the advantages of religious education, for example, Roman Catholic schools operating in the private sector (McEwan 2001; Noell 1982; Lubienski and Lubienski 2006). Regarding schooling outcomes, early studies have provided strong evidence about the impacts of ‘public’ and ‘private’ school attributes on students’ academic performances, where students attending private Catholic schools obtained higher literacy and numeracy scores compared to those in public secular, non-religious schools (Hallinan and Kubitschek 2012; Agirdag, Driessen, and Merry 2017). However, this tendency is not observed in some developing countries adopting the secular-religious education system, for example, Indonesia, where *Madrasah* or Islamic school students achieved lower school performance, including in language achievement compared to secular school students (Newhouse and Beegle 2006; Hendajany 2016; Stern and Smith 2016).

In this case, studies report that most of the Islamic schools belonging to the private sector receive insufficient government funding and subsequently struggle to provide quality education. According to government policy, *Madrasah* is likewise well defined as an indigenous education institution established for the lower socio-economic groups; thus, they are not permitted to charge school tuition fees (Ghozali, Mudjahid, and Hayati 2013; Shaturaev 2021). Consequently, these policies and understandings in turn impact the budgeting system, where most Islamic-based schools do not have enough resources, and teacher quality is questionable which becomes the main explanation for the poor grades of students compared to these secular schools (Ali et al. 2011; Muhajir 2016; ADB 2014; Ependi 2020; Asadullah 2018; Muttaqin et al. 2019). Previous investigations also report that the discrepancy in schools’ quality of resources is evident among Islamic institutions, while better resources and learning materials are found in state *Madrasah* schools run by government authorities.

While there is a general perception that Islamic schools have poorer school inputs and outputs compared to secular schools, several recent studies have recognized the advantages of *Madrasah* students who undertake English language learning. For example, multilingual education (the use of multiple languages) in teaching and learning as well as in daily interactions as part of the school culture in *Pesantren* (Islamic boarding schools) in Indonesia supports students in English learning (Amri, Tahir, and Ahmad 2017; Bin Tahir 2015). Moreover, *Dakwah* or Islamic propagation as the mandatory program in *Madrasah* or *Pesantren* has a positive effect on students’ attitudes and motivation to learn English, which

leads them to achieve better English language competencies. Spiritual or religious values can affect students' quality of life or wellbeing, which can, in turn, lead them to perform better, including their English language proficiency (Masroom, Muhamad, and Abd Rahman 2017; Na'imah, Herdian, and Panatik 2022). However, language problems, such as English anxiety and difficulty, continue to be the main issues in Islamic schools (Nafsiah 2019; Hermida 2021; Zubaidi 2021). Likewise, several recent investigations suggest that student demographics (Özsari and Büyükkarci 2022; Meisani et al. 2020) and school attributes (Idikut, Kutlu, and Akman 2021) possibly influence the explained factors in *Madrasah* schools and moderately impact their English competencies. In addition to this, separate studies have shown that students' attitudes to English learning and wellbeing domains have a significant direct and indirect effect on their achievements in secular-based schools as well as other school settings (Purwanti and Puspita 2019; Özsari and Büyükkarci 2022; Lindorff 2020).

Even the school budgeting system in Islamic education has become a serious issue resulting in poor inputs and outputs compared to secular institutions, school culture and spiritual values in *Madrasah* schools are possible factors that influence students' English learning attitudes and quality of life and help them do better in school. To date, few empirical studies have focused on the actual causes such as students' learning attitudes or behaviour and wellbeing, which differs in terms of academic school performance in both school settings. Hence, this study compares the scarce evidence of how the school sector, student demographics, learning motivation and problems, as well as wellbeing domains, influence students' English achievement differently across the school settings.

## **4.2 Current Study: Purpose and Context**

The present study sheds new light on issues recognized that reveal comparative evidence between secular and Islamic education in Indonesia. By distinguishing two groups of students: *Sekolah* (secular) and *Madrasah* (Islamic), statistical comparisons and explorations of the influence of the school sector, student demographics, learning motivation, learning anxiety, learning difficulty and wellbeing domains on students' English achievement are carried out. Regarding the study context, this research was conducted in Indonesia with unique characteristics of the schooling system consisting of secular and Islamic education managed by two ministries. The separate governments: secular schools under the Ministry of Education and Culture (MoEC), and the Islamic schools under the Ministry of Religious Affairs (MoRA) are driven by the historical roots of the reactions between the Muslim and secular nationalists over the roles of education for the society in national and religious needs (Sirozi 2004). The largest

segment is subsidized for secular or non-religious schools with 84%, while a small proportion, 16% of total educational institutions are *Madrasah* or Islamic schools. Most secular schools (92%) under MoEC are characterized as public schools and the vast majority of private schools (82%) are *Madrasahs* (OECD/ADB 2015). According to the national education system law (20/2003), MoEC and MoRA are responsible for the administration and oversight of public and private schools which are subjected to have same regulations (e.g., curriculum, schooling calendar, school level, teaching quality standards, etc) to obtain the equity and equality of education. However, evidence of a discrepancy between Indonesian secular and Islamic schools in student achievement still exists; where *Madrasah* students performed poorly than those attending the secular institution (Newhouse and Beegle 2006; Hendajany 2016; Bedi and Garg 2000).

### **4.3 Literature Review**

#### ***4.3.1 English Achievement: Reading and Listening***

Today, many countries, including Indonesia have reformed their educational curriculum, including English subjects due to its need for global competitiveness in various contexts (Pajarwati et al. 2021; Isadaud, Fikri, and Bukhari 2022). The idea is in line with the OECD (Organization for Economic Co-operation and Development), which claims that a foreign language, including English, is not only purposely used as a tool of communication, but it has three purposes: intercultural understanding, economic progress, and cognitive benefits (OECD 2021). Learning a foreign language is important for learners not only to communicate with and understand people from other countries and cultures; it also enhances their cultural awareness and intercultural communicative skills (Porto, Houghton, and Byram 2018). It includes participation in globalization, technological innovation and people's migration (Council of Europe 2020).

Moreover, English competency has also become a fundamental skill in the workplace. This is so as people develop better English skills, including reading and listening, they are considered to possess better communication skills such as knowing how to cooperate and negotiate with their work colleagues around the world (OECD 2021; Araújo et al. 2015; Mohamed et al. 2014; Schuele and Madison 2010; Duwadi 2014; Longweni and Kroon 2018). Regarding these benefits for knowledge, reading and listening skills will enhance not only metalinguistic knowledge but also students' critical thinking skills. It is evident in some previous studies confirming that people who read better (Mart 2012; Mermelstein 2015) and

have high listening proficiencies (Ahmadi 2016; Song 2012; Leong and Ahmadi 2017; Bozorgian 2012) tend to do better in other language skills, such as speaking and writing. Similarly, students who have these higher critical thinking skills in problem-solving, specifically mathematics and science are those who indicate superior reading skills (Whitten, Labby, and Sullivan 2016; Duru and Koklu 2011; Tuohimaa, Aunola, and Nurmi 2008) and listening competencies (Zhang et al. 2017; Arthur et al. 2017; Sullivan 2011). Aligned with previous research, reading and listening skills today are considered fundamental 21<sup>st</sup>-century skills (Hodge and Lear 2011; Ashraf, Ahmadi, and Hosseinnia 2017) required by students to help fully participate in global communities and activities. Due to the significance of understanding English today, the interest in investigating possible factors influencing students' English performance in different school settings has consequently increased in many countries.

#### ***4.3.2 Secular and Islamic Education: Student-Level Factors and English Achievement***

##### *Student Demographics and English Achievement*

In this paper, the relationships between student demographic factors and language performance were investigated in different school contexts. This has been acknowledged in a study conducted some years ago by Asadullah, Chaudhury, and Dar (2007) reporting that boys performed better than girls in language tests in Bangladesh, while religious-school students obtained worse scores compared to those students in secular schools. This finding has attracted the attention of other academics whose research tends to focus on the gender gap in English achievement in religious-secular contexts. For example, investigations (Murtafi'ah and Putro 2020; Ali et al. 2011) conducted in Islamic schools in Indonesia found that boys tend to be less motivated and do poorly compared to girls in English learning. This trend is also highlighted by several studies with a comparable interest reporting that there is a significant difference between male and female students in English, where females performed better than males (Bećirović 2017; Abdullahi and Bichi 2015; Hu and McGeown 2020; Cavaglia et al. 2020). These results contradict other investigations in some countries (Muluaem, Mulu, and Gebremeskal 2022; Musa, Dauda, and Umar 2016) demonstrating the advantages of boys in English skills and revealing that male students obtained higher scores than girls on English tests. These varying results between male and female students are likewise revealed in some studies indicating they have similar outcomes in English competencies across different school



settings (Attah and Ita 2017; Akinwumi 2017; Rahman, Jalaluddin, Kasim, et al. 2021). Based on these studies, there is uncertainty about whether boys or girls are better at English learning.

In a similar school context, in non-religious schools in Saraveja, Bosnia and Herzegovina, Bećirović and Hurić-Bećirović (2017) acknowledge that student discrepancies in English achievement exist across their ages. By comparing two age groups - 10-year-old (children) and 18-year-old students (young adults) - the study revealed that children obtained higher scores in English compared to the young adult group of students. This is more likely to not agree with other studies (Meyer et al. 2019; Hu and McGeown 2020; Gawi 2012) which claim there is a positive correlation between students' age and their English skills, suggesting that younger students did poorer English proficiency compared to older students. Like the previous findings, the student school program choice has a significant effect on their learning performance, including language skills. Previous studies (Alhajraf and Alasfour 2014; Aina, Ogundele, and Olanipekun 2013) found that there is a significant gap between students from different school programs in language learning. For example, these studies confirm that students who majored in science did not adequately master English and so have more listening and reading problems compared to those taking other programs. All the studies demonstrate that students' interest, motivation, and psychological issues possibly moderate their English expertise. However, the earlier studies suffer from a lack of empirical evidence addressing the discrepancy of student attributes in English across the "secular and Islamic" settings. These studies which identify the issues are now being considered essential.

### *Wellbeing and English Achievement*

Recently, studies investigating student wellbeing in different educational contexts, such as secular and Islamic schools, have presented varied results. Wellbeing is generally defined as the quality of life that reflects the positive psychological, social and physical aspects (Seligman 2018; Butler and Kern 2016; Gillett-Swan 2014; Zajenkowska et al. 2021), including positive emotions, social connections, and physical health also being predicted to influence students' future academic success. In the Islamic context, some studies, on the contrary, specify life quality as subjective wellbeing which is shaped by religious values (Joshano and Weijers 2019; Joshano 2017). This perspective has been verified by scholars (Aflakseir 2012; Eryilmaz 2015; Masroom, Muhamad, and Abd Rahman 2017; Na'imah, Herdian, and Panatik 2022), who claim that spirituality has become a strong aspect of wellbeing in the Islamic school setting. In their studies, they prove that the *Madrasah* or Islamic school students with high

levels of spirituality are more likely to have a better quality of life that can positively drive learning outcomes.

Even though the perception of wellbeing in the Islamic context is different from the general or secular perspectives, earlier studies suggest that wellbeing has a significant impact on student's learning, including their English competencies. As an example, a study by Ismail (2015) in Taif acknowledges that the psychological emotions of the students explained 65.8% of the variance in their English achievement. These results indicate the positive direct effects of student happiness, hope and pride on their English performance levels. Conversely, negative emotions, such as anger, anxiety and hopelessness can undermine their English learning capacities. This is in line with the recent investigations in various countries that support the strong positive correlation between student enjoyment (Jin and Zhang 2018; Li 2020; Reindl, Tulis, and Dresel 2018), hope (Huang 2022) and their performance in English tests, while negative association is statistically illustrated between their anxiety levels (Brumariu et al. 2022; Lindorff 2020) and English scores. The findings signify that more happy and optimistic students tend to have higher self-worth, greater education values, and low levels of depression which allows them to do better in terms of language learning. On the other hand, highly anxious learners are more likely to experience more stress and are less motivated, so their English achievement is poorer.

In terms of the effect of social domains on achievement, some studies report the positive influence of peer belonging (Finley 2018; Mikami et al. 2017), and the problems posed by bullying (Turunen, Poskiparta, and Salmivalli 2017; Rahmawati, Hartinah, and Ilya 2021; Alotaibi 2019) on student language competencies. Prior studies suggest that students who engage more with their peers tend to obtain more academic and non-academic support from their peers. Investigations focusing on the effect of bullying on language learning confirm that students who experience more bullying tend to struggle and have less motivation in learning which means they do not achieve as much. Additionally, the reviewed studies confirm that wellbeing domains influence one another (Demirtaş 2020; Oberle et al. 2018; Coyle, Malecki, and Emmons 2021; Zapata-Lamana et al. 2021; Emerson et al. 2022), student demographics (Aunampai et al. 2022; Rana et al. 2020; Roussi-Vergou et al. 2018; Çikrikci, Erzen, and Yeniçeri 2019), and school characteristics (Mirahmadizadeh et al. 2020; Badri et al. 2018).

### *Learning Motivation, Anxiety, Difficulty and English Achievement*

The implementation of multilingual education (Amri, Tahir, and Ahmad 2017; Bin Tahir 2015) in Islamic schools, especially in *Pesantren* (Islamic boarding schools) in Indonesia, has a positive effect on the students' attitudes to language learning. The program requires teachers and students to use several languages, including English, to interact inside and outside the classroom. Students pursue language learning for daily interaction and communication among the school '*Pesantren*' community, which strongly helps develop their language skills. This reason is in line with investigations claiming that *Madrasah* learners possess a high motivation toward English that enables them to do better in that language. Studies found that student interests in cross-culture understanding, travelling overseas, communication purposes (Rahman, Jalaluddin, Mohd Kasim, et al. 2021; Altiner 2018) and *Dakwah* or Islamic propagation goals (Farid and Lamb 2020; Setiyadi and Sukirlan 2016) are the main reasons for Indonesian *Madrasah* students wanting to learn English. A similar trend of higher learning motivation impacting student English achievement is simultaneously displayed in several studies conducted in secular schools (Kim 2017; Idikut, Kutlu, and Akman 2021; Bernardo, Ganotice, and King 2015; Purwanti and Puspita 2019). Students' motivation for learning English is not only for communication goals but is also linked to job prospects and future success. They support the idea that English is one of the fundamental skills that will help them obtain better jobs in the future. Likewise, students believe that people with better English skills will be employed in higher-level jobs compared to those who do not.

Although students in Islamic and secular schools tend to show a positive attitude with positive English outcomes, learning issues such as English anxiety and difficulty are still noted. More current literature (Hashemi 2011; Nafsiah 2019; Hermida 2021; Zubaidi 2021) on Islamic school students found that most students agree that psychological and technical issues cause them to experience more anxiety and difficulty in learning English. Feeling fearful to make mistakes and lacking confidence means they struggle to focus and are demotivated to learn which possibly compromises their learning outcomes. Those issues are similarly triggered by students in secular schools (Al-Sohbani 2018; Özsari and Büyükkarçi 2022; Ahmad and Nisa 2019; Hussain, Shahid, and Zaman 2011; Saraswaty 2018). Problems with English words, unfamiliar topics, inferencing the meaning, and lack of interest in English are identified as the dominant factors of their learning issues that could negatively affect their English skills. Other studies believe that learning anxiety and difficulty are confirmed to have comparable meanings and are strongly correlated (Fong and Soni 2022; Sainio et al. 2019; Thakkar et al. 2016). Thus,

highly anxious students tend to struggle with learning, while those who experience learning difficulties are more likely to have higher levels of anxiety. Taken together, several studies similarly verify that learners' motivation and problems in language learning vary depending on their demographics (Bećirović 2017; Bećirović and Hurić-Bećirović 2017; Özsari and Büyükkarci 2022; Hussain, Shahid, and Zaman 2011), learning interest (Hermida 2021; Al-Sohbani 2018), school attributes (Kim 2017; Bernardo, Ganotice, and King 2015; Idikut, Kutlu, and Akman 2021) and life quality/wellbeing domain levels (Huang 2022; Brumariu et al. 2022; OECD 2017; Mikami et al. 2017; Turunen, Poskiparta, and Salmivalli 2017; Kiefer, Alley, and Ellerbrock 2015). Thus far, research focusing on similar interests is required to firstly, help provide a more meaningful comparison; and secondly, investigate the possible factors that might influence student interest in and issues regarding English in different school contexts.

#### 4.4 Conceptual Framework

**Figure 4. 1**

*Conceptual Framework*

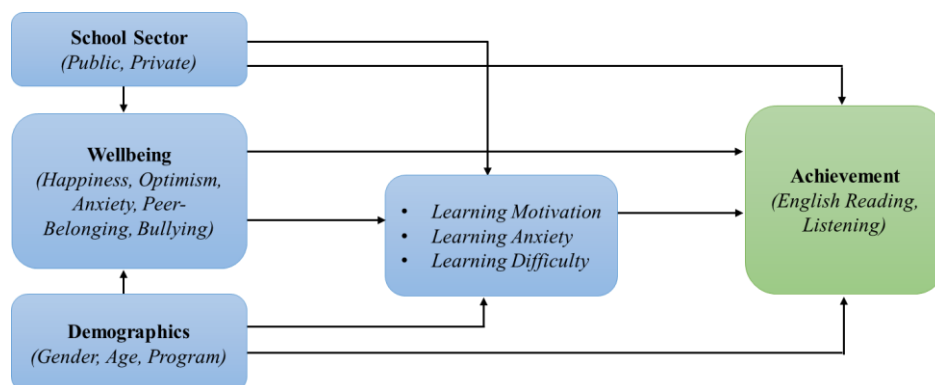


Figure 4. 1 illustrates the conceptual framework used in this study. The model is theoretically adapted from previous research discussed earlier, which acknowledges the possible factors affecting student language achievement. Specifically, school sector and student demographic factors, including student gender, age, and program, are first, employed as exogenous (independent) variables as they are not affected by other predictors and are foreseen to influence other variables; secondly, student wellbeing domains of happiness, optimism, anxiety, peer-belonging and bullying are predicted to directly affect students' learning motivation, anxiety, learning difficulty as well as achievement. Likewise, the student's learning motivation, anxiety and difficulty levels are hypothesized to influence their English achievement. Concurrently, the interaction among wellbeing domains as well as between

motivation, anxiety and difficulty are predictably tested as those who might be influenced by one another. Additionally, student reading and listening achievements are recognized as endogenous (dependent) predictors at the student level, as they could be directly and indirectly influenced by the exogenous variables.

## **4.5 Methodology**

### ***4.5.1 Sample Design***

The total number of participants in this study consisted of 1,319 Indonesian students grouped according to their school systems with 726 (55%) students from *Sekolah* (secular) and 593 (45%) from *Madrasah* (Islamic) schools. The sample design proposed for this study was two-stage stratified sampling by dividing the population into similar groups and randomly sampling from separate strata (Cohen, Manion, and Morrison 2002; Mills and Gay 2016). In this study, the stratification involved multilevel stages, including district and school. During the first stage, the districts (n=12) were sampled based on the probability of each district that has at least one secular and one Islamic school. In the second stage, the total number of students was selected within the sampled schools (n=30). This technique can be applied more accurately in proportional and non-proportional sampling and guarantees the selected representation of the related subgroups within the sample (Mills and Gay 2016; Ross 2005). In this way, it ensures an adequate representation of secular and Islamic school students with different school locations as the target population in the sample.

### ***4.5.2 Derived Variables***

Table 4. 1 shows that six group predictors are included in the hypothesized or conceptual model that may influence students' English achievement. The variables of school sector (SCSECTOR) and student demographic factors, namely gender (GENDER), age (AGE) and program (PROG), were coded using raw scores and scales as used in the student questionnaire. Five scales of wellbeing adapted from the Organization for Economic and Co-operation and Development, OECD (2017), i.e. happiness (HAPPY), optimism (OPT), anxiety (ANX), peer-belonging (PEER) and bullying (BULLY) were obtained from the students' responses covering their emotions and social life experiences. Six scales of learning motivation in reading (MOTREAD) and listening (MOTLIST), anxiety in reading (ANXREAD) and listening (ANXLIST), difficulty in reading (DIFREAD) and listening (DIFLIST) adapted from OECD (2019) and Hamouda (2013) were taken from students' responses on how they were motivated

and dealt with English learning problems. READING and LISTENING scores were attained from the student results in English reading and listening tests adopted from the national examination test by the Ministry of Education and Culture, MoEC (2017). For analysis purposes, the scales were measured and converted to Weighted Likelihood Estimate (WLE) scores through Rasch analysis due to the advantages of WLE scores in reducing the bias (Warm 1989). Simultaneously, the variable of student program was recorded in four dummy variables, specifically science (PROG1, as the baseline variable), social (PROG2), language (PROG3) and Islamic studies (PROG4, only in *Madrasah* group) to differentiate the various treatment groups. The values of 0 and 1 for dummy variables were applied.

**Table 4. 1**

*Derived Variables*

Theoretical Dimensions	Latent Variables	Description	Code
School Sector	SCSECTOR	School Sector	0=Public 1=Private
Student Demographics	GENDER	Student Gender	0 = Female, 1 = Male
	AGE	Student Age	Scale (14 – 20 years old)
	PROG1	Student Program in Science (Dummy)	0 = No, 1 = Yes
	PORG2	Student Program in Social (Dummy)	0 = No, 1 = Yes
	PROG3	Student Program in Language (Dummy)	0 = No, 1 = Yes
	PROG4*	Student Program in Islamic (Dummy)	0 = No, 1 = Yes
Wellbeing	HAPPY	Happiness	WLE-Score
	OPT	Optimism	WLE-Score
	ANX	Anxiety	WLE-Score
	PEER	Peer-belonging	WLE-Score
	BULLY	Bullying	WLE-Score
Learning Motivation, Anxiety and Difficulty	MOTREAD	Reading Motivation	WLE-Score
	MOTLIST	Listening Motivation	WLE-Score
	ANXREAD	Reading Anxiety	WLE-Score
	ANXLIST	Listening Anxiety	WLE-Score
	DIFREAD	Reading Difficulty	WLE-Score
	DIFLIST	Listening Difficulty	WLE-Score
Reading Achievement	READ01	Reading Subskill 1	WLE-Score
	READ02	Reading Subskill 2	WLE-Score
	READ03	Reading Subskill 3	WLE-Score
Listening Achievement	LIST01	Listening Subskill 1	WLE-Score
	LIST02	Listening Subskill 1	WLE-Score
	LIST03	Listening Subskill 1	WLE-Score

### ***4.5.3 Method of Analysis: Structural Equation Modelling (SEM)***

In this study, structural equation modelling (SEM) analysis using Mplus software (Muthén and Muthén 1998-2017) was undertaken because it has certain advantages in quantifying the relationships across multiple variables. Some scholars suggest that the SEM technique is statistically powerful enough to combine multiple regressions and measure the structural hypothesis with causal direct and indirect effects, assuming that the variables can influence the outcomes directly and indirectly through other variables (Wang and Wang 2019; Byrne 2013; Fan et al. 2016; Hoyle 2011). To conduct the analysis, the stratifications and clusters were used to reflect the two-stage sampling design employed in this study. There were 24 stratifications (STRATUM) selected based on the combination of the school system and 12 districts, and 30 school clusters (SCID) were employed from the strata. Furthermore, to undertake SEM in this study, some stages were done. Firstly, a model identification was acknowledged based on the hypothesized relationships among the variables as proposed from the conceptual model. This stage enables researchers to examine and determine whether the hypothesized association exists or does not exist among the variables. Secondly, a model evaluation was applied to assess the model fit or performance according to the standardized coefficient ( $\beta$ ) for direct, indirect and total effects with a significance level of  $p < 0.05$  and the cut-off values of the goodness of fit (GOF) indices adopted. The GOF diagnostics consist of the ratio of chi-square and its degree of freedom ( $X^2/df$ ) value of  $\leq 3$  (Kline 2015), Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) are  $> 0.90$  (Wang and Wang 2019), the Root Mean Square Error of Approximation (RMSEA) is 0.08 (Bialosiewicz, Murphy, and Berry 2013) and the Standardized Root Mean Residual (SRMR) values of 0.10 or less (MacCallum, Browne, and Sugawara 1996). If the values revealed in each index are within the acceptable range, this signals a good-fitting model, and the model accurately represents the observations. On the other hand, if the hypothesized model is not a good fitting model, modification can be undertaken to adjust the model and improve its fit. Alternatively, the model can be rejected, and a new theoretical model should be developed.

## 4.6 Findings and Discussion

Figure 4. 2

Model for Sekolah (SS) Group

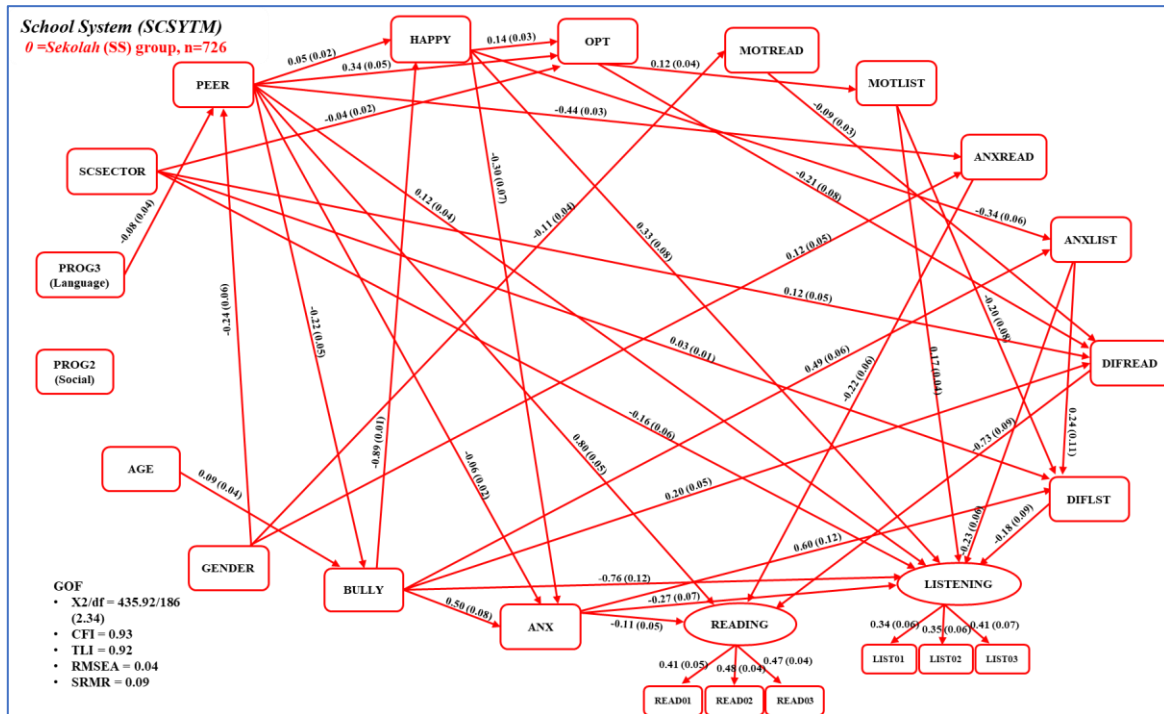
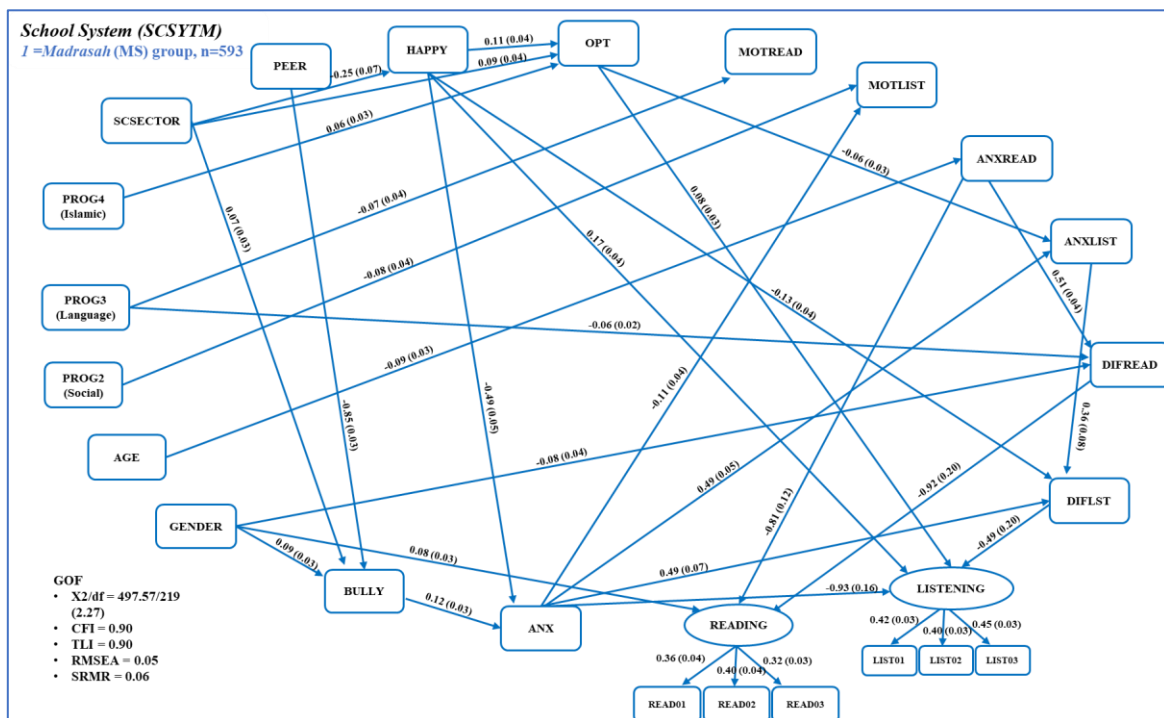


Figure 4. 3

Model for Madrasah (MS) Group





#### **4.6.1 Measurement Model Results**

Using Mplus software (Muthén and Muthén 1998-2017), the results of the relationships between the manifest and latent variables were measured based on standardized estimates and significant at 0.05 levels. As shown in Figure 4. 2 and Figure 4. 3, English reading achievement (READING) as a scale in the measurement model is reflected by three manifest variables, READ01, READ02, and READ03 obtained factor loadings of  $>0.32$  for the *Sekolah* (SS) and *Madrasah* (MS) groups. Similarly, LIST01, LIST02 and LIST03 are the manifest variables for students' listening performance (LISTENING); those obtained loadings of greater than 0.34 across the groups. All factor loadings of equal or more than 0.30 indicate a good fit and the manifest variables are strong reflectors of their latent variables (Hair et al. 2014).

#### **4.6.2 Structural Model Results**

The results of the structural model shown in Figure 4. 2 and Figure 4. 3 present the major outcomes and their predictors in the *Sekolah* (SS) and *Madrasah* (MS) groups. Similar to the previous results, the standardized estimates with a significant level of 0.05 were used to see the strength of the relationship between the variables and enable the comparison of the results among the variables. Therefore, the significant standardized coefficient or estimates ( $\beta$ ) are only shown and discussed in detail, as follows:

##### *English Reading (READING) and Listening (LISTENING) Achievement*

As illustrated in Figure 4. 2 and Figure 4. 3, several variables are found to directly affect students' READING and LISTENING scores for *Sekolah* (SS) and *Madrasah* (MS) groups. Of the total predictors, students' learning difficulty and anxiety levels are predicted to have a direct influence on their English performance. Based on the results presented, students' difficulty levels in reading (DIFREAD, SS,  $\beta=-0.73$ , MS,  $\beta=-0.92$ ) and listening (DIFLIST, SS,  $\beta=-0.18$ , MS,  $\beta=-0.49$ ) have strong direct effects on their English achievements in both groups. Simultaneously, reading (ANXREAD) and listening (ANXLIST) anxiety levels are revealed to directly influence students' performance in the *Sekolah* group (ANXREAD,  $\beta=-0.22$ , ANXLIST,  $\beta=-0.23$ ), while only ANXREAD is partly shown to have a direct effect on students' reading achievement in the *Madrasah* (ANXREAD,  $\beta=-0.81$ ) group. The negative estimates of learning problems indicate that SS and MS students who struggle and are anxious about learning tend to underperform in English. The findings broadly support the work of recent studies (Hermida 2021; Nafsiah 2019; Ahmad and Nisa 2019; Saraswaty 2018) in the

area of linking language problems and English achievement which revealed the negative outcomes of language difficulties and anxiety caused by English words and technical issues, unfamiliar topics and psychological impacts on English achievements. By contrast, students' motivation in reading (MOTREAD) and listening (MOTLIST) are not found to have direct influences on their English scores in the MS group. Only MOTLIST ( $\beta=0.17$ ) in the SS group is predicted to affect their listening achievement. This suggests that students with high listening motivation tend to perform better in listening. Subsequently, this result is unexpected and suggests that learning motivation only influences students' listening performance in secular schools, which is corroborated by scholars (Purwanti and Puspita 2019; Idikut, Kutlu, and Akman 2021) who generally report the positive influence of students' motivation to achieve well in English. Even though some studies (Rahman, Jalaluddin, Kasim, et al. 2021; Setiyadi and Sukirlan 2016; Farid and Lamb 2020) have reported that a highly positive attitude or motivation is found in Islamic schools, this research supports the rejection of other work confirming the influence of learning motivation on English performance.

The influence of wellbeing domains on students' English achievement illustrates different results in both groups. For example, students' anxiety levels (ANX) are hypothesized to influence their English reading ( $\beta=-0.11$ ) and listening ( $\beta=-0.27$ ) scores in the *Sekolah* group, while a strong direct effect ( $\beta=-0.92$ ) on listening achievement is only displayed in the *Madrasah* group. The negative results acknowledge that students with low anxiety levels are more likely to perform better in English reading and listening in secular schools, and only in listening performance in *Madrasah* schools. The findings are corroborated by recent research (Brumariu et al. 2022; Lindorff 2020) which suggests the negative influence of anxiety on students' learning achievement in different school settings. Another domain, happiness (HAPPY, SS,  $\beta=0.33$ , MS,  $\beta=0.17$ ) is similarly predicted to wield a direct influence on students' listening in both groups. Simultaneously, peer-belonging (PEER) is only revealed to have a significant influence on their reading ( $\beta=0.80$ ) and listening ( $\beta=0.13$ ) scores in secular schools, while no direct effect of PEER on students' achievement is found in Islamic school groups. The positive estimates on HAPPY and PEER indicate that happy SS and MS students are more likely to perform very well in listening, while the secular-school students who feel more accepted by their peers do better in reading and listening. There are similarities between this study and others on the positive influence of happiness (Jin and Zhang 2018; Li 2020; Reindl, Tulis, and Dresel 2018) and peer-belonging belonging (Finley 2018; Mikami et al. 2017) on English achievement.

Moreover, student bullying (BULLY,  $\beta=-0.76$ ) in the SS and optimism (OPT,  $\beta=0.08$ ) in the MS groups are revealed to have a direct influence on their listening performance which signals that high listening scores are evident in the *Madrasah* students who are less bullied and have high levels of wellbeing and optimism. These results reflect other studies reporting the negative effects of bullying (Rahmawati, Hartinah, and Ilya 2021; Alotaibi 2019) and the positive influence of optimism (Huang 2022) on students' language performance. Additionally, the positive impact of student gender (GENDER,  $\beta=0.08$ ) on reading achievement in the MS group and the negative effect of the school sector (SCSECTOR,  $\beta=-0.16$ ) on listening performance in the SS group indicate there are marked differences in students' performance across their gender and school sectors. Higher reading scores are obtained by male students in Islamic schools, while poor listening scores are reported in private secular schools. These findings contradict previous observations (Ali et al. 2011) conducted in the *Madrasah* school setting claiming the advantage of girls in language performance. Furthermore, the result concerning the effect of school sectors on students' performance is in line with previous research (Hendajany 2016; Stern and Smith 2016); it claims the advantages of public schools in leading their students to obtain better grades.

#### *Reading (DIFREAD) and Listening Difficulty (DIFLIST)*

Several predictors are hypothesized to have direct effects on students' difficulty in reading (DIFREAD) and listening (DIFLIST) for both groups. As shown in Figure 4. 2 and Figure 4. 3, students' learning anxiety levels in reading (ANXREAD,  $\beta=0.51$ ) and listening (ANXLIST,  $\beta=0.36$ ) are revealed to directly influence their English difficulties in the *Madrasah* group; only listening anxiety (ANXLIST,  $\beta=0.24$ ) is partly revealed to have a direct influence on DIFLIST in *Sekolah*. The positive coefficients indicate that the *Madrasah* students who feel more anxious in reading and listening are more likely to struggle in English learning. Concurrently, secular school students with high anxiety levels in listening tend to exhibit high listening difficulty levels. Following the present results, previous studies (Fong and Soni 2022; Sainio et al. 2019; Thakkar et al. 2016) have demonstrated the influence of learning anxiety on learning difficulty. Moreover, the negative influences of reading (MOTREAD,  $\beta=-0.09$ ) and listening (MOTLIST,  $\beta=-0.20$ ) motivation to their English difficulties are revealed in the SS group. In contrast, no effect is evident in the MS group. The estimates signal that highly motivated students are more likely to have fewer difficulty levels in learning, which is consistent with a recent study by Hermida (2021). It reported the influence of students' interest in and motivation to solve their learning problems.

About the influence of wellbeing domains on learning difficulty, the result shows that student anxiety level (ANX) is only predicted to have positive direct effects on students' difficulty level in listening (DIFLIST) for both groups (ANX, SS,  $\beta = 0.60$ , MS,  $\beta = 0.49$ ). It suggests that highly anxious secular and *Madrasah* students are more likely to have a high degree of listening difficulty. Other findings, such as students' optimism (OPT,  $\beta = -0.21$ ) and bullying (BULLY, 0.20) are predicted to impact DIFREAD in secular schools. Happiness (HAPPY,  $\beta = -0.13$ ), on the other hand, is found to have a direct effect on students' DIFLIST in *Madrasah* schools. The results conclude that in secular schools, students who struggle with English reading are shown as those who have less optimism or have experienced bullying. In *Madrasah*, however, students who feel happier tend to have a low learning difficulty. A general comparison of the findings with those documented in other studies confirms that student anxiety (Brumariu et al. 2022), hope, happiness (Huang 2022), and bullying (Turunen, Poskiparta, and Salmivalli 2017) influence their learning problems, including their learning difficulty. Moreover, students' demographic factors, such as student gender (GENDER,  $\beta = -0.08$ ) and language program (PROG3,  $\beta = -0.06$ ) are hypothesized as having a direct influence on students' DIFREAD in the MS group. The school sector (SCSECTOR) is only shown to influence students' English reading ( $\beta = 0.12$ ) and listening ( $\beta = 0.03$ ) difficulties in the SS group. These strongly suggest there are significant disparities in students' reading difficulty levels in Islamic schools across gender and programs, which means that high English reading difficulty is revealed in female students and those enrolled in science programs. Simultaneously, high difficulty levels in English reading and listening are revealed in private secular schools. The findings of this study broadly reject previous evidence on the effect of gender (Zaidi 2018) and support several investigations (Al-Sohbani 2018; Alhajraf and Alasfour 2014; Aina, Ogundele, and Olanipekun 2013) reporting that significant disparities in students' language problem exist across their school sectors and programs.

### *Reading (ANXREAD) and Listening Anxiety (ANXLIST)*

Direct effects of the students' wellbeing domains and demographics on their anxiety levels in reading (ANXREAD) and listening (ANXLIST) are reported. The findings demonstrate that students' levels of anxiety (ANX,  $\beta = 0.49$ ) and optimism (OPT,  $\beta = -0.06$ ) are significantly found to influence their ANXLIST levels in MS students. Other domains, i.e. happiness (HAPPY,  $\beta = -0.34$ ) and bullying (BULLY,  $\beta = 0.49$ ) similarly have a direct impact on their ANXLIST, while peer-belonging (PEER,  $\beta = -0.44$ ) is predicted to influence their ANXREAD in the secular schools. The results confirm that the *Madrasah* students who are less anxious

and more optimistic tend to exhibit low listening anxiety. Simultaneously, high listening anxiety levels are experienced by unhappy students and those who experience more bullying in SS schools. Likewise, secular school students who are more engaged with their peers are more likely to experience low reading anxiety. These findings align with several earlier investigations that report the influence of wellbeing domains, such as anxiety (Brumariu et al. 2022), optimism, happiness (Huang 2022), bullying (Turunen, Poskiparta, and Salmivalli 2017) and peer-belonging (Huang, Eslami, and Hu 2010) on students' learning problems including anxiety levels. Simultaneously, students' gender (GENDER,  $\beta=0.12$ ) in the SS group and age (AGE,  $\beta=-0.09$ ) in the MS group directly influence their anxiety levels in English reading (ANXREAD). This signifies that high reading anxiety levels are evident in males and young children in Islamic schools. Very different results are reported by Latif and Binti (2015) who suggest the significant effect of gender and age on students' learning anxiety.

#### *Reading (MOTREAD) and Listening Motivation (MOTLIST)*

As appears in the results, few variables are found to have a direct effect on students' motivation in reading (MOTREAD) and listening (MOTLIST). Two wellbeing domains, such as students' levels of optimism (OPT,  $\beta=0.12$ ) in the SS group and anxiety (ANX,  $\beta=-0.11$ ) in the MS group are directly predicted to influence their listening motivation (MOTLIST). The estimates conclude that SS students with high optimism and MS students with low anxiety levels are more likely to have higher motivation in listening. These findings broadly support recent evidence (Brumariu et al. 2022; Huang 2022) suggesting the impact of anxiety and hope on students' learning interests. Moreover, students' gender (GENDER,  $\beta=-0.11$ ) exerts a direct impact on their reading motivation (MOTREAD) in the *Sekolah* schools, while a direct influence of students majoring in the social program (PROG2,  $\beta=-0.08$ ) on MOTLIST and a direct effect of students' program in the language (PROG3,  $\beta=-0.07$ ) on MOTREAD are likewise shown in the *Madrasah* schools. From these results, it can be concluded that female students in the *Sekolah* group tend to display higher English reading motivation compared to males. Science program students in *Madrasah* schools are greatly motivated to listen compared to students enrolled in social studies. Likewise, they also have higher English reading motivation than the MS students in the language program. These findings are corroborated elsewhere (Al-Sohbani 2018; Alhajraf and Alasfour 2014; Aina, Ogundele, and Olanipekun 2013; Bećirović 2017). These studies report the significant influence of students' gender and school programs on their attitudes and interests towards learning.

### *Wellbeing Domains: Optimism, Anxiety, Happiness, Bullying and Peer-belonging*

These results generally suggest that five wellbeing domains - optimism (OPT), anxiety (ANX), happiness (HAPPY), bullying (BULLY) and peer-belonging (PEER) - influence each other and are affected by the students' and school characteristics. The figures offer five predictors that are found to have a direct influence on students' OPT levels in *Sekolah* (SS) and *Madrasah* (MS) groups. Students' happiness (HAPPY, SS,  $\beta=0.14$ , MS,  $\beta=0.11$ ) and school sector (SECTOR, SS,  $\beta=-0.04$ , MS,  $\beta=0.09$ ) directly have significant impacts on the students' OPT levels for both groups. The results specify that the SS and MS students who feel happier are more likely to be more optimistic, while the different trends for the groups in SCSECTOR designate that highly optimistic students are generally found in public *Sekolah* and private *Madrasah* schools. This finding is consistent with what other studies state (Demirtaş 2020; Çikrikci, Erzen, and Yeniçeri 2019). They claim that happiness positively influences optimism. Unlike Mirahmadizadeh et al. (2020), evidence for the effect of the school sector on optimistic attitudes is revealed in this study. In the separate findings, peer-belonging (PEER,  $\beta=0.34$ ) in SS and school programs in Islamic studies (PROG4,  $\beta=0.06$ ) in the MS group directly impact their optimism levels. The positive estimates indicate that secular students who have a good relationship with their peers and *Madrasah* students who take the Islamic program are more optimistic. Following the current finding, previous scholars have demonstrated that peer belonging is linked to higher levels of optimism (Oberle et al. 2018). No evidence has detected the influence of students' programs, especially, Islamic studies, on their optimism level. However, a study by Homaei et al. (2016) acknowledges that there are strong relationships between religious values and optimism levels.

Secondly, for the student anxiety level (ANX), two variables of bullying (BULLY) and happiness (HAPPY) are found to have a direct effect on students' ANX in the SS (BULLY,  $\beta=0.50$ , HAPPY,  $\beta=-0.30$ ) and the MS (BULLY,  $\beta=-0.12$ , HAPPY,  $\beta=-0.49$ ) groups. The positive estimate of BULLY and negative value of HAPPY designate that the SS and MS students who frequently get bullied and are unhappy tend to experience more anxiety in their life. This also accords with earlier investigations, which confirm that people who experienced high levels of bullying (Coyle, Malecki, and Emmons 2021), and sadness are linked to higher anxiety levels (Zapata-Lamana et al. 2021). Moreover, a direct effect of PEER ( $\beta=-0.06$ ) on ANX is only shown in the *Sekolah* group, which means that the secular school students who get along with their friends experience less anxiety. This result is echoed by Coyle, Malecki,

and Emmons (2021) who noted the influence of classmate or peer support on reducing students' anxiety levels.

Similar to the early results, three predictors, peer-belonging (PEER), bullying (BULLY) and school sector (SCSECTOR) have significant direct effects on students' happiness levels (HAPPY) across the groups. Only two variables, PEER ( $\beta=0.05$ ) and BULLY ( $\beta=-0.89$ ) are revealed to have a direct influence on the students' HAPPY level in secular schools. A different finding, a direct effect of SCSECTOR ( $\beta=-0.25$ ) on HAPPY is established in the *Madrasah* schools. The coefficients signal that the *Sekolah* students with higher peer-belonging and less bullied experiences are more likely to feel happier. This study supports the evidence from current observations that suggest the positive association between peer belonging (Emerson et al. 2022) and the negative influence of bullying (Aunampai et al. 2022) on students' enjoyment and happiness. In the MS group, the estimate concludes that there is a significant difference in HAPPY across the school sectors, where public *Madrasah* students tend to be happier than those from private *Madrasah* schools. This finding aligns with Badri et al. (2018) who investigated the influence of the school sector on student happiness and found that the level of student happiness is high as shown in public schools compared to private institutions.

Furthermore, four variables, student gender (GENDER), age (AGE), peer-belonging (PEER) and school sector (SCSECTOR) are revealed to influence students' levels of bullying (BULLY) in both groups. Of the total predictors, only PEER similarly has a negative direct impact on their BULLY experience for both *Sekolah* ( $\beta=-0.22$ ) and *Madrasah* ( $\beta=-0.85$ ) groups. The results signify that the SS and MS students who feel more engaged with their peers have less bullying experience, compared to those who feel excluded by their peers. Although previous research claims that peer relationships minimize and prevent victimization or bullying (Roussi-Vergou et al. 2018; Coyle, Malecki, and Emmons 2021). The other variables, i.e. student AGE ( $\beta=0.09$ ) in the SS group as well as GENDER ( $\beta=0.09$ ) and SCSECTOR ( $\beta=0.07$ ) in the MS group wield a direct influence on their BULLY experiences. It can be concluded that there are significant differences in BULLY in terms of AGE in *Sekolah* and GENDER and SCSECTOR in *Madrasah* schools. The positive value of AGE indicates that students who are frequently bullied are shown in older students in the SS schools. This finding differs from that of Aunampai et al. (2022) who argue that the percentage of younger children with a bullying history is higher than that of older children. Simultaneously, the GENDER and SCSECTOR estimates in the MS group mean that a high bullying history is revealed in males and those enrolled in private *Madrasah* schools. There are similarities between the effects of

gender and the school sector on bullying revealed in this study and the new investigations reporting general and physical bullying are more prevalent in boys than girls (Aunampai et al. 2022; Rana et al. 2020; Roussi-Vergou et al. 2018). However, the finding is not supported by Machimbarrena and Garaigordobil (2017) who argue that the level of abuse suffered in bullying is significantly higher in public schools.

Additionally, students' gender (GENDER,  $\beta=-0.24$ ) and language program (PROG3,  $\beta=-0.08$ ) are only shown in the *Sekolah* group to have a direct impact on their peer-belonging experience (PEER). Conversely, no predictors are found to influence students' PEER in the *Madrasah* schools. The results show that there are significant differences in PEER levels across their age and gender categories in secular schools. The negative coefficient of GENDER signals that female students do have a real sense of belonging with their peers rather than males. This broadly supports the work of other studies on the link between gender and peer-belonging; greater support from peers is shown from girls rather than boys (Demirtaş 2020; Coyle, Malecki, and Emmons 2021; Çikrikci, Erzen, and Yeniçeri 2019). In the course of events, a direct effect of PROG3 on PEER indicates that language program students tend to be less engaged with their friends compared to students in the science program. However, no evidence of these results has been detected in previous research.

#### ***4.6.3 The Goodness of Fit Indices (GOF)***

According to the cut-off values for the goodness of fit indices (GOF) adopted here, the results displayed in Figure 4. 2 and Figure 4. 3 indicate that the final models of the *Sekolah* (SS, n=726) and *Madrasah* (MS, n=593) groups are acceptable. It is evident with their values of  $\chi^2/df$  of less than 3.0, CFI and TLI > 0.90 also RMSEA < 0.08 and SRMR < 0.10. For this reason, it can be concluded that the final models of the *Sekolah* and *Madrasah* groups are better fitting models. Thus, the models accurately represent the observations.



## 4.7 Conclusion

The unique contribution of this study is to address and expand the secular-Islamic debates by exploring and comparing other possible factors that influence school output, such as students' English achievement between secular '*Sekolah*' and Islamic '*Madrasah*' education in Indonesia. As established previously, this paper is motivated by earlier investigations (Newhouse and Beegle 2006; Hendajany 2016; Stern and Smith 2016) suggesting that the disadvantages of education funding exist in private education in most *Madrasah* schools as the explanation for poor performance. On the other hand, several studies have documented the advantages of the culture of multilingual education (Amri, Tahir, and Ahmad 2017; Bin Tahir 2015) and religious values (Farid and Lamb 2020) in most *Madrasah* schools in Indonesia; these help *Madrasah* students develop positive attitudes toward language learning. Therefore, the examination of how the school attributes, public and private, student personal 'demographic' characteristics, wellbeing domains, learning motivation, anxiety and difficulty, directly and indirectly, influences students' English reading and listening in secular and Islamic school settings. Performing the structural equation modelling (SEM) analysis to address the research problems, this study yields some interesting findings.

To begin with, the school sector is only shown to have a direct effect on students' listening achievement in secular schools, while no effect on students' performance was found in Islamic schools. It indicates that the discrepancy in student achievement exists between public and private secular schools, where the public benefits of school funding only influence students' achievement directly in secular education and the equity in school output between public and private *Madrasah* is evident. Secondly, the presence of an achievement gap between male and female *Madrasah* students in English reading in favour of males was revealed, while no gender effect on their achievement is detected in secular schools which designate that those, boys and girls performed equally. Furthermore, English problems, such as learning difficulty and anxiety strongly and negatively affect their English achievement in both school settings. On the other hand, a smaller effect of learning motivation on listening in the *Sekolah* group and no direct influence of learning motivation in *Madrasah* schools were revealed in this study. These findings suggest that the role of learning motivation is important in students' language learning, however, minimizing the students' language problems 'anxiety and difficulty' can strongly improve their English performances across the groups.

For the effect of wellbeing domains on their English scores, the findings imply that the positive domains, such as happiness, optimism and peer-belonging, partly influence

students' reading and/or listening achievement in secular and Islamic schools. Students' experience of anxiety and bullying as negative domains affect their English reading and/or listening negatively across the groups. More specifically, anticipated findings of very strong effects of social wellbeing domains in the *Sekolah* group, including peer-belonging on reading and bullying on listening, and anxiety in *Madrasah* schools on English achievement were revealed. Additionally, this study found that the *Sekolah* and *Madrasah* students' English learning problems and motivation are directly and indirectly affected by their wellbeing, personal demographics and school sectors. Students' wellbeing, such as optimism, anxiety, happiness, bullying, and peer belonging, show direct and indirect influences on each other and vary based on their demographics and school sectors.

Overall, this paper has provided empirical evidence and knowledge on the emerging issues concerning the direct and indirect influences of tested factors on students' English achievement in secular and Islamic education in Indonesia. This study also has some practical and policy implications: (1) to deal with the existence of the achievement gap between public and private sectors by improving the effectiveness of school budgeting systems in both secular and Islamic schools, (2) to address the presence of gender gap in *Madrasah* schools, (3) to minimize of their learning problems, anxiety, and bullying, as well as to promote student learning motivation, happiness, optimism, and peer belonging in both secular-Islamic school contexts. However, the limitations of this study are that it has concentrated only on secular-Islamic schooling systems in Indonesia and focused on the school sector and student-level factors. Further research is required to account for other contexts, measures, and methods.

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## 4.9 Appendices

### Appendix 4. 1

*Estimated Measurement Results between Sekolah and Madrasah Groups*

Variable		Student Level (n=1319)					
		Sekolah school (PS) Group (n=726)			Madrasah School (IS) Group (n=593)		
Dependent	Independent	Direct Effect	Indirect Effect	Total Effect	Direct Effect	Indirect Effect	Total Effect
		Estimate (S.E.)	Estimate (S.E.)	Estimate (S.E.)	Estimate (S.E.)	Estimate (S.E.)	Estimate (S.E.)
READING	GENDER	-	-	-	0.08 (0.03)	-	0.08 (0.03)
	PEER	0.80 (0.05)	0.21 (0.04)	1.01 (0.06)	-	-	-
	BULLY	-	-0.25 (0.06)	-0.25 (0.06)	-	-	-
	HAPPY	-	0.06 (0.02)	0.06 (0.02)	-	-	-
	ANX	-0.11 (0.05)	-	-0.11 (0.05)	-	-	-
	OPT	-	0.16 (0.05)	0.16 (0.05)	-	-	-
	MOTREAD	-	0.06 (0.02)	0.06 (0.02)	-	-	-
	ANXREAD	-0.22 (0.06)	-	-0.22 (0.06)	-0.81 (0.12)	-0.47 (0.12)	-1.28 (0.07)
	DIFREAD	-0.73 (0.09)	-	-0.73 (0.09)	-0.92 (0.20)	-	-0.92 (0.20)
LISTENING	PEER	0.12 (0.04)	0.40 (0.09)	0.52 (0.09)	-	0.12 (0.04)	0.12 (0.04)
	BULLY	-0.76 (0.12)	-0.81 (0.14)	-1.57 (0.16)	-	-0.14 (0.05)	-0.14 (0.05)
	HAPPY	0.33 (0.08)	0.21 (0.06)	0.54 (0.12)	0.17 (0.04)	0.69 (0.07)	0.86 (0.08)
	ANX	-0.27 (0.07)	-0.11 (0.05)	-0.38 (0.09)	-0.93 (0.16)	-0.33 (0.14)	-1.26 (0.09)
	OPT	-	0.02 (0.01)	0.03 (0.01)	0.08 (0.03)	0.01 (0.01)	0.09 (0.03)
	MOTLIST	0.17 (0.04)	0.04 (0.02)	0.21 (0.06)	-	-	-
	ANXLIST	-0.23 (0.06)	-	-0.23 (0.06)	-	-0.18 (0.06)	-0.18 (0.06)
	DIFLIST	-0.18 (0.09)	-	-0.18 (0.09)	-0.49 (0.19)	-	-0.49 (0.19)
	SCSECTOR	-0.16 (0.06)	-	-0.16 (0.06)	-	-	-

DIFREAD	GENDER	-	-	-	-0.08 (0.04)	-	-0.08 (0.04)
	PROG3	-	-	-	-0.06 (0.02)	-	-0.06 (0.02)
	PEER	-	-0.12 (0.03)	-0.12 (0.03)	-	-	-
	BULLY	0.20 (0.05)	0.03 (0.01)	0.23 (0.04)	-	-	-
	HAPPY	-	-0.03 (0.01)	-0.03 (0.01)	-	-	-
	OPT	-0.21 (0.08)	-	-0.21 (0.08)	-	-	-
	MOTREAD	-0.09 (0.03)	-	-0.09 (0.03)	-	-	-
	ANXREAD	-	-	-	0.51 (0.04)	-	0.51 (0.04)
SCSECTOR	0.12 (0.05)	-	-0.12 (0.05)	-	-	-	
DIFLIST	PEER	-	-0.20 (0.04)	-0.20 (0.04)	-	-0.07 (0.02)	-0.07 (0.02)
	BULLY	-	0.65 (0.08)	0.65 (0.08)	-	0.08 (0.02)	0.08 (0.02)
	HAPPY	-	-0.27 (0.06)	-0.27 (0.06)	-0.13 (0.04)	-0.33 (0.04)	-0.46 (0.04)
	OPT	-	-0.02 (0.01)	-0.02 (0.01)	-	-0.02 (0.01)	-0.02 (0.01)
	ANX	0.60 (0.12)	-	0.60 (0.12)	0.49 (0.07)	0.18 (0.04)	0.67 (0.05)
	MOTLIST	-0.20 (0.08)	-	-0.20 (0.08)	-	-	-
	ANXLIST	0.24 (0.11)	-	0.24 (0.11)	0.36 (0.08)	-	0.36 (0.08)
SCSECTOR	0.03 (0.01)	-	0.03 (0.01)	-	-	-	
ANXREAD	GENDER	0.12 (0.05)	-	0.12 (0.05)	-	-	-
	AGE	-	-	-	-0.09 (0.04)	-	-0.09 (0.04)
	PEER	-0.44 (0.03)	-	-0.44 (0.03)	-	-	-
ANXLIST	PEER	-	-0.19 (0.04)	-0.19 (0.04)	-	-0.05 (0.01)	-0.05 (0.01)
	BULLY	0.49 (0.06)	0.30 (0.05)	0.79 (0.02)	-	0.06 (0.01)	0.06 (0.01)
	OPT	-	-	-	-0.06 (0.03)	-	-0.06 (0.03)
	ANX	-	-	-	0.49 (0.05)	-	0.49 (0.05)
	HAPPY	-0.34 (0.06)	-	-0.34 (0.06)	-	-0.24 (0.04)	-0.24 (0.04)
MOTREAD	PROG3	-	-	-	-0.07 (0.04)	-	-0.07 (0.04)
	GENDER	-0.11 (0.04)	-	-0.11 (0.04)	-	-	-
MOTLIST	PROG2	-	-	-	-0.08 (0.04)	-	-0.08 (0.04)
	PEER	-	0.04 (0.02)	0.04 (0.02)	-	0.01 (0.00)	0.01 (0.00)
	BULLY	-	-0.01 (0.01)	-0.01 (0.01)	-	-0.01 (0.01)	-0.01 (0.01)
	HAPPY	-	0.02 (0.01)	0.02 (0.01)	-	0.05 (0.02)	0.05 (0.02)
	ANX	-	-	-	-0.11 (0.04)	-	-0.11 (0.04)
	OPT	0.12 (0.04)	-	0.12 (0.04)	-	-	-

OPT	PROG4	-	-	-	0.06 (0.03)	-	0.06 (0.03)
	PEER	0.34 (0.05)	0.03 (0.01)	0.37 (0.05)	-	-	-
	BULLY	-	-0.12 (0.03)	-0.12 (0.03)	-	-	-
	HAPPY	0.14 (0.03)	-	0.14 (0.03)	0.11 (0.04)	-	0.11 (0.04)
	SCSECTOR	-0.04 (0.02)	-	-0.04 (0.02)	0.09 (0.04)	-	-0.09 (0.04)
ANX	PEER	-0.06 (0.02)	-0.18 (0.05)	-0.24 (0.05)	-	-0.10 (0.03)	-0.10 (0.03)
	BULLY	0.50 (0.02)	0.27 (0.06)	0.77 (0.06)	0.12 (0.03)	-	0.12 (0.03)
	HAPPY	-0.30 (0.07)	-	-0.30 (0.07)	-0.49 (0.05)	-	-0.49 (0.05)
HAPPY	PEER	0.05 (0.02)	0.19 (0.05)	0.24 (0.02)	-	-	-
	BULLY	-0.89 (0.01)	-	-0.89 (0.01)	-	-	-
	SCSECTOR	-	-	-	-0.25 (0.07)	-	-0.25 (0.07)
BULLY	GENDER	-	-	-	0.09 (0.03)	-	0.09 (0.03)
	AGE	0.09 (0.04)	-	0.09 (0.04)	-	-	-
	PEER	-0.22 (0.05)	-	-0.22 (0.05)	-0.85 (0.03)	-	-0.85 (0.03)
	SCSECTOR	-	-	-	0.07 (0.03)	-	0.07 (0.03)
PEER	PROG3	-0.08 (0.04)	-	-0.08 (0.04)	-	-	-
	GENDER	-0.24 (0.06)	-	-0.24 (0.06)	-	-	-

# **Chapter 5:**

A Mixed-Method Study:  
Secular-Islamic School Teachers' Disparities over  
Factors Influencing Their English Teaching  
Effectiveness

# Statement of Authorship Declaration

## Statement of Authorship

Title of Paper	<b>A Mixed-Method Study: Secular-Islamic School Teachers' Disparities over Factors Influencing their English Teaching Effectiveness</b>		
Publication Status	<input type="checkbox"/> Published	<input type="checkbox"/> Accepted for Publication	<input type="checkbox"/> Unpublished and Unsubmitted work written in manuscript style.
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## Principal Author

Name of Principal Author (Candidate)	<b>Abu Nawas</b>		
Contribution to the Paper	Contributed to data collection, performed analysis, interpreted data, wrote, revised the manuscript also acted as the corresponding author.		
Overall percentage (%)	65		
Certification:	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am the primary author of this paper.		
Signature		Date	07 August 2023



### Co-Authors' Contributions

By signing the statement of authorship, each author certifies that:

- I. the candidate's stated contribution to the publication is accurate (as detailed above);
- II. permission is granted for the candidate to include the publication in the thesis; and
- III. the sum of all co-author contributions is equal to 100% less the candidate's stated contribution.

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Contribution to the Paper	Supervised development of work, developed, evaluated, and edited the manuscript.		
Signature		Date	07 August 2023

# **A Mixed-Method Study: Secular-Islamic School Teachers' Disparities over Factors Influencing their English Teaching Effectiveness**

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## **Abstract**

This mixed-method study provides comparative evidence between secondary secular/*Sekolah* and Islamic/*Madrasah* education in Indonesia by examining the possible factors influencing their English teaching effectiveness. Using two stages of multi-stage stratified sample design in quantitative (n=64) and purposive sampling design in qualitative (n=6), statistical comparisons and explorations of the effects of the school sector, teachers' characteristics, professional development, cooperative competencies, and job-related attitudes on their teaching performance across the groups were examined. Teachers in *Sekolah* schools are more confident and satisfied with their job, while *Madrasah* teachers possess high levels of cooperative competence and teaching effectiveness. The multi-group structural equation modelling and interview outcomes revealed that self-efficacy, job satisfaction, teacher collaboration, team teaching, and professional development directly influence teaching effectiveness in both groups differently. Lack of school funds, low-paid teachers and lack of teacher training opportunities are still problematic in most *Madrasah* schools which can negatively influence their attitudes and teaching performance.

**Keywords:** Secular-Islamic, *Madrasah*, teaching effectiveness, Indonesia, MGSEM.

## 5.1 Introduction

Today, there is growing attention on the importance of teaching effectiveness in language learning contexts. Teaching effectiveness generally refers to the ability of language teachers to improve their students' language learning outcomes. The literature focusing on the English as a foreign language (EFL) context has specifically measured teaching effectiveness into three domains: English knowledge, pedagogical competencies and social affective skills (Park & Lee, 2006; Reynoso, 2019). English knowledge is defined as a teacher's ability to use English to make meaning and communicate spoken and written language forms. Knowledge of pedagogy, moreover, refers to the teacher's knowledge and skill to create effective and meaningful teaching and learning environments for the students. This domain includes a solid understanding of designing effective learning that caters to students' needs and diversity. Social affective ability is related to relationships between teachers and students creating an effective learning process. This includes how they encourage student motivation, solve student learning problems and support student academic and psychological needs. This idea corroborates a recent study by Ghimire (2019) on the facets of effective language learning which claims that teachers' knowledge and skills, as well as the teacher-student connections, are strongly related to effective teaching. However, the study expands the previous ideas by suggesting technology integration as a prominent aspect of creating effective teaching and learning, including using digital tools and resources to enhance language learning today. Digital literacy practice in English as a Foreign Language (EFL) settings has been reported by some studies as one of the key aspects of teaching effectiveness in developing student learning outcomes (Akayoglu et al., 2020; Cakici, 2016). Thus, the concept of teaching effectiveness is complex and multifaceted, combining teacher pedagogical competencies and technology integration which strongly contribute to positive learning performance. For this reason, the interest in factors influencing teaching effectiveness in EFL classrooms differentially has increased across the countries.

In Indonesia, the disparities in teaching effectiveness quality aligned with student achievement gaps between different school contexts are still problematic. This claim is evident in several investigations reporting a discrepancy in language outcomes between students enrolled in secular and Islamic/*Madrasah* schools (Hendajany, 2016; Newhouse & Beegle, 2006) in favour of secular and public schools. Other studies have also pointed out that the disadvantages of *Madrasah* teachers in terms of salary and occupational status might see them struggle to provide high teaching quality. Most teachers (81%) in Islamic schools (mostly in

private sectors) are not civil-servant or non-permanent teachers (ADB, 2014; Bahri et al., 2018; Muhajir, 2016; Stern & Smith, 2016). In this case, teachers in private Islamic institutions do not receive a standard salary from the government and they earn low wages limited by the availability of school funding obtained from subsidised school operational funding (*Dana BOS*). They also have limited access to teacher education or professional development and may not receive enough support from their schools; this can make it difficult for them to develop their pedagogical knowledge and skills, as well as enhance student performance (ADB, 2014; Kholis & Murwanti, 2019). In contrast, most teachers in secular schools work as permanent teachers or civil-servant teachers. They benefit from a good salary (García & Han, 2022), teacher certification opportunities (Kusumawardhani, 2017) and professional development participation (Desimone et al., 2002; Gore et al., 2017), all of which positively influence their teaching effectiveness. Moreover, prior studies also report that most *Madrasah* in Indonesia lack digital resources creating a struggle for these teachers to update their teaching knowledge and competencies to deal with today's educational demands. With those issues established, this study concludes that the disadvantages of *Madrasah* or Islamic schools belonging to a private sector low in government funding create a strain on providing high-quality education. Likewise, in other countries adopting the same “secular-Islamic” schooling systems, such as Bangladesh (Mullick & Sheesh, 2008) and Pakistan (Gul & Shah, 2019), poor teacher quality has been noted as a factor negatively affecting teaching effectiveness in Islamic schools. Therefore, this concern has grown into one of the possible causes that explain low teacher quality and effectiveness in Islamic schools.

While there is a general perception claiming that Islamic schools tend to endure low wages, disadvantages in occupational status and a lack of professional development opportunities, the OECD (2014) has highlighted that those aspects are not the only factors influencing teaching effectiveness. The study has suggested other possible factors, such as teacher attitudes and cooperation, that strongly support the effective teaching practice aligned with student learning effectiveness in different school contexts. This has been supported by numerous investigations conducted in Islamic school contexts in Indonesia and Malaysia, revealing that religiosity levels are strongly related to job-related attitude levels, such as confidence in their teaching performance or teacher efficacy (Dewi et al., 2021; Dimiyati & Avicenna, 2022) and job fulfilment or satisfaction (Amaliah et al., 2015; Yafiz et al., 2022) are aligned with highly effective teaching. The studies suggest that teachers who teach in Islamic schools tend to have high levels of spirituality and are more likely to be more confident in their abilities to teach and provide effective teaching, including how to manage their class, engage

with students and deal with appropriate teaching approaches. Likewise, those with high religious levels tend to be more satisfied with their job as a teacher, more engaged in school, and committed to their student's learning and success, which can lead to highly effective teaching. Similarly, several observations sampled in general or secular school settings confirmed the positive influence of teacher efficacy and job satisfaction on effective teaching performance (Nisa et al., 2022; Zamir et al., 2017). However, the studies conclude that there is a disparity in teacher attitudes between the school sectors where public school teachers obtained slightly higher self-efficacy in instructional practice and discipline as well as higher satisfaction in job promotion, cooperation and school benefits compared to those in private schools. Teachers who feel less confident and dissatisfied with their jobs, and those who are less motivated and engaged with their work, can be less effective when they are teaching. In addition, a strong relationship between teacher self-efficacy and a higher level of job satisfaction is revealed, signalling that high-efficacy teachers tend to have greater job satisfaction and vice versa (Demir, 2020; Kasalak & Dagyar, 2020; OECD, 2009). However, several studies conducted in different countries have also noted that disparities in teacher gender, job status, teaching experience (Topchyan & Woehler, 2021), teacher collaboration (Chen, 2020), professional development (Liu & Liao, 2019; Smet, 2021) and school environment (Toropova et al., 2021) are related to confidence with the ability and job satisfaction levels differently.

Other factors of teacher cooperative competencies, such as working collaboratively and teaching as a team, are strongly associated with better teaching performance (OECD, 2014). This is in line with the prior literature (Handelzalts, 2009; Kafyulilo, 2013; Meirink et al., 2007) which highlighted that teacher cooperation enhances teacher pedagogical and student learning outcomes. This is evident that collaboration among teachers by sharing their responsibilities and involving them in decision-making on shared teaching and learning practice as well as teaching together as a team that includes peer observation and feedback, joint activities in the same classes can effectively improve teaching and learning processes. In a specific school context, Asari et al. (2018) sampled Islamic schools focusing on the implementation of community service activity conducted in *Madrasah* schools in Indonesia and revealed that teacher collaboration in lesson plan development helps them improve their pedagogical competencies, including teaching planning, processes and assessment. This finding is in line with other recent studies on cooperative practices in personal and group coaching (Ma'arif et al., 2022), sharing learning materials (Arkiang & Adwiah, 2020), and teaching-learning methods (Tasrim & Supriyanto, 2017) in Islamic school settings

contributing to the positive effect of their professional development. The studies similarly conclude that the practice of teaching cooperation improves self-motivation to work collaboratively, which is aligned with effective teaching and student learning. The similar trends of positive effects of cooperative competencies on teaching effectiveness are similarly recorded in some observations in secular or global school settings (De Jong et al., 2019; Vangrieken et al., 2015). When teachers work collaboratively and teach together as a team, they can share ideas, methods, approaches, and resources that improve their teaching practice. The prior studies in Islamic and global education contexts similarly confirmed the effectiveness of cooperative competencies in teaching practice. They also suggest that cooperative competencies can help to create positive teacher relationships among teachers and supportive school cultures. However, several shreds of evidence from studies conducted in Finland, Portugal and other OECD countries focusing on the influence of teacher cooperation on teaching outcomes suggest that professional development (Rytivaara & Kershner, 2012; Szelei et al., 2020), teachers' personal and professional characteristics (OECD, 2009) also have an effect.

Altogether, the great benefits of most secular education in Indonesia under the public or government sector in teacher salary, job status and professional development participation are recognized as the main explanations for better student English outcomes compared to Islamic schools. However, early investigations pointed out some possible factors such as teacher job-related attitudes and cooperative competencies are found to have significant influences on teaching effectiveness in different school contexts separately, including in Islamic and secular schools. Simultaneously, the early literature has also acknowledged that teacher demographics and professional characteristic differences are significantly associated with how confident they are in teaching, how they feel about their occupation, how they work collaboratively and how they teach together as a team differently; these factors are aligned with how they teach English effectively in Islamic and secular schools. However, the reviewed studies sampled from different countries have only focused on and been conducted in general language lessons in separate school contexts. Studies which have compared the actual gaps and effects of the school sector, teacher demographics, personal characteristics, professional development, teacher attitudes and cooperative competencies on teaching effectiveness in specific language subjects, such as English reading and listening lessons between secular and Islamic schools remain scarce. Thus, an empirical investigation which addresses the issues is needed by offering some major research questions:

- 1) What are the differences between secular and Islamic school teachers in teacher efficacy, job satisfaction, teacher collaboration, team teaching, ICT use, reading and listening effectiveness?
- 2) How do the predictors of the school sector, teachers' characteristics, professional development, teacher efficacy, job satisfaction, teacher collaboration, and team teaching influence how they involve ICT in English lessons, as well as how they teach reading and listening effectively between secular and Islamic schools?
- 3) What are the secular and Islamic school teachers' perspectives regarding the influence of the explained predictors on their teaching and student learning effectiveness?

To address the research problems, this mixed-method study first proposed a conceptual framework based on the reviewed literature to illustrate the expected relationships between the measured factors. Secondly, statistical comparisons and explorations of the influences of the school sector, teachers' personal and professional demographics, including gender, age, education level, job status, teaching experience, certification and professional development completion, job-related attitudes and teacher cooperation on their teaching performances including the use of technology and English listening as well as reading practices between secular (*Sekolah*) and Islamic (*Madrasah*) schools, were undertaken. Then, an interview was conducted to confirm and deeply explain the findings obtained from the statistical analysis. In addition, instrument validity and reliability tests were initially undertaken to ensure the quality of measurement tools used in this study.

## **5.2 Current Study: School Systems and Teachers in Indonesia**

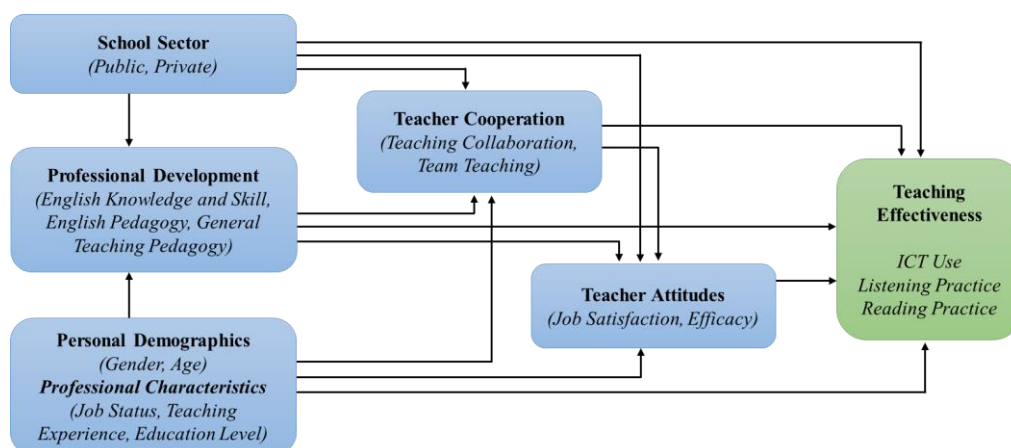
This study was conducted in Indonesia which is recognized as a country with unique school systems consisting of secular and Islamic-based education, managed by two ministries (OECD/ADB, 2015). The separate authorities, secular schools under the Ministry of Education and Culture (MoEC) and Islamic or *Madrasah* schools under the Ministry of Religious Affairs (MoRA), were rooted in the historical debates between the Islamic and nationalist leaders over the education roles in national and spiritual needs for the community (Sirozi, 2004). The report has noted that 84% of Indonesian schools are secular or non-religious education while the remaining 16% are *Madrasah* or Islamic institutions. Ninety-two per cent (92%) of secular education belongs to the public sector and the vast majority of *Madrasah* schools are private institutions (OECD/ADB, 2015). The schools under MoEC and MoRA are subjected to the

same regulations, such as curriculum, teaching quality standards, and academic calendar. They also have the same education levels, including primary, lower and upper secondary and higher education levels (Stern & Smith, 2016). This policy aims to provide equal quality of education in Indonesia across different school contexts. However, the discrepancy in teacher quality which relates to the teaching effectiveness and student outcomes between the secular and Islamic-based educational systems still exists. As discussed earlier, teachers working in private schools are non-civil servant teachers, while teachers in public schools consist of both civil servant and non-civil servant teachers. As 84% of *Madrasah* schools belong to private sectors, this determines that the majority of Islamic school teachers are non-permanent and labour with low wages and low opportunities to participate in professional development programs. These issues have hindered the provision of high teaching quality. For this reason, low student performances, including in English language learning for *Madrasah* students over secular school students, are still problematic (Hendajany, 2016; Newhouse & Beegle, 2006). Thus, a study investigating what other factors influence English teaching effectiveness is urgently needed.

### 5.3 Conceptual Framework

**Figure 5. 1**

*Conceptual Framework*



The conceptual model shown in Figure 5. 1 was adapted from the theoretical background of *the analysis of teaching practices and beliefs* by TALIS, the teaching and learning international survey (OECD, 2014), and supported by the early reviewed studies. The model demonstrates how five groups of teacher variables have direct and indirect influences on the effectiveness of teaching practices. School sector, teacher personal and professional characteristics including



gender, age range, education level, occupational status and teaching experience are first identified as exogenous or independent variables as they are not impacted by other predictors. Those are hypothesised to influence the teacher's professional development, cooperation, attitudes, and teaching practices. Teacher professional development domains, English knowledge, English pedagogy, and general pedagogy are foreseen to have a direct influence on their cooperation, professional attitudes, and teacher practice, and those may be influenced by their demographic factors. Moreover, teacher collaboration and team teaching grouped into teacher cooperation are hypothesised to have a direct effect on their professional attitudes and teaching practice and might be influenced by the demographics and professional development. Teachers' professional attitudes, including levels of job satisfaction and self-efficacy, are viewed to influence their teaching effectiveness and are affected by the different demographics, professional development programs and cooperation. The variables of teaching practices, such as ICT use, reading and listening practices are recognized as endogenous or dependent variables, as they might be influenced by the other predictors. Concurrently, the grouped variables are hypothesised to have interaction, or direct or indirect effects, on one another.

## **5.4 Methods**

### ***5.4.1 Research Design***

The explanatory sequential mixed-methods design was used in this study involving quantitative and qualitative data collection. The quantitative data were gathered using a survey to record the outcomes of the study, while the interviews were conducted to obtain the qualitative data and explain or elaborate on the quantitative findings (Mills & Gay, 2016). In this study, quantitative data were used to quantify the disparities and examine the relationships among the tested variables, while qualitative data were employed to explain findings obtained from the statistical analysis.

### ***5.4.2 Participant***

Two stages of multi-stage stratified sample design in quantitative and purposive sampling design in qualitative were employed in this study. In the first stage, a total of 64 English teachers working in secondary schools in Indonesia were selected using a two-stage stratified sample design. The teachers were grouped into similar groups—secular (*Sekolah*, n=34) and Islamic (*Madrasah*, n=30)—and randomly selected from separate strata (Cohen et al., 2002; Mills & Gay, 2016). The stratification process involved two stages, such as districts and

schools. Twelve districts were selected based on the probability of each district having at least one secular and one Islamic school. Moreover, the teachers were sampled within 30 sampled schools. In the interview stage (n=6), three teachers from secular and three teachers from Islamic schools were purposively sampled from different demographics, including school sectors, job status and working experience, to represent the given group population. This sampling design is more accurate in proportional and non-proportional sampling and guarantees the nominated representation of the related subgroups within the sample (Mills & Gay, 2016; Ross, 2005). This study, therefore, confirms an adequate representation of secular and Islamic school teachers as the target population in the sample.

### **5.4.3 Measures**

Six groups of teacher variables adapted from the OECD (2014) and used in this study are shown in Table 5. 1. (1) *School Sector* (SCSECTOR) refers to the question of whether they work in public or private schools. (2) *Teacher Demographics and Professional Characteristics* reflect the questions regarding their gender (GENDER), age (AGE), level of education (EDULV), occupation status (JOBSTAT), working experience (TCEXP), and certification (CERT). (3) *Professional Development (PD) Programs* are based on the teachers' reports on how much (%) of English knowledge (PD1), English pedagogy (PD2) and general pedagogy (PD3) they obtained after completing teacher professional development programs. (4) *Cooperative Competencies* include teacher collaboration (TCLB) and team teaching (TEAM). Teacher collaboration reflects the teachers' answers on how they work collaboratively and how they share responsibilities, decision-making involvement in dealing with the students' diversity, sharing teaching materials and discussing assessments used in English lessons. Team teaching refers to questions on how they conduct peer observation, feedback, teaching and joint activities in English subjects. (5) *Job-related Attitudes*—teacher efficacy and job satisfaction—refer to the questions of teachers' competence and engagement with the students to achieve the learning goals and the teachers' gratification of being a teacher. Teaching efficacy items consist of questions about how they are confident with their teaching abilities in English lessons, such as how to provide effective lessons, engage with their students, and use appropriate teaching approaches. The items of job satisfaction include questions about how they are satisfied, and what benefits and enjoyment they receive from their jobs as teachers. (6) *Teacher Effectiveness*, including ICT use (ICTUS), reading (READ) and listening (LISTP) practice; teachers were asked to reflect on how they involved technology in teaching English and how they teach

English reading and listening lessons dealing with learning objectives. More specifically, the ICT use items consist of questions about how they involve online materials such as emails, online chats, and online group discussions in English lessons. The items of reading and listening practices reflect questions on teachers' knowledge, skills and engagement in teaching English reading and listening, including how they create effective and meaningful teaching and learning aligned with the learning objectives.

**Table 5. 1**

*Variables Used in this Study*

<b>Theoretical Dimensions</b>	<b>Latent Variables</b>	<b>Description</b>	<b>Code</b>
School Sector	SCSECTOR	School Sector	0 = Public, 1 = Private
Teacher Demographics	GENDER	Gender	0 = Female, 1 = Male
	AGE	Age Range	1 = < 30-year-old 2 = Between 31 and 40 years old 3 = Between 41 and 50 years old 4 = > 50-year-old
	EDULV	Education Level	0 = Bachelor, 1 = Master
	JOBSTAT	Occupation/Job Status	0 = Non-Civil Servant Teacher 1 = Civil Servant Teacher
	TCEXP	Teaching Experience	1 = < 5 year 2 = 6 – 10 years 3 = 11 – 15 years 4 = 16 – 20 years 5 = > 20 years
Teacher Professional Development	CERT	Teacher Certification	0 = No, 1 = Yes
	PD1	English Knowledge Domain	1 = < 25%
	PD2	English Pedagogy Domain	2 = 26 - 50%
	PD3	General Pedagogy Domain	3 = 51 - 75% 4 = > 75%
Cooperative Competencies	TCLB	Teacher Collaboration	WLE-Score
	TEAM	Team Teaching	WLE-Score
Teacher Job-related Attitude	EFF	Teacher Efficacy	WLE-Score
	JOBS	Job Satisfactions	WLE-Score
Teaching Practice/ Effectiveness	ICTUS	ICT Use	WLE-Score
	READP	Reading Practice	WLE-Score
	LISTP	Listening Practice	WLE-Score

For analysis purposes, variables of SCSECTOR, teacher demographics and characteristics, and teacher professional development were coded based on their raw scores from the questionnaire. The other seven scales, EFF, JOBS, TCLB, TEAM, READP, LISTP, and ICTUS, on the other hand, were measured using the four-point Likert scale (*1=Strongly disagree, 2= Disagree, 3=Agree, and 4= Strongly Agree*) and scaled into the weighted

likelihood estimate (WLE) scores through Rasch analysis to reduce the scaling bias and simplify the model (Warm, 1989). Regarding the instrument validity and reliability, at the scale level, the results of alternative confirmatory factor analysis (CFA) indicate that an N-correlated model of each scale was nominated as the best model and fitted the data very well. It was evident with the acceptable values of the goodness of fit indices (GOF) for each scale with each factor loading of  $>0.40$  and average variance extracted (AVE) of  $>0.7$  (Hair et al., 2014). The results also showed the acceptable GOF including the ratio of  $X^2/df$  value of  $\leq 3$  (Kline, 2015), comparative fit index (CFI) and Tucker-Lewis index (TLI) values of  $>0.90$  (Wang & Wang, 2019), root mean square error of approximation (RMSEA) value of 0.08 or less (Bialosiewicz et al., 2013) and the weighted root mean square residual (WRMR) values of 0.10 or less (DiStefano et al., 2018). At the item level, the results of item fit statistics using multidimensional item analysis with Rasch modelling revealed the acceptable item discrimination value  $>0.20$  and item logit/ MNSQ value between 0.60-1.40 (Bond & Fox, 2015), except for items of TEAM4 (1.43), EFF (0.59), and ICTUS1 (1.56). However, these items are close to the expected MNSQ values, thus the items are still considered to be accepted in this study. Simultaneously, the acceptable composite/construct reliability (CR) and item separation reliability (ISR) results greater than 0.90 for each scale are likewise evident in this study. In addition, the specific descriptions of the items and scales used in this study as well as the results of instrument validity and reliability are shown in Appendix 5. 1 and Appendix 5. 2.

#### **5.4.4 Methods of Analysis**

##### *Descriptive Statistics and Independent Sample T-Test*

To examine the differences in data distribution between *Sekolah* (SS) and *Madrasah* (MS) groups, a series of comparative analyses, such as descriptive and independent sample t-tests using SPSS were carried out. The descriptive analysis with the exploration method was performed to compare the central tendencies of the derived variables (WLE) between the groups. Furthermore, an independent sample t-test, the advanced mean comparison, was undertaken to afford the significant differences across the groups obtained from the descriptive statistics (Pallant, 2016). The significance of the mean differences is determined based on their *p*-value of 0.05.

### *Multi Group Structural Equation Modelling (MGSEM)*

A multi-group structural equation modelling (MGSEM) analysis using Mplus software (Muthén & Muthén, 1998-2017) was performed to quantify the relationships among multiple variables across the comparative groups. This technique is useful to combine multiple regressions and measure the causal direct and indirect effects explained in the hypothesized model (Wang & Wang, 2019). In this study, the stratifications and clusters were applied to reflect the two-stage sampling design. Twenty-four stratifications (STRATUM) were nominated based on the combination of the school systems (secular and Islamic-based education) and 12 districts, and 30 school clusters (SCID) were selected from the strata. To apply MGSEM in this study, two stages—model identification and evaluation—were undertaken. Model identification was initially carried out to examine whether the hypothesized relationships proposed from the conceptual framework exist among the variables. Then, the model fit was examined based on the standardized coefficient ( $\beta$ ) for direct, indirect and total effects with a significance level of  $p < 0.05$  and the acceptable goodness of fit (GOF) indices, such as the  $X^2/df$  value, CFI and TLI, RMSEA and the SRMR values of 0.10 or less (MacCallum et al., 1996). The signal of the good-fitting model is determined if the GOF indices are within the acceptable range. If the model does not reflect a good fit, a model modification can be performed to improve the model fit; alternatively, model rejection and a new theoretical model should be assessed. Additionally, the results obtained in this study only show the major outcomes of the relationships among the predictors, including the standardized estimates with a significance level of  $p < 0.05$ .

### *Thematic Analysis*

For the qualitative data analysis, the findings obtained from semi-structured interviews were recorded and thematically analyzed using NVivo 12 software (Jackson & Bazeley, 2019). This analysis offers a highly flexible technique which can be modified based on the research demands and offers rich explanations related to the research problems. The early literature believes that thematic analysis in qualitative research can be used to identify the pattern across the data related to the participants' lived experiences, perspectives, behaviours, and practices (Clarke & Braun, 2017; Nowell et al., 2017). For this reason, this approach is more accurate in achieving the research purposes and objectives of this study, as it is more flexible and able to provide rich information linked with the research problems and results gathered from the quantitative data.

## 5.5 Findings

### 5.5.1 Descriptive Statistics and Independent Sample T-Test

**Table 5. 2**

*Results of the Difference of Teacher Variables (WLE) across the Groups.*

Variable		SS (n=34)		MS (n=30)		Mean Diff	t	Sig. p-value
		Mean	SD	Mean	SD			
Teacher Collaboration	TCLB	1.54	2.53	1.97	2.00	-0.43	0.75	0.45
Team Teaching	TEAM	-0.57	1.24	-0.50	1.05	-0.07	-0.24	0.81
Teacher Efficacy	EFF	1.71	2.38	1.17	3.13	0.54	0.77	0.44
Job Satisfaction	JOBS	1.33	1.57	1.09	1.78	0.24	0.57	0.57
Reading Practice	READP	1.19	3.32	1.54	3.02	-0.36	-0.45	0.65
Listening Practice	LISTP	1.04	3.44	1.29	2.92	-0.25	-0.31	0.76
ICT Use	ICTUS	-0.68	1.75	-0.65	2.03	-0.03	-0.05	0.96

*Note: Average Score (n=64)*

*TCLB (M = 1.74, SD = 2.29), TEAM (M = -0.54, SD = 1.15), EFF (M = 1.45, SD = 2.74), JOBS (M = 1.22, SD = 1.66), READP (M = 1.35, SD = 3.16), LISTP (M = 1.16, SD = 3.18), ICTUS (M = -0.66, SD = 1.87)*

The slight mean differences in the tested variables between the *Sekolah* (SS) and *Madrasah* (MS) groups are shown in Table 5. 2. The findings show that the *Madrasah* teachers obtained high scores in five variables of TCLB, TEAM, READP, LISTP and ICTUS, while the *Sekolah* teachers achieved high scores in EFF and JOBS variables. This suggests that Islamic school teachers are more often working collaboratively regarding the students' assessment criteria, teaching preparation and their students' diversity needs; they also are more often teaching together as a team and sharing teaching materials compared to those in the *Sekolah* group. Simultaneously, they performed effectively in teaching English reading and listening by focusing more on the learning objectives and English subskills, and they also involved technology in their lessons more often. However, in terms of their job-related attitudes, the teachers in the *Sekolah* group are more like to be more confident with their teaching ability and satisfied with their job as a teacher compared to *Madrasah* teachers. Although there is no significant difference ( $P > 0.05$ ) between the groups, the average scores of *Sekolah* teachers in the variables of teacher cooperating and teaching effectiveness and mean scores of *Madrasah* teachers in teacher attitudes are low than the average scores of the total sample (n=60).

## 5.5.2 Multi-Group Structural Modeling (MGSEM) Results

Figure 5. 2

Model for Sekolah (SS) Group

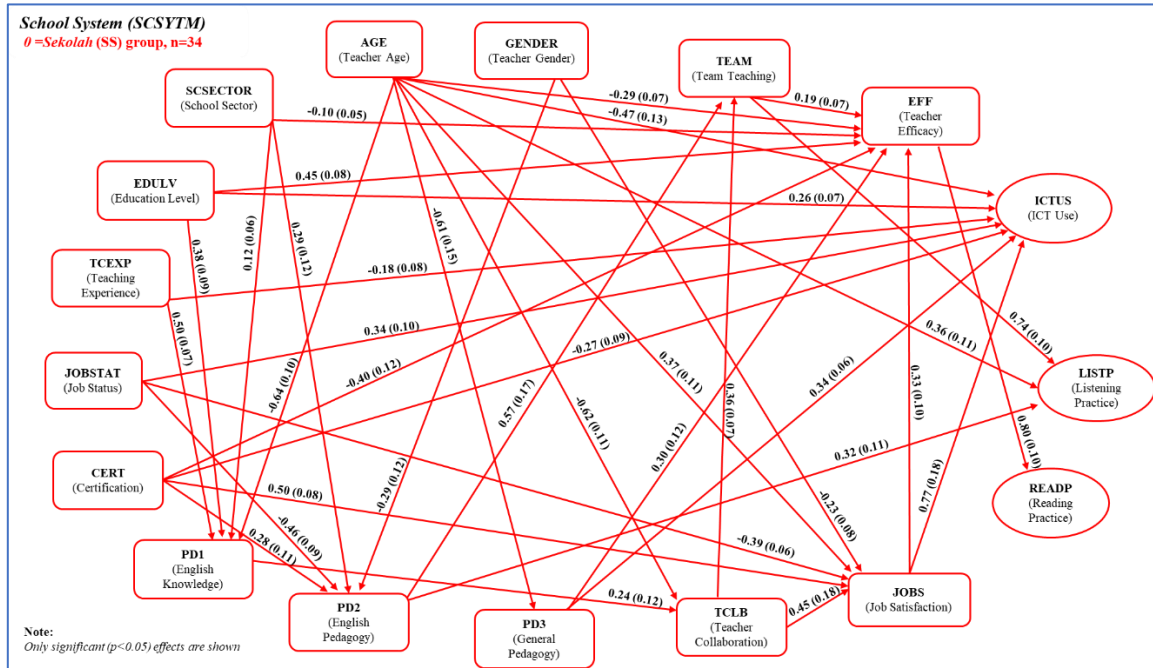
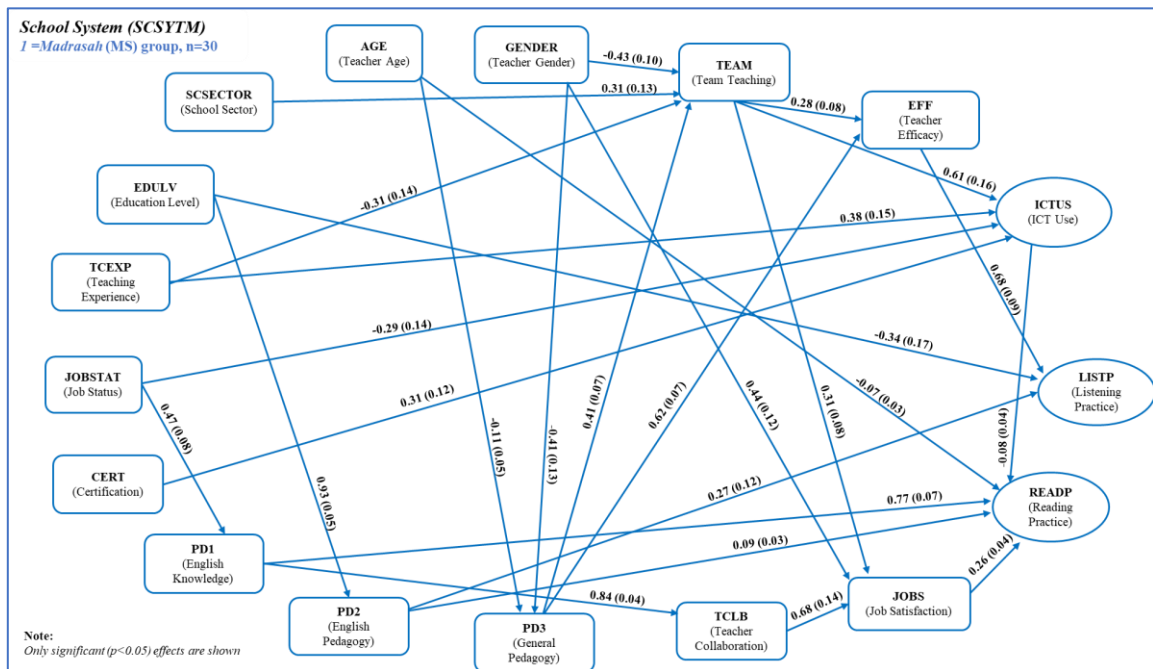


Figure 5. 3

Model for Madrasah (MS) Group



### *The Effects of Predictors on Teaching Effectiveness: Reading (READP) and Listening (LISTP) Practice and ICT Use (ICTUS)*

In this study, the variables of teaching effectiveness are classified into reading practice (READP), listening practice (LISTP) and ICT use (ICTUS). As presented in Figure 5. 2 and Figure 5. 3, only one predictor in *Sekolah* (SS), and three variables in *Madrasah* (MS) groups are significantly found to have direct effects on their READP. The results show that teacher efficacy (EFF,  $\beta=0.80$ ) in the SS group, and the other predictors of job satisfaction (JOBS,  $\beta=0.26$ ), professional development in English knowledge (PD1,  $\beta=0.77$ ) and pedagogy (PD2,  $\beta=0.09$ ), as well as teacher age (AGE,  $\beta=-0.07$ ) in the MS group, directly influence their READP. The strong positive coefficient of EFF indicates that *Sekolah* teachers with high self-efficacy tend to perform effectively in teaching reading. However, their self-efficacy levels are statistically affected by their job satisfaction levels (JOBS,  $\beta=0.33$ ), professional development in general pedagogy (PD3,  $\beta=0.30$ ), certification (CERT,  $\beta=-0.40$ ), level of education (EDULV,  $\beta=0.45$ ), age (AGE,  $\beta=-0.29$ ) and school sector (SCSECTOR,  $\beta=-0.10$ ). This suggests that high self-efficacy teachers are found in secular-school teachers who have high job satisfaction, those who have not completed the certification program, have high education levels, younger teachers and those who work in private secular schools. In the *Madrasah* group, the influences of PD1, PD2, AGE and JOBS on READP indicate that teachers who teach reading effectively are teachers who obtained more English knowledge and pedagogy in teacher training, younger teachers and *Madrasah* teachers with high job satisfaction. The levels of teacher job stratification in Islamic schools are varied depending on their gender (GENDER,  $\beta=0.44$ ) and how they work collaboratively (TCLB,  $\beta=0.68$ ) and teach as a team (TEAM,  $\beta=0.31$ ). The coefficients denote those highly satisfied with their job are females in the *Sekolah* and males in the *Madrasah* schools, as well as those who more frequently collaborate with their peers across the groups.

Furthermore, the variables of teacher professional development in English pedagogy (PD2) similarly have a direct effect on teaching performance in English listening for both groups. The positive coefficients of PD2 in *Sekolah* ( $\beta=0.32$ ) and *Madrasah* ( $\beta=0.27$ ) groups signal that teachers who obtained greater knowledge of English pedagogy domains in teacher education or professional development programs tend to teach effectively in English listening. Separately, the variables of team teaching (TEAM,  $\beta=0.74$ ) and age (AGE,  $\beta=0.36$ ) in the SS, and three variables in MS groups, teacher efficacy (EFF,  $\beta=0.68$ ) and education level (EDULV,  $\beta=-0.34$ ), directly influence their LISTP. The findings suggest that older teachers in *Sekolah*



schools and those who like teaching together as a team are more likely to perform better in teaching listening. However, the frequencies of secular school teachers teaching as a team were different depending on the levels of their knowledge in English pedagogy obtained in the professional development program (PD2,  $\beta=0.57$ ) and how they work collaboratively (TCLB,  $\beta=0.36$ ). The positive estimates of PD and TCLB on TEAM designate that secular-school teachers who frequently collaborate with their peers and those who obtained greater English pedagogical knowledge in teacher training more often teach as a team. On the contrary, in the *Madrasah* group, effective listening practice is evident in *Madrasah* teachers who hold bachelor's degrees and those who have high efficacy. The efficacy levels of Islamic school teachers were statistically affected by how much knowledge of general pedagogy they obtained in teacher training (PD3,  $\beta=0.62$ ) and how often they teach as a team (TEAM,  $\beta=0.28$ ). These results indicate that high efficacy is found in the teachers who obtain a greater knowledge of general pedagogy in PD and those who are more frequently teach as a team.

Regarding the effects of the predictor on the use of information and communication technology (ICTUS), three variables: certification (CERT, SS,  $\beta=-0.27$ , MS,  $\beta=0.31$ ), teaching experience (TCEXP, SS,  $\beta=-0.18$ , MS,  $\beta=0.38$ ) and job status (JOBSTAT, SS,  $\beta=0.34$ , MS,  $\beta=-0.29$ ), these also have a direct influence on ICTUS for both groups. The different trends, such as positive and negative coefficients revealed in those variables, indicate different interpretations across the groups. For example, non-certified, new, and permanent teachers in *Sekolah* schools tend to more frequently use technology in their classes. Furthermore, ICT is more frequently used by certified, experienced, and non-permanent teachers in Islamic schools. Separately, the variables of job satisfaction (JOBS,  $\beta=0.77$ ), level of education (EDULV,  $\beta=0.26$ ), professional development in general pedagogy (PD3,  $\beta=0.34$ ) and age (AGE,  $\beta=-0.47$ ) are only hypothesized to have a direct effect on ICTUS in the SS group. It suggests that the teachers who more regularly used ICT in English subjects are those who have completed master's degrees, and who have more general pedagogy in teacher training, younger teachers and secular teachers with high job satisfaction. This study also found that the levels of job satisfaction in the *Sekolah* group varied depending on their gender (GENDER,  $\beta=-0.23$ ), age ( $\beta=0.37$ ), job status (JOBSTAT,  $\beta=-0.39$ ), certification (CERT,  $\beta=0.50$ ) and how they collaborate with their peers (TCLB,  $\beta=0.45$ ). This signifies that *Sekolah* teachers with high job satisfaction are those who completed their certification program, non-permanent teachers, and older teachers. Moreover, a direct effect of TEAM ( $\beta=0.61$ ) on ICTUS in *Madrasah* schools denotes that the teachers who are happier to work as a team tend to involve technology in teaching English. However, levels of TEAM in *Madrasah* schools are statistically affected by

professional development in general pedagogy (PD3,  $\beta=0.41$ ), teacher experience (TCEXP,  $\beta=-0.31$ ), gender (GENDER,  $\beta=-0.43$ ) and school sector (SCSECTOR,  $\beta=0.31$ ). The findings signify that high TEAM levels are found in those who obtained greater knowledge of general pedagogy in the PD program, new teachers and female teachers and those who work in private *Madrasah* schools.

### *The Goodness of Fit Indices (GOF)*

Regarding the cut-off values for the goodness of fit indices (GOF) adopted, the results of multi-group structural equation modelling (MG-SEM) between *Sekolah* (n=34) and *Madrasah* (n=30) groups are considered an acceptable model fit. This is evident with their CFI value of 0.96, TLI value of 0.92, RMSEA value of 0.09 and SRMR values of 0.07. In contrast, a value of 1.19 for the ratio of chi-square and its degree of freedom ( $\chi^2/df$ ) is shown, which designates an unacceptable estimate of between 2 and 5. In this case, as stated by earlier studies (Cheung & Rensvold, 2002; Dimitrov, 2010), the underfitting estimate of the ratio of  $\chi^2/df$  is possibly affected by sample size (n=64), thus, it is considered to be reasonably acceptable. From the results, it is concluded that the final model is the better-fitting model, and it represents the observations.

### **5.5.3 Interview Results**

This study shows that six English teachers from secular and Islamic schools agreed with teacher efficacy, job satisfaction, team teaching, teacher collaboration and professional development have positive effects on teaching effectiveness and student outcomes, which corroborates with the statistical findings revealed in this study. More specifically, six teachers agreed that teachers with better job-related attitudes —teacher efficacy and job satisfaction—tend to have high teaching confidence, thus they can teach effectively which can enhance their students' learning motivation and performance. For specific explanations:

I agree that when teachers are highly confident [efficacy]with their abilities in teaching English, they can teach any English lessons including reading and listening subjects more effectively....those with high efficacy can provide innovative and creative teaching and learning activity..., therefore, this is not only benefits for their teaching, however, it also can improve student learning achievement and motivation positively (TSS3).

Teachers who are less satisfied with their jobs are unhappy and tend to have less motivation or enthusiasm to work... This can influence their teaching performance negatively such as they tend to be indifferent at work, and they do not care about the teaching and learning quality as well as student outcomes (TMS1).

When asked about the benefits of teacher-cooperative competencies, most of the participants from the *Sekolah* and *Madrasah* groups reported that both team teaching and teacher collaboration are beneficial for teachers and students. Those can improve positive school climate, such as teacher connections within the schools, develop teaching qualities and student learning positively.

Team teaching helps teachers improve their relationships among teachers. It is because teachers can teach together in the same class. While they teach jointly, they can share their teaching knowledge and skills as well as can provide teaching feedback [e.g., what needs to improve] which can enhance teaching effectiveness and student performance (TMS3).

Collaboration among the teachers is very helpful to create positive and meaningful staff relationships as well as positive school culture [climate].... It is because they can help each other such as they can discuss what they need to improve their teaching quality and student academic outcomes (TSS1).

Regarding the effects of teacher professional development (PD) or training, teachers in secular and Islamic schools believed that PD strongly improves teachers' pedagogical knowledge and skills as well as their psychological aspects. Some teachers also claim that the program helps the teachers make good connections with teachers who teach different subjects and those who work in different schools. For example:

Teachers should participate in teaching training [professional development] because it is beneficial for them to enhance their teaching [pedagogical] knowledge and skills... During their training, they can learn many things, such as appropriate teaching methods or approaches, classroom management, technology involvement in teaching, dealing with student diversity etc. which they can apply in their class (TMS2).

The professional development program has advantages for teachers to develop their knowledge and student outcomes... It also can improve teacher motivation and confidence in teaching... in the teaching training program, we meet other teachers from different schools and teachers who are teaching different subjects, therefore it builds a professional network with the other teachers (TSS3).

Although most of the teachers in *Sekolah* and *Madrasah* groups generally established the positive influence of the explained factors on teaching and learning performance, they highlighted some factors which can affect the levels of those factors differently. They [*Sekolah*

and *Madrasah*] claimed that public and private schools that aligned with gaps in wages and occupational status have become the main issues of the disparities between them and this affects teaching effectiveness negatively.

When asked about those problems, some teachers who work in private schools claimed several disadvantages of private schools in terms of government funds, job status, teacher wages and teacher training opportunities (TSS3, TMS1 and TMS2). While other teachers claimed that teacher demographics, such as age and teaching experience (TSS1, TSS2 and TMS3), contribute to different levels of attitudes and competencies affecting teaching performance and student outcomes differently. As illustrated by:

I [a non-permanent teacher from a private secular school] receive a salary from the available school fund obtained from the school operational fund subsidies [Dana BOS]. However, it is still low if we compare it with the permanent [Civil Servant] teachers... This sometimes affects my motivation and confidence to teach negatively. However, we should focus on our teaching goals (TSS1).

I am [a non-civil servant teacher] working in a public *Madrasah* school which has a small number of students.... We receive low funds from the government.... Most of the teachers in our schools receive low wages except for those who have worked for many years... This allows me to work in another school to get more income.... low wages can indeed decrease my satisfaction with my work, and it also can badly affect my teaching performance (TMS1).

As far as I [non-permanent teacher] work in this school [private *Madrasah*], I rarely participate in teacher training. It is because our school does not have enough funds to send their teachers to professional development programs.... The funding received from the government is mostly used for school operations, such as staff wages, school facilities and learning materials procurement (TMS2).

Overall, the findings conclude that all teachers working in secular and Islamic schools have pointed out the positive effects of jobs-related attitudes, cooperative competencies and professional development on teacher motivation, enthusiasm, and positive relationships aligned with effective teaching and student outcomes. However, they also highlighted that disparities of effects might be different due to some factors. For example, low-paid teachers, non-permanent teachers, and lack of teacher training offers in private schools (mostly in *Madrasah*) are the main problems which can affect their teaching efficacy, satisfaction with their jobs and competencies negatively. Simultaneously, although public (secular and *Madrasah*) teachers benefit from government funds and job status, teacher age and working experience might influence their performance differently.

## 5.6 Discussion and Conclusion

The key contribution of this current paper is to address and develop an understanding of the Islamic-secular disputes over the discrepancy in teaching effectiveness by exploring the possible causes influencing their English teaching practices across the groups. This study was motivated by some early studies acknowledging the shortcoming of most Islamic schools under private authority in job status, certification and professional development that possibly affect their teaching quality negatively (Stern & Smith, 2016), and a study by OECD (2014) suggesting the possible influence of teacher attitudes and cooperative competencies on teaching effectiveness across different school contexts. With the issues established, this mixed-method study compares how the school sector, teachers' personal and professional characteristics, professional development, cooperative competencies and professional attitudes contribute to the direct and indirect effects on effectiveness in teaching reading and listening, as well as ICT use in English subjects between the teachers in secular and Islamic schools. Therefore, quantitative and qualitative analyses, such as independent sample t-tests, multi-group structural equation modelling and thematic analysis, were undertaken. The results obtained in this study have yielded some interesting outcomes.

Firstly, no significant ( $p > 0.05$ ) differences between secular and Islamic school teachers in the tested variables were detected. This study found that the average scores of teachers in *Madrasah* schools are higher in teacher cooperation and teaching effectiveness than the *Sekolah* group and average scores of the total sample. However, the teachers in secular schools obtained higher scores in teacher attitudes. Although no previous studies have investigated the differences between secular and Islamic schools in these measures, the findings are more likely to corroborate the early separate findings (Asari et al., 2018; Ma'arif et al., 2022) conducted in Islamic schools claiming that cooperation among the teachers in *Madrasah* schools is more frequently and effectively to improve their teaching performance. The benefits of most secular school teachers as permanent teachers (Bahri et al., 2018; Stern & Smith, 2016) on their professional attitudes. However, it is contrary to other studies (Nisa et al., 2022; Zamir et al., 2017) conducted in general school settings which assert that high teacher attitude is strongly associated with high teaching effectiveness. Therefore, this comparative study provides evidence of a lack of teacher cooperation and teaching effectiveness in *Sekolah* schools, and low teacher efficacy and job satisfaction for *Madrasah* teachers exist and require more attention.

Furthermore, this study revealed that both groups generally show that teacher attitudes, cooperative competence and professional development were separately revealed to have positive direct effects on teaching effectiveness. This suggests that teachers working in secular and Islamic schools who possess greater teaching efficacy (Fauth et al., 2019; Toropova et al., 2019) and job satisfaction (Baluyos et al., 2019; Topchyan & Woehler, 2021) tend to perform better in teaching English. The *Sekolah* and *Madrasah* teachers who frequently teach jointly (Kim et al., 2019; Lasagabaster, 2018), as well as those who completed teacher professional development (Desimone et al., 2002; Gore et al., 2017), are more likely to teach English reading and listening and involve technology more effectively. However, the effectiveness of their teaching practices varied between the groups depending on their personal and professional profiles which aligned with the OECD (2014). *Madrasah* teachers who hold undergraduate degrees did better in teaching reading, and younger teachers are more effective in teaching both reading and listening lessons. Older teachers in the *Sekolah* group taught English listening and used ICT more effectively. Different trends in the effects of certification, job status and teaching experience on ICT use are indicated by different interpretations, for example, secular-school teachers who more often used ICT are those who have completed certification programs, permanent teachers, and newer teachers. In contrast, certified, permanent and young *Madrasah* teachers did not use technology more often in teaching English. These different trends found in both groups are more likely to broadly support and reject the prior studies acknowledging the possible effects of teacher age (Shah & Udgaonkar, 2018; Zulkifli et al., 2022), educational level (Burroughs et al., 2019), teaching experience (Lubis et al., 2010; Othman & Kassim, 2017) and certification (Kusumawardhani, 2017) on effective teaching practices.

Even though teacher attitudes, cooperation and professional development were evident to influence teaching effectiveness across the groups, this investigation found that the levels of predictors across the groups were strongly affected by some factors. For example, this study shows that teachers' cooperative competencies significantly influence their efficacy and job satisfaction levels in both groups. This indicates that *Sekolah* and *Madrasah* teachers who more frequently teach as a team possess higher confidence in their English teaching abilities (Kim et al., 2019; Lasagabaster, 2018). Islamic-school teachers who more frequently work collaboratively with their peers tend to be more satisfied with their work, leading them to have higher teaching efficacy (OECD, 2014). Likewise, the influences of school sectors, teacher demographics and professional characteristics on the levels of their teacher attitudes, cooperative competencies, and professional development mastery indicate the disparities over

tested variables across different school sectors, gender, age, job status, education level, certification and teaching experience are aligned with the previous study (OECD, 2014). However, this study highlights that school funding and job status aligned with teacher salary levels, strongly contributing to direct and indirect influences on how confident they are in their teaching ability, how they are satisfied as teachers, how they work collaboratively and teach jointly, as well as how they teach effectively in most of *Madrasah* and private secular schools. Low opportunities for *Madrasah* teachers in teacher education/ professional development programs are still problematic.

Overall, this investigation has offered empirical knowledge on the direct and indirect influences of teacher attitudes, cooperative competence, and professional development on teaching performances in secular and Islamic school settings. No direct influence of school sectors on teaching effectiveness was found across the groups indicating that no discrepancy was shown in teaching effectiveness across *Sekolah* and *Madrasah* schools under the public and private sectors. However, teacher certification, job status and teaching experiences contribute to inconsistent effects on the use of ICT between the groups. Although there are not many direct effects of the teacher's personal and professional characteristics on teaching effectiveness, they have significant direct effects on professional development, team teaching, teacher collaboration, efficacy and job satisfaction which leads to different teaching performances. From these findings obtained, this study likewise provides practical and policy recommendations to improve teachers' pedagogical competencies in teaching English and in involving technology in the classrooms in both groups, such as: (1) developing teachers' job satisfaction and self-efficacy by addressing the possible factors affecting their attitudes: efficacy and job satisfaction, such as increasing teacher salary and school operational funding [Dana BOS], as well as hiring more permanent in Islamic and private *Sekolah* schools; (2) promoting teacher cooperation and a positive school climate in both groups by creating teacher group discussions and joint teaching and encouraging them to build strong connections with their fellow teachers; (3) offering more teacher training or professional development opportunities for non-permanent teachers in both groups from different demographics (gender, age, education level, teaching experience) to improve their English knowledge and pedagogy and technology use as well as to develop equal teaching quality among the teachers. However, the small sample size and focus on the Indonesian context and teachers' self-reports are recognized as the limitations of this study. Future investigation is required to explore other school contexts in other countries, methods and statistical measures aligned with the student outcomes.

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## 5.8 Appendices

### Appendix 5. 1

[N-Correlated] CFA Results: Factor Loading, AVE, CR and GOF

Item	Description	Factor Loading	AVE	CR	GOF
<b>Teacher Collaboration (TCLB)</b>					
TCLB1	We discuss the achievement requirements.	0.80	0.73	0.93	
TCLB2	We discuss the criteria we use to grade written tests.	0.73			
TCLB3	We exchange tasks for lessons and homework.	0.58			
TCLB4	I prepare a selection of teaching units with my fellow teachers.	0.70			X <sup>2</sup> /df=74.
TCLB5	We discuss ways to teach learning strategies and techniques.	0.53			92/63
TCLB6	My fellow teachers of benefit from my skills and interests.	0.93			P=0.15
TCLB7	We discuss the student's strengths and weaknesses.	0.82			CFI=0.99
<b>Team Teaching (TEAM)</b>					
TEAM1	I teach jointly as a team in the same class in this school.	0.92	0.75	0.93	TLI= 0.98
TEAM2	I observe other teachers' classes and provide feedback.	0.79			RMSEA=
TEAM3	I engage in joint activities across different groups.	0.78			0.05
TEAM4	I exchange teaching materials with colleagues.	0.38			WRMR=
TEAM5	I work with others to ensure evaluation standards.	0.77			0.75
TEAM6	I engage in discussions about learning development.	0.86			
<b>Teacher Efficacy (EFF)</b>					
EFF1	I am very confident in my capability to teach English.	0.79	0.85	0.97	
EFF2	I provide individual support for advanced students.	0.74			
EFF3	I tell students how they are performing in my course.	0.90			X <sup>2</sup> /df=66.
EFF4	I give students feedback on their strengths in my course.	0.90			87/53
EFF5	I tell students in which areas they can still improve.	0.69			P=0.09
EFF6	I tell students how they can improve their performance.	0.97			CFI=0.99
EFF7	I advise students on how to reach their learning goals.	0.96			TLI= 0.98
<b>Job Satisfaction (JOBS)</b>					
JOBS1	The advantages of being a teacher are clearly.	0.83	0.71	0.90	RMSEA=
JOBS2	I do not regret that I decided to become a teacher.	0.65			0.06
JOBS3	I enjoy working at this school.	0.83			WRMR=
JOBS4	I would recommend my school as a good place to work.	0.56			0.75
JOBS5	All in all, I am satisfied with my job.	0.57			
<b>The Use of ICT (ICTUS)</b>					
ICTUS1	I involved reading emails in teaching.	0.51	0.75	0.93	
ICTUS2	I involved WhatsApp and Messenger in teaching.	0.87			
ICTUS3	I involved online news.	0.86			
ICTUS4	I involved information online to learn about a particular topic.	0.69			
ICTUS5	I involved online group discussions or forums.	0.82			X <sup>2</sup> /df=10
ICTUS6	I involved searching for practical information online.	0.74			8.72/100
<b>Listening Practice (LISTP)</b>					
LISTP1	I ask the students to identify the main ideas of the listening test.	0.92	0.89	0.97	P=0.26
LISTP2	I ask the students to explain or support their understanding.	0.92			CFI=0.99
LISTP3	I ask the students to draw inferences.	0.80			TLI= 0.99
LISTP4	I ask the students to describe the style or structure.	0.86			RMSEA=
LISTP5	I ask the students to determine the purpose of listening text.	0.94			0.04
<b>Reading Practice (READP)</b>					
READP1	I ask the students to identify the main ideas of the reading text.	0.79	0.89	0.97	WRMR=
READP2	I ask the students to explain or support their understanding.	0.96			0.64
READP3	I ask the students to draw inferences based on what they read.	0.99			
READP4	I ask the students to describe the style or structure of the text.	0.92			
READP5	I ask the students to determine the author's perspective.	0.81			

## Appendix 5. 2

### Rasch Measurement Results: Item Fit Indices and Item Separation Reliability

Item	Estimate	S. E	Infit			Item Delta	Item Discr.	ISR
			MNSQ	CI	t			
<b>Teacher Collaboration (TCLB)</b>								
TCLB1	-1.356	0.243	0.90	(0.70, 1.30)	-0.60	-4.68, 1.97	0.54	
TCLB2	-1.515	0.242	0.75	(0.70, 1.30)	-1.70	-4.66, 1.63	0.56	
TCLB3	-1.754	0.149	1.17	(0.61, 1.39)	0.80	-3.88, -2.50, 1.11	0.47	
TCLB4	-0.486	0.244	1.28	(0.64, 1.36)	1.40	-3.78, 2.81	0.58	
TCLB5	-1.999	0.146	1.29	(0.62, 1.38)	1.50	-3.67, -2.72, 0.40	0.38	
TCLB6	0.151	0.261	0.68	(0.53, 1.47)	-1.40	-3.80, 4.11	0.59	
TCLB7	3.206*	0.495	1.07	(0.61, 1.39)	0.40	-3.21	0.54	
<b>Team Teaching (TEAM)</b>								
TEAM1	1.108	0.170	0.83	(0.63, 1.37)	-0.90	1.11	0.65	
TEAM2	0.713	0.133	0.95	(0.65, 1.35)	-0.20	-0.49	0.66	
TEAM3	0.358	0.133	0.99	(0.66, 1.34)	0.00	-1.25	0.68	
TEAM4	0.125	0.129	1.43	(0.67, 1.33)	2.30	-1.25	0.46	
TEAM5	0.531	0.134	0.89	(0.66, 1.34)	-0.60	-1.08	0.68	
TEAM6	0.918*	0.377	0.76	(0.63, 1.37)	-1.30	-0.60	0.70	
<b>Teacher Efficacy (EFF)</b>								
EFF1	2.765	0.255	1.23	(0.59, 1.41)	1.10	2.76	0.59	
EFF2	-1.095	0.228	1.19	(0.61, 1.39)	1.00	-5.18, -2.25, 4.15	0.60	
EFF3	-0.614	0.248	1.14	(0.59, 1.41)	0.70	-4.58, 3.35	0.69	
EFF4	-0.461	0.250	0.96	(0.59, 1.41)	-0.10	-4.58, 3.66	0.70	
EFF5	2.068	0.252	1.06	(0.60, 1.40)	0.40	2.07	0.57	
EFF6	-1.689	0.247	0.59	(0.60, 1.40)	-2.30	-5.59, 2.21	0.70	
EFF7	-0.973*	0.604	0.68	(0.60, 1.40)	-1.70	-4.57, 2.62	0.77	
<b>Job Satisfaction (JOBS)</b>								
JOBS1	-0.737	0.175	1.00	(0.63, 1.37)	0.10	-2.60, -1.24, 1.62	0.69	
JOBS2	1.095	0.166	1.21	(0.69, 1.31)	1.30	0.58, 1.61	0.54	
JOBS3	-0.665	0.195	0.78	(0.67, 1.33)	-1.40	-2.85, 1.52	0.69	
JOBS4	0.230	0.187	1.30	(0.65, 1.35)	1.60	-1.60, 2.06	0.43	
JOBS5	0.078*	0.362	0.93	(0.63, 1.37)	-0.30	-2.14, 2.30	0.44	
<b>ICT Use (ICTUS)</b>								
ICTUS1	1.186	0.150	1.56	(0.65, 1.35)	2.80	-0.98, 1.20, 3.33	0.47	
ICTUS2	-0.708	0.145	0.75	(0.66, 1.34)	-1.50	-2.61, -1.15, 1.64	0.74	
ICTUS3	-0.041	0.150	0.89	(0.67, 1.33)	-0.60	-2.71, -0.14, 2.73	0.69	
ICTUS4	0.158	0.152	1.05	(0.66, 1.34)	0.30	-2.56, -0.78, 3.81	0.54	
ICTUS5	-0.213	0.143	0.86	(0.67, 1.33)	-0.80	-2.16, -0.35, 1.87	0.73	
ICTUS6	-0.382*	0.331	0.96	(0.66, 1.34)	-0.20	-3.09, -0.15, 2.10	0.62	
<b>Listening Practice (LISTP)</b>								
LISTP1	0.959	0.198	0.93	(0.61, 1.39)	-0.30	-4.23, 2.78, 4.32	0.74	
LISTP2	-0.196	0.196	0.83	(0.63, 1.37)	-0.90	-5.17, 0.92, 3.66	0.72	
LISTP3	-0.222	0.199	1.23	(0.61, 1.39)	1.20	-5.90, 1.42, 3.82	0.72	
LISTP4	-0.320	0.199	0.97	(0.62, 1.38)	-0.10	-5.90, 1.07, 3.87	0.75	
LISTP5	-0.222*	0.396	0.75	(0.61, 1.39)	-1.30	-5.90, 1.42, 3.82	0.78	
<b>Reading Practice (READP)</b>								
READP1	1.671	0.194	1.05	(0.63, 1.37)	0.30	-0.27, 3.63	0.59	
READP2	0.473	0.196	1.06	(0.64, 1.36)	0.40	-1.47, 2.42	0.67	
READP3	-1.561	0.192	0.67	(0.64, 1.36)	-2.00	-5.49, -1.78, 2.58	0.65	
READP4	-0.695	0.188	0.74	(0.64, 1.36)	-1.50	-5.60, -0.10, 3.61	0.74	
READP5	0.112*	0.385	1.22	(0.64, 1.36)	1.20	-4.43, 0.87, 3.87	0.60	

Note: MNSQ= Mean Square and ISR= Item Separation Reliability

### Appendix 5.3

#### Structural Model Results for Sekolah (MS) and Madrasah (MS) Groups

Variable		Teacher Level (n=64)					
		Sekolah school (SS) Group (n=34)			Madrasah School (MS) Group (n=30)		
		Direct Effect	Indirect Effect	Total Effect	Direct Effect	Indirect Effect	Total Effect
Dependent	Independent	Estimate (S.E.)	Estimate (S.E.)	Estimate (S.E.)	Estimate (S.E.)	Estimate (S.E.)	Estimate (S.E.)
<b>READP</b>	ICTUS	NS	NS	NS	-0.08 (0.04)	NS	-0.08 (0.04)
	EFF	0.82 (0.10)	NS	0.82 (0.10)	NS	NS	NS
	JOBS	NS	NS	NS	0.27 (0.04)	NS	0.27 (0.04)
	TEAM	NS	0.19 (0.06)	0.19 (0.06)	NS	NS	NS
	TCLB	NS	0.17 (0.07)	0.17 (0.07)	NS	0.18 (0.03)	0.18 (0.03)
	PD2	NS	0.11 (0.05)	0.11 (0.05)	0.09 (0.02)	NS	0.09 (0.02)
	PD1	NS	NS	NS	0.78 (0.07)	0.17 (0.08)	0.95 (0.08)
	AGE	NS	NS	NS	-0.06 (0.03)	NS	-0.06 (0.03)
<b>LIST</b>	ICTUS	NS	NS	NS	0.32 (0.05)	NS	0.32 (0.05)
	EFF	NS	NS	NS	0.57 (0.09)	NS	0.57 (0.09)
	TEAM	0.74 (0.10)	NS	NS	NS	0.36 (0.11)	0.36 (0.11)
	TCLB	NS	0.28 (0.05)	0.28 (0.05)	NS	NS	NS
	PD3	NS	NS	NS	NS	0.63 (0.07)	0.63 (0.07)
	PD2	0.32 (0.11)	0.44 (0.15)	0.76 (0.09)	0.29 (0.12)	NS	0.29 (0.12)
	EDULV	NS	NS	NS	-0.36 (0.16)	NS	-0.36 (0.16)
	AGE	0.34 (0.12)	NS	0.34 (0.12)	-0.18 (0.08)	NS	-0.18 (0.08)
<b>ICTUS</b>	TEAM	NS	NS	NS	0.60 (0.19)	NS	0.60 (0.19)
	JOBS	0.77 (0.18)	NS	0.77 (0.18)	NS	NS	NS
	PD3	0.34 (0.05)	NS	0.34 (0.05)	NS	0.40 (0.19)	0.40 (0.19)
	CERT	-0.27 (0.09)	NS	-0.27 (0.09)	0.32 (0.12)	NS	0.32 (0.12)
	JOBSTAT	0.34 (0.10)	NS	0.34 (0.10)	-0.38 (0.11)	NS	-0.38 (0.11)
	TCEXP	-0.18 (0.09)	NS	-0.18 (0.09)	0.46 (0.14)	NS	0.46 (0.14)
	EDULV	0.26 (0.07)	NS	0.26 (0.07)	NS	NS	NS
	AGE	-0.47 (0.13)	NS	-0.47 (0.13)	NS	NS	NS
<b>EFF</b>	JOBS	0.33 (0.10)	NS	0.33 (0.10)	NS	NS	NS
	TEAM	0.19 (0.07)	NS	0.19 (0.07)	0.28 (0.08)	NS	0.28 (0.08)
	PD3	0.30 (0.12)	NS	0.30 (0.12)	0.62 (0.07)	0.10 (0.04)	0.72 (0.06)
	CERT	-0.40 (0.12)	NS	-0.40 (0.12)	NS	NS	NS
	EDULV	0.45 (0.08)	NS	0.45 (0.08)	NS	NS	NS
	AGE	-0.29 (0.07)	NS	-0.29 (0.07)	NS	NS	NS

	SESECTOR	-0.10 (0.05)	NS	-0.10 (0.05)	NS	NS	NS
<b>JOBS</b>	TEAM	NS	NS	NS	0.31 (0.08)	NS	0.31 (0.08)
	TCLB	0.45 (0.18)	NS	0.45 (0.18)	0.68 (0.14)	NS	0.68 (0.14)
	CERT	0.50 (0.08)	NS	0.50 (0.08)	NS	NS	NS
	JOBSTAT	-0.39 (0.06)	NS	-0.39 (0.06)	NS	NS	NS
	AGE	0.37 (0.11)	NS	0.37 (0.11)	NS	NS	NS
	GENDER	-0.23 (0.08)	NS	-0.23 (0.08)	0.44 (0.12)	NS	0.44 (0.12)
<b>TEAM</b>	TCLB	0.36 (0.07)	NS	0.36 (0.07)	NS	NS	NS
	PD3	NS	NS	NS	0.41 (0.07)	NS	0.41 (0.07)
	PD2	0.57 (0.17)	NS	0.57 (0.17)	NS	NS	NS
	TCEXP	NS	NS	NS	-0.31 (0.14)	NS	-0.31 (0.14)
	GENDER	NS	NS	NS	-0.43 (0.10)	NS	-0.43 (0.10)
	SCSECTOR	NS	NS	NS	0.31 (0.13)	NS	0.31 (0.13)
<b>TCLB</b>	PD1	0.24 (0.12)	NS	0.24 (0.12)	0.84 (0.04)	NS	0.84 (0.04)
	AGE	-0.62 (0.11)	NS	-0.62 (0.11)	NS	NS	NS
<b>PD3</b>	AGE	-0.61 (0.15)	NS	-0.61 (0.15)	-0.11 (0.05)	NS	-0.11 (0.05)
	GENDER	NS	NS	NS	-0.41 (0.13)	NS	-0.41 (0.13)
<b>PD2</b>	CERT	0.28 (0.11)	NS	0.28 (0.11)	NS	NS	NS
	JOBSTAT	-0.46 (0.09)	NS	-0.46 (0.09)	NS	NS	NS
	EDULV	NS	NS	NS	0.93 (0.05)	NS	0.93 (0.05)
	GENDER	-0.29 (0.12)	NS	-0.29 (0.12)	NS	NS	NS
	SCSECTOR	0.29 (0.12)	NS	0.29 (0.12)	NS	NS	NS
<b>PD1</b>	JOBSTAT	NS	NS	NS	0.47 (0.08)	NS	0.47 (0.08)
	TCEXP	0.50 (0.07)	NS	0.50 (0.07)	NS	NS	NS
	EDULV	0.38 (0.09)	NS	0.38 (0.09)	NS	NS	NS
	AGE	-0.64 (0.10)	NS	-0.64 (0.10)	NS	NS	NS
	SCSECTOR	0.12 (0.06)	NS	0.12 (0.06)	NS	NS	NS

**Note:** NS=Not Significant, READP= Reading Practice, LISTP= Listening Practice, ICTUS= ICT Use, TCLB= Teacher Collaboration, TEAM= Team Teaching, EFF= Teacher Efficacy, JOBS= Job Satisfaction, PD1=Professional Development in English Knowledge Domain, PD2=Professional Development in English Pedagogy Domain, PD3=Professional Development in General Pedagogy Domain, GENDER= Teacher Gender, AGE= Teacher Age, JOBSTAT= Job Status, EDULV= Level of Education, TCEXP=Teaching Experience, CERT= Certification and SCSECTOR=School Sector.

# **Chapter 6:**

Secular-Islamic School Leaders:  
Disputes over School Autonomy, Resources,  
Climate, and Their Impacts



# Statement of Authorship Declaration

## Statement of Authorship

Title of Paper	<b>Secular-Islamic School Leaders: Disputes over School Autonomy, Resources, Climate, and their Impacts</b>		
Publication Status	<input type="checkbox"/> Published <input checked="" type="checkbox"/> <b>Submitted for Publication</b>	<input type="checkbox"/> Accepted for Publication <input type="checkbox"/> Unpublished and Unsubmitted work written in manuscript style.	
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# Secular-Islamic School Leaders: Disputes over School Autonomy, Resources, Climate, and their Impacts

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## Abstract

This mixed-method study offers comparative evidence on the discrepancy between secular (*Sekolah*) and Islamic (*Madrasah*) education in Indonesia regarding the school-level factors influencing teaching and learning effectiveness. A total of 30 secular and Islamic school principals were selected using a multi-stratified sample design to complete the questionnaire regarding their school autonomy, resources, and climates. Six participants (*Sekolah*, n=3 and *Madrasah*, n=3) were purposely sampled and interviewed on how the explained factors impact pedagogical practices. The SEM and interview findings conclude that school autonomy and resources have direct and indirect effects on school climates and aligned with effective teaching and learning outcomes, including students' and teachers' academic, psychological, and social aspects. However, gaps in assessment autonomy and school locations as well as high teacher morale and school resources in secular schools over Islamic schools were revealed. Islamic values and practices are involved in student learning and school life in *Madrasahs*.

**Keywords:** Secular-Islamic, autonomy, resources, climates

## 6.1 Introduction

The discrepancy in school effectiveness resulting in student achievement gaps between Islamic and non-Islamic schools in Indonesia has existed for many years. This has been reported in several investigations which state that students from non-Islamic or secular schools performed better in learning outcomes compared to Islamic school students (Newhouse and Beegle 2006; Hendajany 2016). The previous studies also claim that large discrepancies in the school sector, and separation in government between the school types, might become the main reasons for the inequality and inequity in education. Around 92% of secular or non-Islamic schools governed by the MoEC (Ministry of Education and Culture) generally belong to a public authority, while 82% of *Madrasah* or Islamic schools are managed by the MoRA (Ministry of Religious Affairs) and are mostly under the private sector (OECD/ADB 2015). The advantages of secular schools receiving government funding, such as school operational subsidies fund (Dana BOS), have become the leading explanation for better school inputs and student outcomes. In contrast, early studies likewise note that most *Madrasah* schools struggle with insufficient school budgeting in providing high-quality education (Stern and Smith 2016). In addition, according to government policy, even though many of the Islamic schools are in non-government sectors, they are not permitted to receive any funds from students' parents. This is because *Madrasah* is deemed as indigenous education and is generally attended by students from low and middle socio-economic groups (Ghozali, Mudjahid, and Hayati 2013; Shaturaev 2021; ADB 2014). Subsequently, the issues have triggered poor school inputs which may negatively affect the teaching and learning processes as well as student learning performance.

Regarding the issues identified, a number of investigations have reported several challenges for Islamic institutions in Indonesia, specifically in school resources. Numerous *Madrasah* schools still lack school facilities, such as learning materials, textbooks, classrooms, and laboratories, and this has affected teaching and learning practices negatively (Ali et al. 2011; Muhajir 2016; ADB 2014; Ependi 2020). In terms of human resources, Islamic schools in the private sector experience more challenges in terms of teacher quality compared to secular schools. For example, the majority of teachers in *Madrasah* schools are non-civil-servant, and they receive a low salary based on the school funds available. They do not receive a standard salary from the government, unlike civil-servant teachers in government schools (Bahri et al. 2018; Muhajir 2016; ADB 2014). Likewise, 28% of Islamic school teachers in Indonesia do not complete their undergraduate qualifications (Ahid 2010) and they do not have sufficient opportunities to participate in teacher development programs, for example, teacher training and

certification programs to enhance their pedagogical knowledge and skills (Kholis and Murwanti 2019; ADB 2014). In contrast, civil-servant teachers in most secular schools are eligible to participate in teacher training and certification programs. For this reason, inadequate and low-quality school facilities and human resources are still problematic in Indonesian *Madrasah* schools and those might influence school life, pedagogical effectiveness and learning outcomes negatively.

Furthermore, the effectiveness of school resources in secular schools is greatly associated with positive school life and school outputs. This has been evident in several studies from different countries claiming that school resources have positive effects on school climates, such as how teachers are motivated, satisfied with their job and enthusiasm (Huang et al. 2021), how the schools deal with discipline (Maingi et al. 2017), how school communities provide supports to students and how the schools view students' academic performance (Uline and Tschannen-Moran 2008) which can positively influence student learning performance. Moreover, seeming to argue the early claims of the strong connection between school resources and climates in secular schools, a specific investigation by Na'imah, Herdian, and Panatik (2022) conducted in *Madrasah* schools in Indonesia and Malaysia showed the great influence of religiosity on school climates. The study claims that religiosity strengthens the positive effect of school life quality on student outcomes. Spirituality can support and fulfil the individual and community socio-emotional needs, sense of belonging and sense of security in the school environment. The different causes influencing the school climates between secular and Islamic schools have been supported by the OECD (2012) which confirms that the effectiveness of school climates varies, depending on school demands and contexts.

To address the issues, the central ministries of Indonesia, MoEC and MoRA, have transferred their authority over operational and management to district-level governments and schools in line with decentralisation (Rosser 2018). This policy is subject to developing high-quality education tailored to individual, local and contextual needs. Some studies (The World Bank 2019; Chang et al. 2013) report that decentralization is well-suited to Indonesia's educational system. However, some districts and schools still struggle to manage their education services effectively, which negatively impacts the educational efficiency and student outcomes in different school demographics and settings, including Islamic and non-Islamic schools. Thus, this claim might become one of the possible factors influencing the discrepancies between secular and Islamic/*Madrasah* schools from different school demographics in Indonesia in school, teaching and learning effectiveness as well as student achievement.

Altogether, the prior studies have separately demonstrated the possible reasons for the discrepancy in school effectiveness aligned with learning achievement between Islamic and non-Islamic or secular schools. However, comparative evidence that has focused on the actual effects of explained school factors on teaching and learning effectiveness remains scarce. Therefore, this mixed-method study mainly aims to provide an understanding of the gap between secular-Islamic education regarding school autonomy, school resources, school climates and their impacts on the teaching and learning process by offering several research questions:

1. What are the differences between secular (*Sekolah*) and Islamic (*Madrasah*) schools in school autonomy, school resources and school climates?
2. What are the direct and indirect effects of school demographics, autonomy, and resources on school climates? And, how do the tested factors influence teaching and learning effectiveness?

To address the research problems, this investigation first proposes a conceptual framework generated from early literature to demonstrate the associations between the variables/themes. Moreover, a series of quantitative (QUAN) analyses were performed to compare tested factors between the secular and Islamic schools and explore the interrelations among demographics, autonomy, resources, and climates. Then, the qualitative (QUAL) analysis using interviews was undertaken to confirm the quantitative results obtained and to explain how the tested factors or themes influence the teaching and learning efficiency in both secular (*Sekolah*) and Islamic (*Madrasah*) schools. Importantly, instrument validity and reliability were performed to ensure the quality of the research tools used in this study.

## **6.2 Literature Review**

### ***6.2.1 School Autonomy***

School autonomy is regarded as a form of school management in that schools are given decision-making authority over their policy. The great benefits of autonomous schools on school and learning effectiveness have been acknowledged in different school contexts. For example, this has been discussed in some investigations conducted in global education settings (Arcia et al. 2011; OECD 2011; Kyriakides et al. 2015) reporting that the schools which are given decision-making authority over their operational aspects are beneficial in reforming school action to improve the school learning environment, teaching practice and student outcomes. Likewise, the early studies specifically point out that this autonomy allows the schools to be more empowered to make critical decisions about school development by considering the complexities, challenges, and contextual features (Honig and Rainey 2012; Watterston and Suggett 2017). The studies similarly conclude that autonomous schools open opportunities for developing high-quality education tailored to individual and local needs.

Focusing on the types of school autonomy, the Programme for International Student Assessment (PISA) conducted in global school contexts has reported that schools with greater autonomy in hiring their teachers, assessment policy, subject content and textbooks are associated with better student achievements (OECD 2011, 2018). Specifically, the study suggests that in countries where schools put greater autonomy over recruiting teachers and determining their salaries, the quality of the teachers is more likely to be better and meet the student and school needs. Concurrently, it is also reported that schools that grant autonomy over what is taught, including subject content, textbook selection, and how students are assessed, such as assessment policies, contribute positively to student learning outcomes. Even though specific evidence focusing on the effects of different types of school autonomy on student learning conducted in the specific school context, such as Islamic schools, remains scarce, some investigations (Auriol and Platteau 2017; Kultsum, Parinduri, and Karim 2022; Susilo, Kartowagiran, and Vehachart 2018) have noted the educational policies in most of the Islamic schools have been decentralized at the local government and authority level. However, the literature also reports that school culture, religious aspects and school community are associated with school decisions. In addition, reviewed studies also argue that the effectiveness of school autonomy on educational outcomes might vary depending on school desires and goals. A study addressing the established issues is necessary.

### ***6.2.2 School Resources***

School resources are defined as school inputs which have positive effects on teaching and learning effectiveness. According to the literature, school resources refer to the school facilities, learning materials, and human resources which actively assist in teaching and learning activities. School facilities include classrooms, offices, a library, a laboratory and any facility that can facilitate the school process (Nascimento 2008; Eric and Ezeugo 2019). Learning materials such as textbooks (Okongo et al. 2015) and teaching media including technology (Bizimana and Orodho 2014) become instructional learning inputs that guide the teaching and learning activity. Human resources consist of the school principal, teachers and staff who are responsible for planning, managing, coordinating, and maintaining the other forms of resources. For their impacts, the early studies similarly agreed that school resources contribute strongly to teaching and learning performance. This is in line with several observations conducted in general school settings in different countries which found advantages of the availability and quality of the school facilities (Mahmood and Gondal 2017; Eric and Ezeugo 2019), learning materials (Schneider et al. 2016) and human resources (Darling-Hammond 2000) on student learning, engagement and language performance. On the other hand, insufficient or poor quality school resources in Islamic schools in Indonesia, Bangladesh and Pakistan strongly related to teaching complexities and poor student performance (Kholis and Murwanti 2019; ADB 2014; Muhajir 2016; Mullick and Sheesh 2008; Gul and Shah 2019).

Furthermore, several studies from various contexts have recognized the effect of school resources on school climates and the environment. For example, Uline and Tschannen-Moran (2008) found that the quality of school resources influences teacher support and achievement press positively. The study suggests that school resources facilitate teachers to assist student learning processes to achieve better learning performance. It is also evident that school equipment and learning resources are found to have a strong influence on teacher enthusiasm/morale and teaching performance (Huang et al. 2021). Another study conducted in Kenya also suggests that school resources are strongly related to the student disciplinary level (Maingi et al. 2017). School facilities, such as classrooms and libraries, aligned with student needs and expectations, promoting a healthy school climate, including discipline. On the contrary, inadequate school facilities make students feel neglected which leads to conflict within the schools. Altogether, previous studies have noted the influence of school resources on the teaching and learning process as well as on school climate. However, the OECD (2012)



reports that the effectiveness of school resources might be different based on the school context. Thus, insightful enquiry into the school resource gaps and their impact across different school contexts are essential.

### ***6.2.3 School Climate***

Although there is a lack of agreement about the concept of school climate, the OECD (2005) has defined school climate as school culture which covers some domains, including teacher morale, disciplinary climate, achievement press, and teacher support which fosters teaching and learning effectiveness. The benefits of a positive school climate on teacher and student performances have been highlighted in several investigations. For instance, the studies (OECD 2016; Govindarajan 2012; Chunin and Nokchan 2018) revealed that there is a positive correlation between teacher morale, teaching competencies and student outcomes. The studies suggest that teachers with high morale tend to be more motivated, committed to the schools, satisfied with their job and responsible in assisting student learning effectively. Similarly, the disciplinary climate becomes the main aspect of the school climate that provides an orderly classroom setting and a way of influencing student academic success (Jennings and Greenberg 2009; Tableman and Herron 2004; Ning et al. 2015). The lack of classroom discipline offers the potential risk of behavioural and educational problems, a lack of responsibility for social life at school, learning disruption and misbehaviours toward peers (Ehiane 2014; Lewis et al. 2005). Classrooms with a high level of disciplinary problems tend to have a low level of learning engagement and a high level of learning problems (Arens, Morin, and Watermann 2015) as well as poor teacher-student relationships (Boateng, Kpelle, and Adangabe 2021). Consequently, it disturbs the effectiveness of the teaching and learning process which leads to poorer student academic achievement.

Furthermore, Lin, Su, and McElwain (2019) found a positive influence of academic press climate on student performance (i.e. language). The study suggests that students who receive more academic pressure have greater learning enthusiasm which contributes to their knowledge and academic task mastery. This finding corroborates some previous observations on the positive effects of achievement press on teaching and learning performances (Hoy, Tarter, and Hoy 2006; McDill, Natriello, and Pallas 1986). However, pressure on learning can also potentially affect their wellbeing and academic failure (Tran 2022). Similarly, a school with a strong teacher support climate strongly promotes highly effective pedagogy, leading to better student performance. It has been evident in several investigations reporting that

supportive teachers are beneficial in terms of students' learning problems, enhancing learning motivation and engagement as well as providing students' learning feedback (Wong, Tao, and Konishi 2018; Sharma 2016). Support from the teachers contributes to the high level of student learning interest and enjoyment in school work (Ryan and Patrick 2001; Fraser and Fisher 1982) as well as building strong connections between teacher and students (Koca 2016; Klem and Connell 2004; Lumpkin 2007). Altogether, the great advantages of school climate on teaching and learning effectiveness are noted in reviewed studies that are mostly conducted in global school contexts. Even though, research which focuses on a similar issue conducted in a specific school context, such as religious school settings, remain few. Na'imah, Herdian, and Panatik (2022) do not deny that religious aspects strongly influence the school climate in Indonesian and Malaysian Islamic schools. In addition, some factors are detected to have significant effects on the levels of school climate domains. For example, the school disciplinary level correlates with teacher support and is moderated by the school context (Lei, Cui, and Chiu 2018; Chiu and Chow 2011); boys tend to have more discipline problems than girls (Arens, Morin, and Watermann 2015); female teachers provide more supports to their students (Wahsheh and Alhawamdeh 2015) and have greater enthusiasm in working collaboratively compared to male teachers (OECD 2009). A further investigation which addresses the issues of discrepancy in school climates across school settings and their impacts of pedagogical and learning outcomes is necessary.

### 6.3 Conceptual Framework

**Figure 6. 1**

*Conceptual Framework*

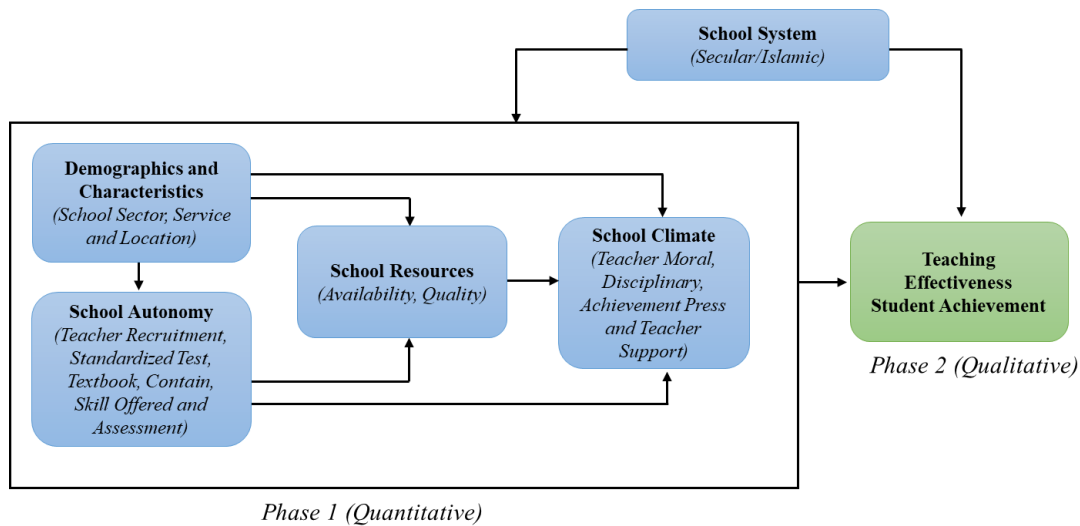


Figure 6. 1 presents the conceptual model adopted from a theoretical framework of the *school function model* by the OECD (2005) and supported by the previous literature. The model consists of two stages: quantitative (Phase 1/QUAN) through a questionnaire, and qualitative (Phase 2/QUAL) via interview. As shown in Phase 1 (QUAN), four group variables of school demographics and characteristics, school autonomy, school resources and school climate are identified. School demographics and characteristics, such as the school sector, service and locations are firstly hypothesised to influence the school autonomy, resources, and climate. Simultaneously, the predictors of school autonomy are predicted to influence the availability and quality of school resources as well as the levels of four school climate domains. Likewise, the levels of education autonomy are hypothesised to be affected by the school demographics. It is assumed that the levels of autonomy might differ based on schools with different characteristics. Moreover, the availability and quality of school resources are viewed to have a possible direct influence on school climate and are affected by different school autonomy levels and demographics. School climate domains are identified to be influenced by other variables and the domains are hypothesised to have direct and indirect effects on one another. Furthermore, teaching effectiveness and student achievement in Phase 2 (QUAL) were regarded as the outcome themes/variables in this study obtained from the interviews. The participants are interviewed about how the predictors shown in Phase 1 influence teaching performance and student achievement. Simultaneously, the variable of the school system is predicted to influence the predictors/themes in Phase 1 and Phase 2. This suggests that there

might be a discrepancy in all variables/themes between secular (*Sekolah*) and Islamic (*Madrasah*) schools.

## **6.4 Methodology**

### ***6.4.1 Research Design***

This study employed the explanatory sequential mixed method design which involved two stages: quantitative (Phase 1) followed by qualitative (Phase 2) data collection. The quantitative data collection used a questionnaire to record the outcomes of the study and qualitative data were obtained through interviews in which participants explained or elaborated on quantitative results (Mills and Gay 2016).

### ***6.4.2 Participants***

The sample design used in this study was referred to as a multi-stage stratified sample design for quantitative and purposive sampling for the qualitative stage. A total of 30 participants with 16 *Sekolah*/secular and 14 *Madrasah*/Islamic school principals working in secondary schools in Indonesia were randomly selected using a two-stage stratified sample design. At first, 12 districts were chosen regarding the probability and the availability of secular and Islamic schools in each district, then, 30 schools were sampled within the districts. This sample design is more accurate in proportional and non-proportional sampling and ensures the selected representation of the related subgroups within the sample (Cohen, Manion, and Morrison 2002; Mills and Gay 2016). In the interview stage, a total of six (three from secular and three from Islamic) school principals were purposively selected from different demographics, such as school sectors, services, and locations, to represent the given group population. Therefore, it confirms a sufficient representation of secular and Islamic schools as the target population in the sample.

### 6.4.3 Variables/Themes

**Table 6. 1**

*Variables/ Themes Used in this Study*

Theoretical Dimensions	Variables	Description	Code
School System, Demographic	SCSYTM	School System	0 =Secular ( <i>Sekolah</i> ), 1 = Islamic ( <i>Madrasah</i> )
	SCSECTOR	School Sector	0 = Government, 1= non-Government
	SCSERV	School Service	0 = Non-Full-Day, 1 = Full-Day School
	SCLOC1	School Located in Village ( <i>Dummy</i> )	0 = No, 1= Yes
	SCLOC2	School Located in District ( <i>Dummy</i> )	0 = No, 1= Yes
	SCLOC3	School Located in City ( <i>Dummy</i> )	0 = No, 1= Yes
	TCTOTAL	Total of Teacher	0 = > 10 Teachers 1 = Between 11 and 20 Teachers 2 = Between 21 and 30 Teachers 3 = > 30 Teachers
School Autonomy (AUTO)	AUTO1	Teacher Recruitment	0 = School level
	AUTO2	Standardized Test	1 = Regional Level
	AUTO3	Textbook Selection	2 = National Level
	AUTO4	Course Content	
	AUTO5	Skill Offered	
	AUTO6	Assessment Policy	
School Resources	RSCAV	School Resources Availability	WLE-Score
	RSCQT	School Resources Quality	WLE-Score
School Climate (CLIMATE)	MORALE	Teacher Morale	WLE-Score
	PRESS	Achievement Press	WLE-Score
	DSCLPN	Disciplinary	WLE-Score
	SUPPORT	Teacher Support	WLE-Score

Four groups of the school variables shown in Table 6. 1 are included in the conceptual model and were obtained from the school principals' responses to the questionnaire and interview sessions. A series of questions which reflect their school system and demographics, such as school system (SCSYTM), school sector (SCSECTOR), service (SCSERV), and location (SCLOC) were asked. Several questions regarding the autonomy levels in hiring teachers (AUTO1), standardized tests (AUTO2), textbook selection (AUTO3), subject contents (AUTO4), skill (AUTO5), and assessment procedure (AUTO6) were reported. These questions reflect whether the central government, local government or school level decides the school's operational autonomies. Simultaneously, the accessibility (RSCAV) and quality (RSCQT) of school resources were measured through the principals' responses on how many and to what

extent school facilities, learning resources and staff are in their schools. Moreover, several questions which reflect on teacher enthusiasm/morale (MORALE), achievement pressure (PRESS), discipline (DSCPLN) and teacher support were asked to obtain information regarding their school climate, including about school life and environment as well as the relationships among the school communities.

For quantitative analysis purposes, the variables included in the school system and demographic and school autonomy were coded using raw scores from the questionnaire. The scales of school resources and climates, in contrast, were measured using a four-point Likert scale—*1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree*—and scored into Weighted Likelihood Estimate (WLE) scores using Rasch measurement to minimize the scoring bias (Warm 1989). The specific variable, such as school location, was rescored (using 0=No and 1=Yes) into three dummy variables: school located in the village (SCLOC1), district (SCLOC2), and city (SCLOC3), as the baseline variable to differentiate the various treatment groups. This technique is useful to control the effect of the significant differences between the schools with different locations.

#### ***6.4.4 Method of Analysis***

##### *Instrument Validity*

To ensure the validity and reliability of the questionnaire used in this study (Saltzberger 2012; Keeves and Masters 1999), two stages of scale and item validity were performed. At first, a confirmatory factor analysis (CFA) using Mplus software (Muthén and Muthén 1998-2017) was undertaken to examine how well an instrument that contains multiple items measures the construct (Wang and Wang 2019; Brown 2015). Then, the Rasch measurement using Conquest software (Wu et al. 2007) was done to assess how well the tested items are delivered based on the level of test-taker ability (Bond and Fox 2015; Boone 2016). Furthermore, a model assessment of each scale resulting from CFA was conducted according to their convergent validity, such as factor loadings of  $>0.40$ , average variance extracted (AVE) of  $>0.6$  and construct reliability (CR) of  $>0.9$  (Hair et al. 2014). Then, the model was also examined based on the adopted Goodness-of-Fit (GOF) indices, including the ratio of  $X^2/df$  value of  $\leq 3$  (Kline 2015), comparative fit index (CFI) and Tucker-Lewis index (TLI) values of  $>0.90$  (Wang and Wang 2019), root mean square error of approximation (RMSEA) value of 0.08 (Bialosiewicz, Murphy, and Berry 2013) and the weighted root mean square residual (WRMR) values of 0.10 or less (DiStefano et al. 2018). The item analysis results obtained from Rasch analysis using the

rating scale model were assessed based on item fit statistics, such as mean square/MNSQ estimate between 0.60-1.40, delta order, item discrimination  $>0.20$ , and item separation reliability/ISR  $>0.80$  (Bond and Fox 2015). Therefore, unacceptable factor loadings and items obtained from CFA and Rasch modelling were removed.

#### *QUAN: Descriptive Statistics and Structural Equation Modelling (MGSEM)*

A series of quantitative analyses were performed in this study. At first, descriptive analysis was run using an exploration technique with SPSS software to compare the distribution and the central tendencies of variables between the secular and Islamic schools (Pallant 2016). The normality of the data is simultaneously measured based on the estimates of  $\pm 2$  and  $\pm 10$  for its skewness and kurtosis (Griffin and Steinbrecher 2013). Moreover, the analysis of structural equation modelling (SEM) using Mplus software (Muthén and Muthén 1998-2017) was undertaken to examine the relationships among multiple variables. This method is powerful in combining multiple regression and assessing the direct and indirect influences described in the conceptual model (Wang and Wang 2019). In this study, the phases of the stratifications and clusters were employed which reflect the two-stage sampling design. There were 24 stratifications (STRATUM) selected from the combination of two school systems (secular and Islamic-based education) and 12 districts, and 30 school clusters (SCID) were designated from the strata. Moreover, to perform SEM in this study, the stages of model identification and evaluation were carried out. Model identification was done to assess whether the hypothesized relationships suggested by the conceptual model exist among the measures. Then, the model assessment was performed based on the standardized coefficient ( $\beta$ ) for direct and indirect influences with a significance level of  $p < 0.05$  and the acceptable GOF indices such as the  $X^2/df$  value, CFI and TLI, RMSEA and the SRMR values of 0.10 or less (MacCallum, Browne, and Sugawara 1996). Therefore, the good-fitting model was determined based on the adopted GOF. If the model does not indicate a good fit, a model modification can be carried out to develop the model fit. Otherwise, model rejection and a new theoretical model should be considered.

#### *QUAL: Thematic Analysis*

For the qualitative data analysis, the results from semi-structured interviews were transcribed and thematically analyzed using NVivo 12 software (Jackson and Bazeley 2019). The thematic analysis provides a highly flexible approach which can be modified based on the research needs, and provide rich and specific descriptions related to the research problems (Clarke and Braun 2017; Nowell et al. 2017). Simultaneously, the early literature also suggests that

thematic analysis can be used to identify the patterns across the data linked to the participants' lived experiences, perspectives, behaviours, and practices. Therefore, this methodology is more appropriate for the purposes and objectives of this study due to its flexibility and ability to provide rich information associated with the research problems and findings resulting from the quantitative data.

## **6.5 Findings**

### ***6.5.1 Instrument Validity***

As documented in Appendix 6. 1 and Appendix 6. 2, the CFA results for six constructs used in this study: the availability (RSCAV) and quality (RSCQT) of school resources, teacher morale (MORALE), achievement press (PRESS), and disciplinary (DSCPLN) and teacher support (SUPPORT) are acceptable. This is evident with their GOF indices:  $X^2/df$  value, CFI and TLI, RMSEA, and WRMR values are within the satisfactory range. For their convergent validity results, the acceptable estimates of their factor loadings, AVE and CR of each construct were revealed. Moreover, the results of item analysis using Rasch (see Appendix 6. 3) indicate that items of RSCAV, RSCQT, MORALE, PRESS, DSCPLN and SUPPORT are a good fit for their item discrimination  $> 0.20$  and MNSQ values between 0.6-1.40. For item reliability, the ISR values of RSCQT, MORALE and PRESS are  $< 0.80$ , however, those are considered acceptable in this study. The low ISR indicates that the items are relatively different from their difficulty order for different respondents, and a small sample size possibly becomes the cause of the low-reliability values.

### ***6.5.2 QUAN: Descriptive Analysis and Structural Equation Modelling (SEM) Results***

#### *Descriptive Analysis*

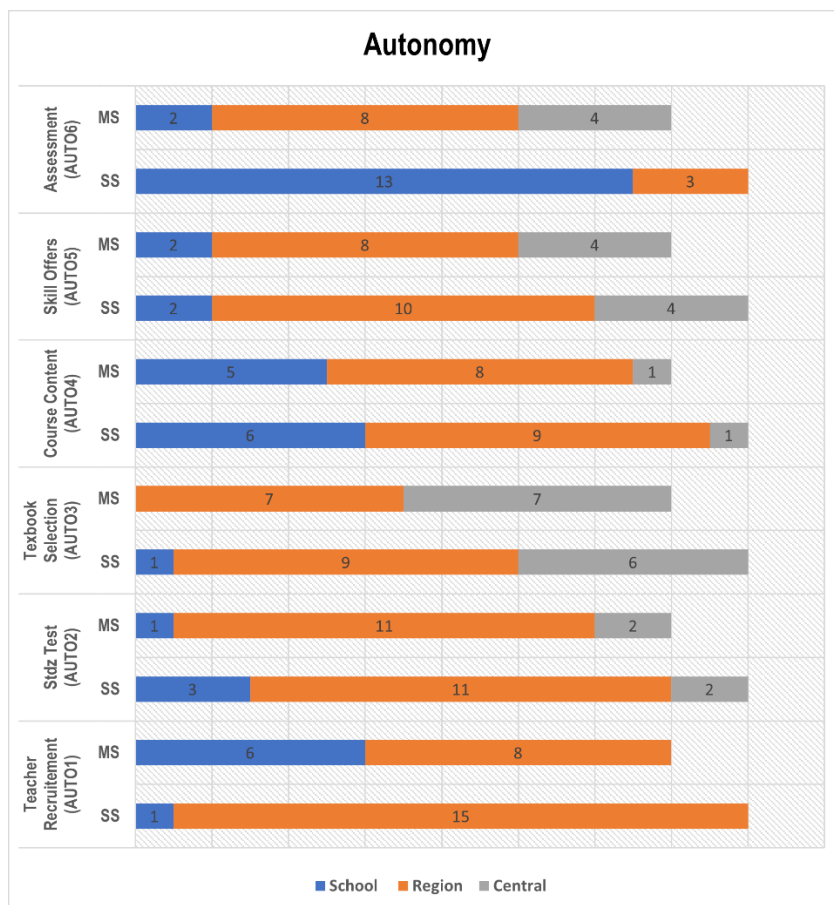
Figure 6. 2 shows the distribution of six types of autonomy between the *Sekolah* (SS) and *Madrasah* school (MS) groups. The results indicate both groups have similar trends over the decision in teacher recruitment (AUTO1), standardized tests (AUTO2), textbook selection (AUTO3), course content (AUTO4), and skill offerings (AUTO5), where most of the categories are decided at the regional levels. In contrast, the difference is shown in the autonomy of assessment (AUTO6). More decentralised autonomy in assessment policy is revealed in secular schools than the Islamic schools. Around 13 (81%) of secular schools decided their assessment standard, while 8 (57%) and 4 (29%) Islamic schools are decided by



regional and central authority levels. Regarding the central tendency results of the WLE variables (see Table 6. 2), it shows that the average estimate of the RSCAV of the SS group ( $M=1.39$ ,  $SD=1.59$ ) is higher compared to the MS group ( $M=-1.24$ ,  $SD=0.74$ ). In contrast, the RSCQT of the *Sekolah* group is smaller ( $M=-1.36$ ,  $SD=1.83$ ) than the *Madrasah* group ( $M=0.38$ ,  $SD=1.29$ ). This indicates that *Sekolah* schools provide more resources than *Madrasah* schools, while the quality of resources in *Madrasah* schools is better than in *Sekolah* schools. In terms of school climates, the MS group reveals positive mean scores in PRESS ( $M=0.96$ ,  $SD=1.63$ ), DSCPLN ( $M=1.25$ ,  $SD=2.82$ ), and SUPPORT ( $M=0.21$ ,  $SD=2.44$ ). Meanwhile, the SS group shows negative estimates in PRESS ( $M=-0.13$ ,  $SD=1.66$ ), DSCPLN ( $M=-0.05$ ,  $SD=1.84$ ), and SUPPORT ( $M=-0.02$ ,  $SD=1.94$ ). This means that low academic pressure, high disciplinary issues, and less teacher support mainly exist in the *Sekolah* schools and not in the *Madrasah* schools.

**Figure 6. 2**

*Distribution of School Autonomy (AUTO) between Sekolah (SS) and Madrasah (MS) Groups*



**Table 6. 2**

*Descriptive Results of Derived Variables between the Groups*

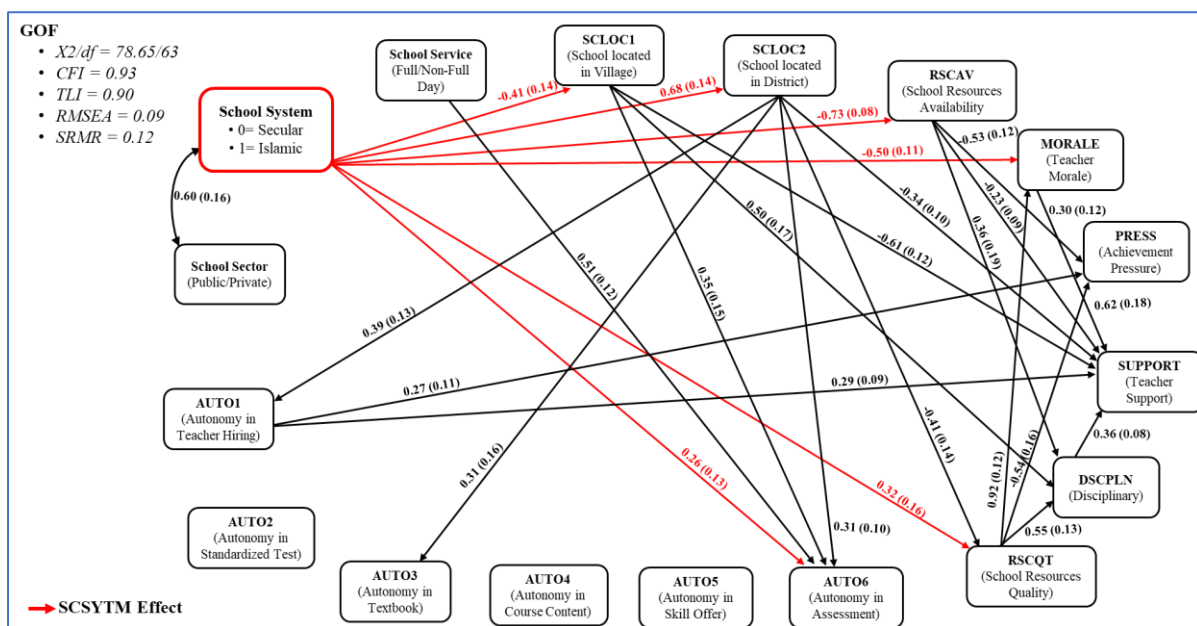
Variable		Sekolah (SS, n=16)				Madrasah (MS, n=14)			
		Mean	SD	Sk	Ku	Mean	SD	Sk	Ku
School Resource Availability	RSCAV	1.39	1.59	-0.03	0.90	-1.24	0.74	-1.22	0.67
School Resource Quality	RSCAQT	-1.36	1.83	-0.08	-0.03	0.38	1.29	0.25	-1.15
Teacher Morale	MORALE	0.32	2.18	-0.28	-1.08	0.13	1.93	0.27	-0.86
Achievement Pressure	PRESS	-0.13	1.66	0.17	0.34	0.96	1.63	0.28	-0.84
Disciplinary	DCPLN	-0.05	1.84	0.23	-0.08	1.25	2.82	-0.90	1.64
Teacher Support	SUPPORT	-0.02	1.94	0.17	-1.14	0.21	2.44	-0.19	-0.93

*Note: Average Scores (n=30), RSCAV (M=1.58, SD=1.83), RSCQT (M=-0.55, SD=1.80), MORALE (M=0.23, SD=2.03), PRESS (M=0.38, SD=1.71), DSCPLN (M=0.56, SD=1.92), SUPPORT (M=0.09, SD=2.15)*

*Structural Equation Modelling (SEM)*

**Figure 6. 3**

*Structural Model Results*



*School System Effects*

As shown in Figure 6. 3 (with red arrows), the variable of school systems (SCSYTM) is shown to have direct effects on six predictors. Firstly, the negative effect of SCSYTM on schools located in the village (SCLOC1,  $\beta=0.68$ ) and negative influence on schools located in the district (SCLOC2,  $\beta=-0.41$ ) signal that more secular than Islamic schools are in the cities. The influence of SCSYTM on availability (RSCAV,  $\beta=0.73$ ) and quality (RSCQT,  $\beta=0.32$ ) of the school resources indicates that although accessibility of the school resources in secular schools is higher, quality is very low compared to the *Madrasah* schools. Simultaneously, the negative

influence of SCSYTM on teacher morale (MORALE,  $\beta=-0.50$ ) and positive effects of school autonomy in assessment (AUTO6,  $\beta=0.26$ ) indicate that teacher enthusiasm in *Madrasah* schools is lower than those in secular schools, and their assessment policy is decided by high-level authority. In addition, the high positive correlation ( $r=60$ ) between the school system (SCSYTM) and the school sector (SCSECTOR) indicates that most secular schools belong to the government or the public sector, while most Islamic schools are under private authorities.

#### *School Autonomy and Demographics*

As presented in Figure 6. 3, the SEM results imply that there is a discrepancy in levels of educational autonomy between the schools with various services (full-day/non-full-day) and locations (village/district/urban). In teacher recruitment (AUTO1,  $\beta=0.39$ ) and textbook selection (AUTO3,  $\beta=0.31$ ), this suggests teachers' recruitment and textbooks in the schools located in the districts are selected by high authority levels, such as the central government. Simultaneously, the schools that have the responsibility to decide their student assessment policy are secular schools, full-day schools and schools located in the cities.

#### *School Resources: Availability (RSCAV) and Quality (RSCQT)*

Apart from the direct effects of SCSYTM on school resources established before, this study also shows that schools located in the districts (SCLOC2,  $\beta=-0.41$ ) directly influence school resources quality (RSCQT). This designates that there is a difference in school resources quality between the schools from different locations. The schools with high-quality resources are found in the schools located in urban or city areas.

#### *School Climates: Teacher Morale (MORALE), Disciplinary (DSCPLN), Achievement Press (PRESS) and Teacher Support (SUPPORT)*

Besides the direct influence of the school system on teacher morale (MORALE) as discussed earlier, only school resources quality (RSCQT,  $\beta=-0.54$ ) negatively influences the levels of teacher morale. The strong negative estimate of RSCQT designates that schools that possess high-quality school resources tend to have high teacher morale. Moreover, regarding the effects of the predictors on discipline (DSCPLN), it shows that the variables of the school located in the village (SCLOC1,  $\beta=0.50$ ), the availability (RSCAV,  $\beta=0.36$ ) and the quality of school resources (RSCQT,  $\beta=0.55$ ) are found to influence disciplinary level (DSCPLN). This suggests that a high disciplinary level is shown in the schools located in rural settings or villages, the schools with more resources, and the schools with greater resources quality.

Furthermore, four predictors of school autonomy in teacher recruitment (AUTO1,  $\beta=0.27$ ), school resources availability (RSCAV,  $\beta=-0.53$ ), school resources quality (RSCQT,  $\beta=-0.54$ ), and discipline (DSCPLN,  $\beta=0.62$ ) directly influence the level of achievement press (PRESS). As shown in Figure 4, the positive estimate of AUTO1 on the PRESS level indicates that the teachers who were selected by high authority levels tend to be more concerned about academic pressure on their students. Other results signify that schools with a high level of discipline, fewer school resources, and lower school resources quality are more likely to have a high level of achievement pressure on their students. Likewise, shown in Figure 3, the level of teacher support (SUPPORT) is directly influenced by six school predictors. These are a school located in the village (SCLOC1,  $\beta=-0.61$ ), the districts (SCLOC2,  $\beta=-0.34$ ), school autonomy in teaching recruitment (AUTO1,  $\beta=0.29$ ), school resources availability (RSCAV,  $\beta=0.23$ ), teacher morale (MORALE,  $\beta=0.30$ ) and discipline (DSCPLN,  $\beta=0.36$ ). The negative effects of SCLOC1 and SCLOC2 indicate that schools located in cities/urban tend to have high teacher support compared to those in villages and districts. The positive influence of AUTO1 signifies that teachers who were selected by the high authority levels, such as central or head government/foundation, provide more support to the students. Other findings signify that greater teacher support is shown in schools with more school resources, higher teacher morale and higher disciplinary levels.

### **6.5.3 QUAL: Interview Results**

#### *School Autonomy*

This study revealed that there are disparities in autonomy levels between, or within, secular and Islamic schools regarding some teacher and pedagogical policies. For example, in secular and *Madrasah* schools under the public or government sector, their teachers are hired by the central government through a national selection (SS2 and MS3). In contrast, private *Sekolah* and *Madrasah* school teachers are employed by the local foundation and schools (SS1, SS3, MS1, MS2). To illustrate: “Our school is a government school, most teachers are recruited through national selection by the central government [The Ministry of Education and Culture]” (SS2).

In terms of autonomy in English teaching, learning and assessment, most of the principals, such as SS1, SS2, MS1, and MS3 agreed that the textbook, content, skills offered, and assessment are selected by the school authority which is aligned with the national curriculum, except for the international private *Sekolah* [Full-Day] which adopt the

international standard: “We use textbooks, content and assessment based on international standards decided by the head foundation in line with the national curriculum” (SS3). Additionally, most Islamic school principals (MS2 and MS3) also agreed that teachers contextually involve Islamic content in their lessons, “teachers sometimes include Islamic content in their subjects” (MS2).

When asked about the advantages of the autonomous decision, the interviewees similarly agreed that the schools that decided their teaching and learning autonomy (contextual) are more beneficial for teaching and learning needs and contexts. Teachers are more comfortable teaching the lessons, and it is easier for students to understand and improve their achievements. In contrast, the international secular school principal articulated the disadvantages, such as: “using the international standard, for teaching and learning made the teacher struggle to deliver the lessons, [...] this will affect student psychology and achievement negatively” (SS3). This emphasizes that secular and Islamic schools, which have a greater emphasis on school authority in student assessment, textbook selection, skills, and content offers, have greater teaching and learning effectiveness.

### *The Availability and Quality of School Resources*

This study shows a discrepancy in school resources between secular and Islamic schools. This is based on the interview results in which all secular (SS1, SS2 and SS3) and an Islamic public-school principal (MS3) agreed that their schools have ‘enough school resources to support teaching and learning process’. In contrast, two Islamic school principals (MS1 and MS2) recognized their schools ‘lack of school resources, such as infrastructure, learning materials and laboratories’.

Regarding the quality of their school resources, the *Madrasah* school principals (MS1 and MS2) recognized that the available resources that they have are still used in the teaching and learning process. However, the schools with enough school resources located away from the cities (SS1, SS2 and MS3) argued about the low quality of some school facilities, as an example: “School buildings and learning materials are enough, [...] however, some of them need to refurbish” (SS1).

When asked about the roles of school resources in teaching and learning activities, most participants claimed that school resources are beneficial for both teachers and students. It develops teachers’ enthusiasm for teaching, teaching effectiveness, and students’ learning motivation and achievement. In specific explanations:

School facilities and English learning materials are very important to support teaching and learning activities, [...] it can improve teachers' teaching interest, and students' motivation also minimize students' learning problems [...] it should be supported by qualified teachers to use them (MS3).

Additionally, it can “[...] improve student learning quality and achievement [...] the learning materials should be aligned with teacher ability and student needs” (SS2). Likewise, “It facilitates a better school environment and culture as well as teachers’ and students’ relationships” (MS1). Apart from the discrepancy between the groups in school resources, the positive effects of school resources on teaching and learning achievement, school culture and teachers’ and students’ attitudes are noted. School resources with qualified teachers are needed.

### *Teacher Morale (MORALE)*

All principals from secular and Islamic schools reported that they have high teacher morale. They stated that in their schools, ‘teachers work together’ (MS1, MS3, SS1), ‘teachers have high teaching enthusiasm’ (SS2, SS3, MS2), ‘teachers more focus on student learning quality and achievement’ (MS1, MS2, SS2 and SS3).

Regarding the advantages of teaching morale on teaching and learning, several participants identified three points: (1) developing relationships/collaboration among the teachers, (2), supporting effective teaching and learning, (3) enhancing student learning motivation and learning. Nevertheless, three interviewees recognized that school and teacher factors can affect their [teachers] enthusiasm level. To illustrate: “[...] school support in teaching, can affect their levels of teaching enthusiasm [...] non-permanent teachers tend to have low enthusiasm” (SS1), “[...] young teachers show high teaching enthusiasm” (SS2), and “Female teachers are happier to work collaboratively than males” (MS3). Overall, high levels of teacher morale are recognized in Sekolah and Madrasah schools which influence their teaching, learning and achievement positively. However, school support (e.g., school resources), teacher age and job status might affect their enthusiasm [morale] levels differently.

### *Discipline (DSCPLN)*

Six school principals agreed that school discipline can support teaching and learning effectively. To improve discipline, most secular, and Islamic schools provide ‘strict regulations’ and apply ‘punishment and rewards to the students’ (SS1, SS3, MS2, and MS3). However, in *Madrasah* schools, the discipline is not only applied to student learning but is also related to religious practices (MS1 and MS2): “[...] we strongly focus on student discipline,

we want them to obey the *Madrasah's* rules in academic and religious aspects, such as prayer” (MS2).

When asked about the roles of discipline such as punishment and rewards, the participants agreed on two main points. Firstly, school discipline can create comfortable and effective teaching and learning environments which can influence student motivation and achievement positively. Secondly, high levels of discipline affect students' psychological aspects, such as anxiety, which affects their learning negatively. As the examples: “Schools with high discipline are important for the school community. Teachers feel more comfortable teaching [...] students can be more motivated to learn” (SS3). “Giving punishment [as a part of discipline] to students make them worried and scared which can negatively influence their learning and achievement [...], so we also provide help/support for the students (MS3). Others explained: “In our schools, boys are not as disciplined as girls [...], however, the school disciplinary levels are strongly affected by school environment and location” (MS1). Overall, the positive and negative effects on teaching and learning are acknowledged in both school settings. However, discipline in learning and religious traits are applied in Islamic schools. School environment and locations, as well as student profiles, are related to the school disciplinary levels differently.

#### *Achievement Press (PRESS)*

The secular and Islamic school principals reported that they have different ways [achievement press] to improve their students' learning performances. For example, teachers give them 'homework' (SS1, SS2, MS1 and MS3) ask them to 'study hard' (SS1 and MS2) and provide a 'monolingual [supplementary] program' (MS2), such as, “We always ask the students to study hard [...] and we gave homework to repeat their lesson at home” (SS1). Likewise, “We implement the monolingual program that requires students to use [speak] foreign language [English and Arabic] inside and outside the classrooms to interact with their peers and teachers” (MS2).

In terms of the impact of the achievement press, the participants agreed that achievement press can contribute positive and negative effects on students. For example, it enhances students' learning motivations and language skills. In contrast, it has negative impacts on students' psychology [stress, anxiety] which contributes to poor performance. As an illustration: “Monolingual education has a positive effect on students' language attitudes and English achievement” (MS2).

However, the interviewees also pointed out some factors which are related to the achievement press levels in different ways, “Different teachers have different learning expectations [pressure] to their students, disciplinary are strongly associated with achievement pressure” (SS3). “Achievement press might be different across different school characteristics and environments” (MS2). Another comment: “Pressure is important to improve students’ motivation, we should be aware of the students’ diversity (MS3)”

Asking students to study hard, and giving homework [in both school contexts] and monolingual education [only in *Madrasah*] are recognized as ways of achievement pressure, which have positive and negative effects on students. The pressure levels are varied depending on the teacher and school characteristics. Student diversity must be considered.

### *Teacher Support (SUPPORT)*

Both secular and Islamic school principals corresponded that their teachers always support their students regarding their learning and well-being support. The Islamic school principals (MS2, MS3) stated that they also support their students’ psychological aspects to be aligned with Islamic values.

Teachers always support their students in some aspects, such as learning and wellness needs [...] We provide face-to-face consultation for students who need help with their learning and psychological problems [...] for example if they struggle with their lessons [e.g., English or Math], we offer supplementary class [...] for their wellness, we provide one and one meeting with religiosity approach [Islamic values/teaching]. (MS2)

When asked about the importance of teacher support, most participants recognized that support from teachers is strongly beneficial for students to improve student learning achievement, motivation, wellbeing and to minimize student learning problems. In addition, the *Madrasah* interviews added that teacher support indirectly contributes to positive effects on their spirituality levels (MS1, and MS3). Specifically: “[...] not only, learning, and psychological needs, [...] also their religiosity aspects” (MS3), “[...] it also develops student and teacher relationships” (SS2).

Additionally, some participants explained that: “We believed that teachers with high enthusiasm are more supportive of their students” (SS2), “Levels of teacher support depend on the schools’ characteristics [high/low socio-economic status] and environment [e.g., location]” (SS1), and “Female teachers are more supportive [...]” (SS3). Altogether, it seems that teacher support has captured some benefits for students and teachers. The levels of teacher support might vary according to the teacher's characteristics, the school sector and location.



## 6.6 Discussion and Conclusion

The main contribution of this investigation is to address the disputes between Indonesian *Sekolah*/secular and *Madrasa*/Islamic education over school-level factors and their impacts on teaching and learning effectiveness. A specific investigation into how secular and Islamic schools differ in autonomy, resources and climates and how their interrelationships are aligned with teaching and learning outcomes was undertaken. Using a mixed-method research approach with descriptive and structural equation modelling (SEM) as well as thematic analysis, this study has revealed numerous appealing results.

Firstly, this study revealed that of the six categories of school autonomy, only autonomy in assessment policy is statistically found to be different between the groups. In the *Sekolah* group, the assessment policy is mostly selected by the schools, while higher authorities, such as the central government/foundation, are responsible for selecting the standard assessment in most *Madrasah* schools. In terms of other categories, more decentralized autonomy at regional and school levels in teacher recruitment, standardized test, textbook selection, course content and skills offered are mostly found in both groups. However, disparities over autonomy were discovered within secular and Islamic schools from different school characteristics. Teachers working in public secular and Islamic schools are mostly hired by the central government. The decisions over their school operations in international full-day *Sekolah* schools are based on the international standard decided by the central foundation that is in line with the national curriculum, while Islamic content is involved in most lessons in most *Madrasah* schools. Although the differences are revealed in decision-making authority over their policy, both groups claim that a more decentralized educational policy is beneficial to address the school community's needs, develop teaching and learning effectiveness as well as school quality development (Arcia et al. 2011; OECD 2011; Kyriakides et al. 2015; Honig and Rainey 2012; Watterston and Suggett 2017).

For the disparities in the school resources between the groups, this study found that school resources in secular schools are more available compared to Islamic schools, while the quality of school resources is still problematic in *Sekolah* schools. *Madrasah* schools still struggle with the availability of school resources, such as classrooms, learning materials and language laboratories, while adequate school facilities with poor quality facilities are found in most secular schools, including the schools located in the city. Both groups agreed with the claims of schools with enough resources and high-quality school resources contributing positive effects on academic, psychological, and social aspects. School resources play crucial

roles in supporting teaching and learning activities (Nascimento 2008; Eric and Ezeugo 2019), student performance (Mahmood and Gondal 2017; Eric and Ezeugo 2019; Schneider et al. 2016), teacher motivation (Huang et al. 2021) and school climates (Maingi et al. 2017; Uline and Tschannen-Moran 2008).

Of the four school climates, the significant gaps between *Sekolah* and *Madrasah* schools were only shown in the level of teacher morale in favour of secular schools. Permanent teachers in the *Sekolah* group tend to have higher morale than non-permanent teachers which are mostly found in *Madrasah* schools (Bahri et al. 2018; Muhajir 2016; ADB 2014). Insignificant differences in disciplinary climate, achievement pressure and teacher support, in contrast, are revealed. However, the levels of school climates varied depending on the influences of other factors. For instance, as found in this study, schools with high-quality resources tend to have high teacher morale which is corroborated by the prior literature (Huang et al. 2021). Likewise, schools with enough resources and high-quality resources as well as schools located in the villages have more discipline. The secular and Islamic schools located in the village apply strict school rules and punishment at the school disciplinary levels. Not only learning, but discipline in religious practices also become the main concern in Islamic schools (Na'imah, Herdian, and Panatik 2022).

Likewise, the school climate of achievement press is statically influenced by school discipline level, school resources and school autonomy. Schools with high achievement press are found in schools with high discipline, low school resources and schools with more permanent teachers which aligned with the previous study claiming that school climates might be different based on school characteristics and environment as well as teacher expectations (OECD 2009). Similar to the other school climate domains, both groups claim that achievement press, such as giving homework and asking students to study, had become the main concern in their schools. In an Islamic boarding school, a supplementary program of monolingual education has become the mandatory program which requires students to learn languages. Moreover, this investigation revealed that schools with higher teacher support are found in schools with high discipline, high teacher morale, enough resources, and more permanent teachers and schools located in the cities (OECD 2009). The school principals from secular and Islamic schools similarly agreed that their teachers are more supportive regarding their student learning and wellbeing needs. They provide supplementary classes for student learning and face-to-face counselling for students who have psychological problems. Differently, teacher support aligned with religious values and aspects in *Madrasah* schools. Even though there are differences in school climates across the groups, the school principals from secular and Islamic

school principals generally suggest that school climates aligned with the school communities' needs, positively influencing teaching and learning effectiveness (Chunin and Nokchan 2018; Ning et al. 2015; Lin, Su, and McElwain 2019; Wong, Tao, and Konishi 2018).

Overall, this study has offered evidence of the discrepancy between secular and Islamic schools over school autonomy, resources and climates and their impacts on teaching and learning effectiveness. This research generally suggests practical and policy implications, including (1) greater emphasis on school autonomy and accountability over school operations aligned with the school community's needs in both groups, (2) addressing the *Madrasah* schools' challenges in accessibility and quality of school resources to improve the effectiveness of teaching and learning by providing more school facilities and learning materials as well as more focusing on factors affecting human resources, such as teachers' quality, (3) promoting the positive school climates in both secular and Islamic schools, including addressing the possible factors affecting the development of teacher morale, applying school disciplinary and achievement press based on school context, needs, and student diversity, (4) developing teacher support on students' academic, psychological and social aspects. However, the small sample size ( $n=30$ ) for statistical analysis, based on self-report and only focusing on the Indonesian context, is detected as a limitation of this study. The results obtained from the qualitative study ( $n=6$ ) as triangulation has confirmed the statistical findings and explored the research focus more deeply. In the future investigation of various school contexts in different countries, other measures, such as student and teacher factors and different methods are suggested.

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## 6.8 Appendices

### Appendix 6. 1

*CFA Results: Factor Loading, AVE, CR and GOF of School Resources*

Item	Description	Factor Loading	AVE	CR	GOF
<i>School Resource Availability (RSCAV)</i>					
RSCAV1	The availability of qualified English teaching teachers.	0.80	0.70	0.90	$X^2/df= 9.05/5$
RSCAV2	The availability of qualified assisting staff.	0.38			$P=0.11$
RSCAV3	The availability of teaching tools and media.	0.74			CFI=0.97
RSCAV4	The availability of educational material (e.g., English textbooks, IT equipment, English library, or English).	0.83			TLI= 0.94
RSCAV5	The availability of physical infrastructure (e.g., building, grounds, heating/cooling, lighting, and acoustic systems).	0.73			RMSEA=0.16 WRMR=0.49
<i>School Resource Quality (RSCQT)</i>					
RSCQT1	The quality of educational material (e.g., English textbooks, IT equipment, English library, or English).	0.65	0.71	0.90	$X^2/df=5.03/5$
RSCQT2	The quality of English teaching teachers.	0.70			$P=0.41$
RSCQT3	The quality of assisting staff.	0.79			CFI=1.00
RSCQT4	The quality of teaching tools and media.	0.66			TLI= 1.00
RSCQT5	The quality of physical infrastructure (e.g., building, grounds, heating/cooling, lighting, and acoustic systems).	0.77			RMSEA=0.02 WRMR=0.45

## Appendix 6. 2

### CFA Results: Factor Loading, AVE, CR and GOF of School Resources

Item	Description	Factor Loading	AVE	CR	GOF
Teacher Morale (MORALE)					
MORALE1	The morale of teachers in this school is high.	0.76	0.83	0.97	$X^2/df= 19.94/20$
MORALE2	Teachers work with enthusiasm.	0.84			$P=0.46$
MORALE3	Teachers take pride in this school.	0.92			CFI=1.00
MORALE4	Teacher values academic achievement	0.59			TLI= 1.00
MORALE5	Teachers respect and embrace diversity.	1.00			RMSEA=0.00
	Teachers work well together.	0.83			WRMR=0.56
MORALE7	Freedom from favouritism and discrimination.	0.92			
MORALE8	Friendly attitude of fellow teachers.	0.82			
Achievement Press (PRESS)					
PRESS1	The teacher wants students to work hard.	0.86	0.77	0.93	$X^2/df=4.83/5$
PRESS2	The teacher tells students that they can do better.	0.99			$P=0.44$
PRESS3	Students must read English books a lot.	0.72			CFI=1.00,TLI=1.00
PRESS4	Teachers want students memorize English words a lot.	0.83			RMSEA=0.00
PRESS5	Teachers provides homework.	0.47			WRMR=0.38
Disciplinary (DSCPLN)					
DSCPLN1	Students don't listen to what the teacher says.	0.81	0.81	0.94	$X^2/df=9.73/5$
DSCPLN2	Students don't start working for a long time after the lesson begins.	0.78			$P=0.08$
DSCPLN3	There is noise and disorder.	0.82			CFI=0.97
DSCPLN4	At the start of class, more than five minutes are spent.	0.71			TLI= 0.95
DSCPLN5	Teacher loses quite a lot of time because of students. interrupting the lesson.	0.90			RMSEA=0.18
					WRMR=0.53
Teacher Support (SUPPORT)					
SUPPORT1	Students get along well with most teachers.	0.75	0.81	0.97	$X^2/df=38.76/27$
SUPPORT2	Most teachers are interested in students' well-being.	0.93			$P=0.07$
SUPPORT3	Most of teachers really listen what I have to say.	0.99			CFI=0.98
SUPPORT4	If students need extra help, they will receive it from my teachers.	0.60			TLI= 0.98
SUPPORT5	Most of my teachers treat students fairly.	0.97			RMSEA=0.12
SUPPORT6	The teacher shows an interest in every student's learning.	0.83			WRMR=0.78
SUPPORT7	The teacher gives extra help when students need help.	0.83			
SUPPORT8	The teacher helps students with their learning.	0.65			
SUPPORT9	The teacher continues teaching until the students understand	0.74			

### Appendix 6.3

#### Rasch Measurement Results: Item Fit Indices and Item Separation Reliability

Item	Estimate	S. E	Infit			Item Delta	Item Discr.	ISR
			MNSQ	CI	t			
RSCAV1	-0.681	0.245	0.93	(0.49, 1.51)	-0.2	-3.56, -1.13, 2.65	0.77	0.83
RSCAV2	0.015	0.244	1.01	(0.48, 1.52)	0.1	-2.83, -0.80, 3.67	0.58	
RSCAV3	0.751	0.245	1.02	(0.51, 1.49)	0.2	-2.60, 0.41, 4.41	0.74	
RSCAV4	0.138	0.244	0.68	(0.50, 1.50)	-1.3	-3.02, -0.15, 3.59	0.81	
RSCAV5	-0.222*	0.489	1.26	(0.49, 1.51)	1.0	-3.78, -0.52, 3.63	0.70	
RSCQT1	-0.641	0.244	0.82	(0.51, 1.49)	-0.7	-3.15, -0.96, 2.19	0.74	0.76
RSCQT2	-0.701	0.257	1.03	(0.50, 1.50)	0.2	-3.71, -1.15, 2.76	0.75	
RSCQT3	-0.722	0.295	1.24	(0.65, 1.35)	1.3	-0.72	0.68	
RSCQT4	0.402	0.272	1.25	(0.49, 1.51)	1.0	-1.46, 2.27	0.66	
RSCQT5	1.662*	0.536	0.89	(0.53, 1.47)	-0.4	-0.10, 3.43	0.71	
MORALE1	0.531	0.356	0.80	(0.51, 1.49)	-0.8	0.53	0.67	0.65
MORALE2	0.034	0.356	0.98	(0.50, 1.50)	0.0	0.03	0.70	
MORALE3	-0.216	0.357	0.71	(0.50, 1.50)	-1.2	-0.22	0.70	
MORALE4	1.043	0.361	1.34	(0.50, 1.50)	1.3	-0.22	0.80	
MORALE5	-0.471	0.359	0.82	(0.49, 1.51)	-0.6	1.04	0.56	
MORALE6	0.282	0.355	0.89	(0.51, 1.49)	-0.4	-0.47	0.85	
MORALE7	-0.732	0.361	1.19	(0.48, 1.52)	0.7	0.28	0.76	
MORALE8	-0.471*	0.947	0.81	(0.49, 1.51)	-0.7	-0.47	0.73	
PRESS1	-0.651	0.270	1.04	(0.59, 1.41)	0.3	-0.65	0.67	0.77
PRESS2	-0.650	0.270	0.92	(0.59, 1.41)	-0.3	-0.65	0.76	
PRESS3	-0.150	0.231	1.09	(0.52, 1.48)	0.4	-1.00, 0.70	0.75	
PRESS4	0.447	0.225	0.68	(0.49, 1.51)	-1.3	-0.04, 0.74	0.82	
PRESS5	1.005*	0.499	1.34	(0.53, 1.47)	1.4	-0.05, 2.07	0.61	
DSCPLN1	-0.960	0.281	1.01	(0.51, 1.49)	0.1	-4.09, 2.17	0.66	0.84
DSCPLN2	0.121	0.251	1.16	(0.51, 1.49)	0.7	-1.33, 1.57	0.75	
DSCPLN3	-0.174	0.246	1.13	(0.48, 1.52)	0.6	-1.20, 0.85	0.77	
DSCPLN4	0.526	0.216	0.79	(0.48, 1.52)	-0.8	-0.56, 0.00, 2.13	0.81	
DSCPLN5	0.487*	0.499	0.78	(0.52, 1.48)	-0.9	-1.08, 2.05	0.84	
SUPPORT1	-1.686	0.323	0.96	(0.45, 1.55)	-0.1	-4.71, 1.34	0.67	0.94
SUPPORT2	1.102	0.337	0.79	(0.46, 1.54)	-0.7	1.10	0.73	
SUPPORT3	1.352	0.339	0.83	(0.48, 1.52)	-0.6	1.35	0.84	
SUPPORT4	0.866	0.336	1.43	(0.44, 1.56)	1.4	0.87	0.55	
SUPPORT5	0.876	0.336	0.76	(0.44, 1.56)	-0.8	0.88	0.83	
SUPPORT6	1.133	0.337	1.07	(0.46, 1.54)	0.3	1.13	0.67	
SUPPORT7	-1.082	0.314	0.90	(0.51, 1.49)	-0.3	-3.77, 1.61	0.74	
SUPPORT8	-1.887	0.306	1.29	(0.42, 1.58)	1.0	-3.64, -0.14	0.62	
SUPPORT9	-0.674*	0.929	1.08	(0.50, 1.50)	0.4	-3.81, 2.46	0.60	

## Appendix 6. 4

### The Results of the Structural Equation Modelling (SEM)

Variable		School Level ( <i>n</i> =30)		
Dependent	Independent	Direct Effect	Indirect Effect	Total Effect
		Estimate (S.E.)	Estimate (S.E.)	Estimate (S.E.)
SUPPORT	SCLOC1	-0.61 (0.12)	NS	-0.61 (0.12)
	SCLOC2	-0.34 (0.10)	NS	-0.34 (0.10)
	AUTO1	0.29 (0.09)	NS	0.29 (0.09)
	RSCAV	-0.23 (0.09)	NS	-0.23 (0.09)
	RSCQT	NS	0.47 (0.11)	0.47 (0.11)
	MORALE	0.30 (0.12)	NS	0.30 (0.12)
	DSCPLN	0.36 (0.08)	NS	0.36 (0.08)
PRESS	AUTO1	0.27 (0.11)	NS	0.27 (0.11)
	RSCAV	-0.53 (0.12)	NS	-0.53 (0.12)
	RSCQT	-0.54 (0.16)	NS	-0.54 (0.16)
	DSCPLN	0.62 (0.18)	NS	0.62 (0.18)
DSCPLN	SCLOC1	0.50 (0.17)	NS	0.50 (0.17)
	RSCAV	0.36 (0.19)	NS	0.36 (0.19)
	RSCQT	0.55 (0.13)	NS	0.55 (0.13)
MORALE	SCSYTM	-0.50 (0.11)	NS	-0.50 (0.11)
	RSCQT	0.92 (0.12)	NS	0.92 (0.12)
RSCQT	SCSYTM	0.32 (0.16)	NS	0.32 (0.16)
	SCLOC2	-0.41 (0.14)	NS	-0.41 (0.14)
RSCAV	SCSYTM	-0.73 (0.08)	NS	-0.73 (0.08)
AUTO1	SCLOC2	0.39 (0.13)	NS	0.39 (0.13)
AUTO3	SCLOC2	0.31 (0.16)	NS	0.31 (0.16)
AUTO6	SCSYTM	0.26 (0.13)	NS	0.26 (0.13)
	SCSERV	0.51 (0.12)	NS	0.51 (0.12)
	SCLOC1	0.35 (0.15)	NS	0.35 (0.15)
	SCLOC2	0.31 (0.10)	NS	0.31 (0.10)
SCLOC1	SCSYTM	0.68 (0.14)	NS	0.68 (0.14)
SCLOC2	SCSYTM	-0.41 (0.14)	NS	-0.41 (0.14)

Note: NS= Not Significant ( $p>0.05$ )

# **Chapter 7:**

Secular *vs.* Islamic Schools:  
Debates on the Effects of Multilevel Factors on  
Students' English Reading Performance

# Statement of Authorship Declaration

## Statement of Authorship

Title of Paper	<b>Secular vs. Islamic Schools: Debates on the Effects of Multilevel Factors on Students' English Reading Performance</b>		
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Overall percentage (%)	65		
Certification:	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am the primary author of this paper.		
Signature		Date	07 August 2023

### Co-Authors' Contributions

By signing the statement of authorship, each author certifies that:

- I. the candidate's stated contribution to the publication is accurate (as detailed above);
- II. permission is granted for the candidate to include the publication in the thesis; and
- III. the sum of all co-author contributions is equal to 100% less the candidate's stated contribution.

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# **Secular vs. Islamic Schools: Debates on the Effects of Multilevel Factors on Students' English Reading Performance**

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## **Abstract**

This paper compares the evidence on how school, teacher, and student-level factors influence student English reading performance between secular (*Sekolah*) and Islamic (*Madrasah*) schools. In total, 30 schools, 64 teachers and 1,319 students in Indonesia were grouped based on their school systems: secular (16 schools, 34 teachers, 726 students) and Islamic (14 schools, 30 teachers, 593 students). The hierarchical linear modelling results revealed that student reading problems, i.e. difficulty and anxiety, as well as school climates — achievement press and discipline levels— all influenced students' reading outcomes in both groups directly. Separate findings, such as peer belonging and anxiety, show direct effects on student reading scores in *Sekolah*, while only student gender was found to influence reading performance in the *Madrasah* group. Simultaneously, the school- and teacher-level factors were differently found to interact between student-level variables and reading achievements in both groups. Implications of these findings are discussed.

**Keywords:** Indonesia, Islamic, secular, religious, multilevel, HLM

## 7.1 Introduction

The effectiveness of Islamic and secular education in Indonesia is strongly shaped by the nature and set-up of these types of schooling. It has been noted that most secular or non-religious schools (92%) managed by the Ministry of Education and Culture (MoEC) operate in the government or public sector, while 82% of Islamic or *Madrasah* schools are under the Ministry of Religious Affairs (MoRA) operated as private sector institutions (OECD/ADB, 2015). The large discrepancy between Indonesian secular (mostly in public) and Islamic education (mostly in private) has become the main explanation for how much has been achieved by them over many years, whereby students from Islamic or *Madrasah* schools did more poorly in their learning, including language competencies compared to those in non-religious schools (Hendajany, 2016; Newhouse & Beegle, 2006). In this case, a study by Stern and Smith (2016) has demonstrated that insufficient government funding has become the main obstacle to providing high-quality education in *Madrasah* schools. Although most *Madrasah* institutions are privately run, in line with government policy, they are not permitted to receive any funds from the community. Moreover, *Madrasah* schooling is regarded as an indigenous education system in which mostly students from lower socio-economic sections of the community are enrolled (Ghozali et al., 2013; Shaturaev, 2021). Consequently, the disadvantage faced by *Madrasah* institutions in terms of budgets means that they do not have the resources or facilities to produce the desired learning outcomes.

Aligned with these problems, several studies have noted numerous challenges for *Madrasah* education in Indonesia, particularly regarding school and human resources. Inadequate and low standards of school facilities, such as classrooms, laboratories and learning materials, remain problematic in Islamic schools (ADB, 2014; Ali et al., 2011; Ependi, 2020; Muhajir, 2016), and this has seriously affected the teaching and learning processes as well as the students' and teachers' psychological outcomes. Since they work in the private sector, most *Madrasah* teachers are non-civil servant teachers. For this reason, they receive low wages from the school budget, and they do not receive a standard salary from the government, unlike the civil servant teachers in public schools (ADB, 2014; Muhajir, 2016). A study by Ahid (2010) has reported that 28% of *Madrasah* teachers in Indonesia do not hold undergraduate qualifications, and these teachers lack opportunities to participate in teacher training, certification and professional development programs compared to secular school staff (ADB, 2014; Kholis & Murwanti, 2019). Not surprisingly, poorly paid, untrained, and uncertified

teachers are common in *Madrasah* schools, and this strongly correlates with their effectiveness as teachers and student learning and language performance.

Despite the issues relating to school resources, several investigations have demonstrated that the religious values in Islamic schools potentially influence school processes, teacher behaviours and students' needs in a positive way. It has been evident that Islamic values are strongly associated with an effective school climate in terms of school-community engagement (Na'imah et al., 2022), teacher attitudes (Yafiz et al., 2022), student attitudes towards language learning (Amri et al., 2017; Bin Tahir, 2015) and psychological outcomes (Na'imah et al., 2022), which can contribute to effective teaching and learning outcomes in *Madrasah* schools. However, few comparative investigations have focused on what is affecting student language performance when comparing secular and Islamic education in global and local contexts. Therefore, this study aims to compare the paucity of evidence relating to how school, teacher, and student-level factors influence student English reading competencies in secular and Islamic schools by offering three major research questions reported:

- 1) What are the differences in the direct effects of student-level factors (demographics, learning motivation, anxiety, difficulty, and wellbeing), teacher-level factors (personal and professional attributes, professional development, cooperative competencies, professional attitudes, and teaching effectiveness) and school-level factors (demographics, resources, and climate) between secular (*Sekolah*) and Islamic (*Madrasah*) schools on their students' English achievement?
- 2) How do the tested school and teacher-level factors in *Sekolah* and *Madrasah* groups interact between the student-level factors and their English reading achievement differently?
- 3) What are the proportions of variance in students' English reading performances in secular and *Madrasah* groups explained by the student, teacher, and school-level predictors?

To address the research problems, a comparison of the secular (*Sekolah*) and Islamic (*Madrasah*) schools has been separately done using statistics based on a multilevel analysis of how certain factors contribute to direct and interaction effects on students' English reading. These factors include school demographics and characteristics, resources, climate at the school

level, teachers' personal and professional characteristics, professional development and cooperative competencies, job-related attitudes and teaching effectiveness at the teacher level, student demographics, wellbeing, motivation, anxiety, and difficulty at the student level. In addition, the instrument's validity and reliability were investigated to ensure the integrity and quality of the findings reported in this study.

## **7.2 Literature Review**

### ***7.2.1 English Reading***

The pivotal role of English reading literacy as a crucial 21st-century skill has garnered significant attention due to its implications for economic growth and cognitive development. This emphasis is underscored in literature recognizing the multifaceted importance of reading skills in metalinguistic and critical thinking tasks. Empirical investigations have demonstrated a positive correlation between strong English reading literacy and enhanced oral and written language competencies (Mermelstein, 2015), as well as augmented critical thinking prowess (Duru & Koklu, 2011). Moreover, scholars highlight the relevance of English reading competence within the professional realm, where individuals possessing refined reading skills often experience greater employability due to their perceived superior communication abilities, encompassing effective cross-cultural collaboration and negotiation skills (Longweni & Kroon, 2018; OECD, 2021). This well-established significance of English reading proficiency has engendered worldwide interest and spurred curricular adaptations. It has prompted numerous countries, including Indonesia, to realign their English curricula, specifically emphasizing reading, to meet the demands of global competitiveness (Isadaud et al., 2022). This acknowledgement of the far-reaching advantages of English reading underscores the need for in-depth exploration into the diverse factors that shape students' English reading abilities across varying educational contexts and countries. As a result, there is a burgeoning scholarly focus on investigating these factors, reflecting the profound impact of English reading skills on both personal and professional development in the contemporary landscape

### ***7.2.2 Student-Level Factors***

#### ***Student Demographics***

In different school contexts, research which has investigated the relationship between student demographics and English reading has been broadly discussed. For example, several studies (Mirizon et al., 2018; Rianto, 2021) focusing on the gender gap revealed that boys and girls

tend to perform differently in English reading, whereby male students do poorly compared to female students. This has been supported by research conducted in Islamic school contexts which acknowledges that boys are more likely to be less motivated and obtain lower scores in English skills (Ali et al., 2011; Murtafi'ah & Putro, 2020). The discrepancy in English achievement between students of different ages has been shown in research in Bosnia and Herzegovina, by Bećirović and Hurić-Bećirović (2017), which reported that 10-year-old students are better at learning English than older students. This finding is rejected by Gawi (2012) who reports younger students in Islamic schools achieved poorer scores in English reading. In addition, Aina et al. (2013) confirmed that an English proficiency gap exists between students enrolled in different school programs. That study revealed that students who majored in science experienced more problems in reading, which led to poor achievement, compared to other students with different majors. Overall, the studies show weak comparative evidence addressing the difference of student attributes in English reading outcomes across the school settings. A single study which recognizes the key issues is necessary.

### *Student Wellbeing*

While a unanimous definition of wellbeing remains elusive (Seligman, 2018; Zajenkowska et al., 2021), particularly within the Islamic context (Joshnloo, 2017), existing literature agrees that wellbeing entails a harmonious interplay of psychological, social, and physical elements, nurturing students' academic success. Numerous cross-context observational studies highlight links between English proficiency, including reading, and wellbeing dimensions: happiness (Li, 2020), optimism (Huang, 2022), and anxiety (Lindorff, 2020). Happier, optimistic students often excel, enhancing their English skills, while heightened anxiety corresponds to weaker proficiency. Regarding social wellbeing, research in general and Islamic schools emphasizes the impact of peer belonging (Finley, 2018; Mikami et al., 2017) and bullying experiences (Muluk et al., 2021) on language abilities. Connected students receive academic and emotional support, yielding better performance, including in English. Conversely, bullying is linked to reduced motivation and poorer English outcomes. Studies also underscore the relationship between social wellbeing, school climate, and supportive teacher behaviour (Kalkan & Dağlı, 2021). Collectively, these studies underscore the positive influence of student wellbeing on language learning in diverse contexts. Nonetheless, a recommended comparative study across different school settings, secular and Islamic schools, would provide a comprehensive perspective.

### *Motivation, Anxiety and Difficulty*

The literature reveals consistent findings regarding the impacts of learning motivation, anxiety, and difficulty on English language skills. Studies conducted across diverse countries (Assiddiq, 2019; Indrayadi, 2021) emphasize that students are motivated to learn English for cultural, career, and cross-cultural understanding purposes. Islamic school students also highlight motivations such as international travel and Islamic propagation (Rahman et al., 2021). These motivated learners tend to exhibit higher-level English reading skills. In contrast, anxiety and difficulty in English learning tend to undermine motivation and achievement. This pattern is evident across both Islamic (Hermida, 2021; Zubaidi, 2021) and general educational contexts (Ahmad & Nisa, 2019; Saraswaty, 2018). These studies indicate that psychological and technical reading challenges contribute to heightened anxiety and difficulty among students. Issues such as lack of confidence, fear of errors, unfamiliar topics, vocabulary gaps, and disinterest negatively impact reading proficiency. Consequently, there is a consensus on the adverse effects of anxiety and difficulty on reading competency. This literature review underscores the need for empirical investigations focusing on learning motivation, anxiety, and difficulty within distinct school settings, both secular and Islamic. Such comparative studies are essential to deepen our understanding of the intricate relationships between these factors and language learning outcomes.

#### **7.2.3 Teacher-Level Factors**

##### *Teacher Personal and Professional Characteristics*

Teacher characteristics and their impact on teaching effectiveness and student language performance have been extensively explored. Gender's influence on student English outcomes has been a subject of investigation, with some studies (Hwang & Fitzpatrick, 2021) suggesting that gender doesn't significantly affect outcomes, while other research (Watson et al., 2019) proposes that female teachers may have an advantage in second language learning, including reading. Teacher age also plays a role; younger teachers have been associated with improved student English proficiency (Shah & Udgaonkar, 2018), contrasting with findings by Alufohai and Ibhafidon (2015), who reported better English performance from students taught by teachers aged 26-34. However, a recent study in Islamic schools by Zulkifli et al. (2022) argued no significant differences in outcomes based on teachers' gender, age, or experience. Teacher professional characteristics have shown more consistent associations. Experience, an education level (Clotfelter et al., 2006), and certification (Darling-Hammond, 2000) are positively

correlated with student achievement and language skills. Experienced, highly educated, and certified teachers tend to produce better student language outcomes. Teacher job status also matters, with non-permanent teachers demonstrating strong teaching abilities (Upa & Mbato, 2020), which positively affect student learning. The impact of teacher characteristics on student language achievement reveals varied results across different studies and settings, both in Islamic and general schools. More research is necessary to comprehensively understand how these factors interact and influence student outcomes in diverse educational contexts.

### *Professional Development and Teacher Cooperation*

Research, including the Teaching and Learning International Survey (TALIS), highlights a notable connection between teacher professional development (PD) and teaching effectiveness, with better student outcomes observed (OECD, 2014). This alignment is supported by studies (Desimone et al., 2002; Didion et al., 2020) showcasing the positive impact of PD programs on teaching performance and student learning, including reading skills. These investigations suggest that PD empowers teachers to enhance their knowledge, skills, attitudes, methodologies, and classroom management, contributing to desired student learning outcomes. Additionally, teachers' cooperative competencies, involving collaborative work with teaching materials, student discussions, and evaluation (De Jong et al., 2019), as well as team-based teaching approaches (Kim et al., 2019), positively influence teaching effectiveness and student performance. Similar findings in Islamic schools (Arkiang & Adwiah, 2020; Tasrim & Supriyanto, 2017) emphasize that teacher collaboration and teamwork enhance self-efficacy, leading to improved teaching quality and better student outcomes. Research across various contexts underscores the positive impacts of professional development programs and cooperative competencies on teaching effectiveness and student learning outcomes. However, studies directly comparing these factors' influences on student language achievement in distinct school contexts are limited.

### *Job-Related Attitudes and Teaching Effectiveness*

The significant positive impacts of teachers' professional attitudes, encompassing self-efficacy and job satisfaction, on teaching quality and student outcomes are well-established globally (Demir, 2020; OECD, 2009). Recent findings in the EFL context emphasize that teachers with elevated efficacy and job contentment contribute to enhanced performance, closely linked to improved student language and reading skills (Alibakhshi et al., 2020; Ma, 2022). High self-efficacy among teachers fosters creativity, directly influencing practice, student motivation,

and learning achievements. Likewise, teachers with job satisfaction positively impact student academic outcomes (Afshar & Doosti, 2016; Banerjee et al., 2017), nurturing positive teacher-student relationships and fostering better student psychological states, motivation to learn, and minimized learning-related challenges (Ortan et al., 2021). Studies also reveal the influence of effective teaching strategies on reading outcomes (Firdaus & Mayasari, 2022; Par, 2020), and the integration of technology in EFL lessons enhance learning motivation and achievements (Azmi, 2017). These findings are echoed in both Islamic and other educational settings, highlighting the direct and indirect impacts of teacher attitudes and teaching effectiveness on student learning (OECD, 2009; Yafiz et al., 2022). While technology can positively influence learning, it may also induce negative behaviours, like triggering anxiety (Bhuttah et al., 2021). The literature underscores the close relationship between teacher attitudes, effective teaching practices, and student learning outcomes. However, evidence specific to student English reading skills within particular school contexts remains limited, indicating the need for further research on this topic.

#### ***7.2.4. School-Level Factors***

##### *School Demographics*

Disparities in language skills among students from different school demographics have been extensively studied across diverse educational settings. Research (Cadiz-Gabejan, 2022; Madrid & Barrios, 2018) consistently indicate that students attending private schools exhibit better English skills, including reading, compared to those in public schools. This achievement gap persists across various school locations and services. Urban schools noted for superior facilities (Ellah & Ita, 2017) and full-day learning options (Ulva & Widyawati, 2022), align high language learning motivation with enhanced English student performance. Similar patterns emerge in studies highlighting the role of school resources and services. The disadvantages of resource scarcity in rural Bangladeshi Islamic schools (Asadullah, 2015; Asadullah et al., 2007) and the benefits of full-day programs in Indonesian Islamic boarding schools (Suardi et al., 2017) impact students' language competencies. Contrasting findings suggest English language learning is more favourable in Islamic public schools versus private sector schools (Ali et al., 2011; Muttaqin et al., 2019). To comprehensively understand the effects of school attributes on student learning, further comparative research across specific school contexts is warranted.



### *School Autonomy and Resources*

The substantial impact of school autonomy on student language proficiency, including reading skills, has been extensively demonstrated. Prior research (OECD, 2011) has underscored that schools with higher operational autonomy tend to yield superior reading outcomes compared to those with limited autonomy. This association is attributed to schools' authority over assessment methods, subject content, textbooks, and staff recruitment, which allows them to better cater to community needs and learning goals. Concurrently, existing studies emphasize the role of varying degrees of autonomy in shaping outcomes within different school contexts and systems. Additionally, the positive correlation between school resources and students' English proficiency is well-acknowledged. Studies (Eric & Ezeugo, 2019; Mahmood & Gondal, 2017) emphasize the beneficial impact of adequate school resources on English performance. Effective facilities, such as classrooms and libraries, contribute to enhanced learning engagement and reading achievement. Quality learning materials and skilled teachers further amplify reading performance, addressing learning needs and challenges. Notably, limited research delves into the effects of school autonomy on English skills within the Islamic school context. However, studies suggest resource deficiencies, encompassing facilities and teacher quality, are key factors impacting poor performance in Indonesian Islamic schools (ADB, 2014; Kholis & Murwanti, 2019; Muhajir, 2016). Research gaps persist in exploring the interplay of school autonomy and resources' influence on student English skills, particularly in reading, within specific school settings.

### *School Climate*

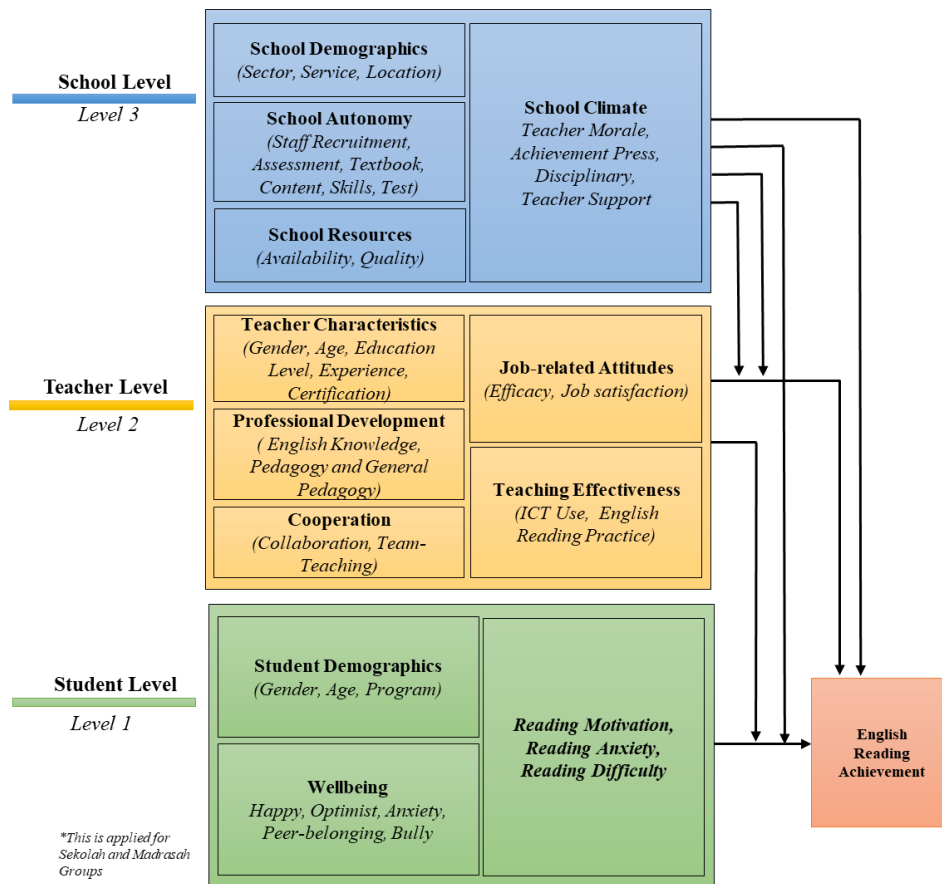
The concept of school climate, though lacking complete consensus, has been defined by the OECD (2005) as the culture and attitudes within a school community, encompassing teacher enthusiasm, achievement concerns, support, and discipline, which significantly impact student outcomes in diverse contexts. This perspective has found resonance in studies focusing on student language and reading skills. Notably, positive teacher morale (Sabin, 2015) and support (Sharma, 2016) have been associated with improved language performance. Teachers with high morale exhibit positive attitudes and enthusiasm toward their work, while supportive teachers aid students in overcoming learning challenges and enhancing motivation. Likewise, the domains of achievement pressure and discipline within the school climate positively affect students' learning performance. Previous research (Shouse, 1996) has highlighted a significant link between academic pressure and achievement, indicating that schools prioritizing

achievement tend to yield better results. Comparative studies (Ning et al., 2015) suggest that a conducive disciplinary climate is closely tied to enhanced reading outcomes, with research in general contexts (Ehiane, 2014) supporting the role of school discipline in fostering effective learning and academic achievement. While specific studies on the impact of school climate in Islamic settings are limited, Islamic values have been linked to positive school climates in *Madrasah* schools in Indonesia and Malaysia, potentially influencing student outcomes (Na'imah et al., 2022). Collectively, prior research highlights the potential contribution of various school climate domains to diverse student learning outcomes. Therefore, a comprehensive investigation comparing the influence of these factors on student language skills across Islamic and non-Islamic school contexts is essential.

### 7.3 Conceptual Framework

**Figure 7. 1**

*Conceptual Framework*



The theoretical framework discussed earlier leads to the formulation of a three-level (3L) model of English reading achievement, as depicted in Figure 7. 1. This proposed model applies to both *Sekolah* (SS) and *Madrasah* (MS) groups, outlining how predictors from four school-level categories, five teacher-level categories, and three student-level categories directly impact students' English reading performance as the outcome. At the school level, variables encompass school characteristics, autonomy, resources, and climate. The teacher level includes group predictors like personal and professional attributes, professional development, cooperation, and job-related attitudes. Meanwhile, the student level comprises demographic factors, wellbeing, learning motivation, anxiety, and difficulty. The 3L model also recognizes the potential for interactions between the school, teacher, and student levels, further influencing the outcome variables. Detailed explanations of the variables used in this study are provided in the subsequent methods section.

## **7.4 Methods**

### ***7.4.1 Participants***

The study's sample comprised 30 schools, 64 English teachers, and 1,319 Year 12 students from Indonesia, selected through a two-stage stratified sampling process (Cohen et al., 2002; Mills & Gay, 2016). The samples were divided into two distinct categories: secular or *Sekolah* (schools: n=16; teachers: n=34; students: n=726) and Islamic or *Madrasah* (schools: n=14; teachers: n=30; students: n=593) groups. The sampling technique followed a careful approach involving district and school-level stratification. Initially, 12 districts were selected, ensuring representation of both secular and Islamic schools within each area. Subsequently, school samples were chosen within these districts, accounting for the total number of teachers or classrooms, and students were then sampled within the selected classrooms. This stratified sampling approach was employed to ensure an accurate representation of various subgroups within the sample, both proportionally and non-proportionally. This method ensured a reliable representation of the target population consisting of secular and Islamic schools, teachers, and students.

## 7.4.2 Derived Variables

**Table 7. 1**

*Variables Used in this Study*

Hierarchical Level	Theoretical Dimensions	Latent Variables	Description	Code	
<b>School level (Level 3)</b>	School Characteristics	SCSECTOR	School Sector	0 = Public, 1 =Private	
		SCSERV	School Service	0 = Non-full-day, 1 = Full day	
		SCLOC1	School Location in Village (Dummy)	0 = No, 1 = Yes	
		SCLOC2	School Location in Village (Dummy)	0 = No, 1 = Yes	
			SCLOC3	School Location in Village (Dummy)	0 = No, 1 = Yes
	School Autonomy	AUTO1	Autonomy in Teacher Recruitment	0= School Authority, 1= Regional Gov. Authority, 2= Central Gov. Authority	
		AUTO2	Autonomy in Standardized Test		
		AUTO3	Autonomy in Textbook		
		AUTO4	Autonomy in Course Content		
		AUTO5	Autonomy in Skill Offered		
		AUTO6	Autonomy in Assessment		
	School Resources	RSCAV	Availability of School Resources	WLE-Score	
		RSCQT	Quality of School Resources	WLE-Score	
	School Climates	MORALE	Teacher Morale	WLE-Score	
DSCPLN		Disciplinary	WLE-Score		
PRESS		Achievement Press	WLE-Score		
SUPPORT		Teacher Support	WLE-Score		
<b>Teacher Level (Level 2)</b>	Teacher Personal and Professional Characteristics	GENDER	Gender	0 = Female, 1 = Male	
		AGE	Age	Scale	
		EDULV	Education Level	0=Bachelor, 1=Master	
		TCEXP	Teaching Experience	Scale	
		CERT	Certification	0=No, 1=Yes	
	Professional Development	PD1	English Knowledge	<25% - 100%	
		PD2	English Pedagogy		
		PD3	General Pedagogy		
	Cooperative Competences	TCLB	Teacher Collaboration	WLE-Score	
		TEAM	Team Teaching	WLE-Score	
	Job-related Attitudes	EFF	Teacher Efficacy	WLE-Score	
		JOBS	Job Satisfaction	WLE-Score	
	Teaching Effectiveness	ICTUS	ICT use	WLE-Score	
READP		Reading Practice	WLE-Score		
<b>Student Level (Level 1)</b>	Student Demographics	GENDER	Student Gender	0 = Female, 1 = Male	
		AGE	Student Age	(14 – 20 years old)	
		PROG1	Student Program in Science (Dummy)	0 = No, 1 = Yes	
		PORG2	Student Program in Social (Dummy)	0 = No, 1 = Yes	
		PROG3	Student Program in Language (Dummy)	0 = No, 1 = Yes	
			PROG4*	Student Program in Islamic (Dummy)	0 = No, 1 = Yes
	Wellbeing	HAPPY	Happiness	WLE-Score	
		OPT	Optimism	WLE-Score	
		ANX	Anxiety	WLE-Score	
		PEER	Peer-belonging	WLE-Score	
		BULLY	Bullying	WLE-Score	
	Motivation, Anxiety and Difficulty	MOTREAD	Reading Motivation	WLE-Score	
		ANXREAD	Reading Anxiety	WLE-Score	
		DIFREAD	Reading Difficulty	WLE-Score	
Reading Achievement	READING	Reading Achievement	WLE-Score		

Table 7. 1 presents the variables encompassing student, teacher, and school-level aspects, as aligned with the conceptual model for both secular and *Madrasah* groups. At the school level, four categories of variables, including school characteristics, autonomy, resources, and climate, were adapted from the OECD (2005). School sector (SCSECTOR), service (SCSERV), and location (SCLOC) were assessed based on school principal responses. Autonomy levels concerning staff recruitment (AUTO1), standardized testing (AUTO2), textbooks (AUTO3), content (AUTO4), skills offered (AUTO5), and assessment (AUTO6) were determined. School resources' availability (RSCAV) and quality (RSCQT) were evaluated through the school principals' perspectives. Climate aspects were gauged by factors like teacher-student relationships (MORALE), pressure to achieve (PRESS), disciplinary level (DSCPLN), and teacher support (SUPPORT). At the teacher level (level 2), five variables adapted from OECD (2014) were considered. Teacher demographics and professional attributes, such as gender (GENDER), age (AGE), level of education (EDULV), job status (JOBSTAT), teaching experience (TCEXP), and certification (CERT), were assessed. Professional development in English knowledge (PD1), English pedagogy (PD2), and general pedagogy (PD3) were gauged based on teachers' knowledge gained through PD programs. Teacher cooperative competencies were examined in terms of collaborative work (TCLB) and team-based teaching (TEAM). Job-related attitudes, job satisfaction (JOBS), and efficacy (EFF) were captured. Teaching effectiveness variables encompassed ICT use (ICT) and reading practice (READ) in alignment with learning objectives. At the student level, four theoretical dimensions were included. Student attributes of gender (GENDER), age (AGE), and program (PROG) were assessed. Well-being domains encompassed happiness (HAPPY), optimism (OPT), anxiety (ANX), peer-belonging (PEER), and bullying (BULLY). Reading motivation scales adapted from OECD (2019), anxiety, and difficulty from Hamouda (2013), and reading achievement (READING) were considered. For analysis, variables such as school characteristics, autonomy, teacher attributes, and student demographics were coded using raw scores. Other scales were measured using a four-point Likert scale and converted to Weighted Likelihood Estimate (WLE) scores using Rasch analysis. Dummy variables were used to differentiate treatment groups, such as school locations and study programs. Validation through Mplus and Conquest software was performed to ensure measurement quality and integrity.

### 7.4.3 Hierarchical Linear Modelling (HLM)

The analysis of hierarchical linear modelling (HLM) using HLM software (Raudenbush et al., 2019) was done to investigate the relationships within and between the hierarchical levels of grouped data levels. The HLM analysis more accurately examines the direct and cross-level interaction effects between the variables at the different levels and estimates the variance among the variables at the varying data levels. However, this analysis assumes only one dependent variable at the individual level (level 1) of the hierarchy is influenced by several predictors or independent variables within and between the levels (Luo & Azen, 2013; Woltman et al., 2012).

To conduct an HLM analysis, a series of tasks were undertaken. Firstly, three levels of data - student, teacher, and school level - were separately arranged in *Sekolah* (SS) and *Madrasah* (MS) groups. The individual students were nested within the classrooms or teachers, and the individual classrooms or teachers were nested within the schools or principals. Secondly, a null or unconditional model with no predictor from any level was run to determine the interclass correlation (ICC). In the third stage, random coefficients were added to test for the direct effects of predictors at levels 1, 2, and 3 (student, teacher, and school-level factors) and the outcome (reading achievement). This stage examined the direct effects of the different predictors at the student, teacher, and school levels on English reading achievement. Simultaneously, cross-level interaction effects were carried out to examine the moderating effects that exist between student-level (level 1), teacher-level (level 2), and school-level (level 3) predictors. However, only the predictors with a significance level of  $p$ -value  $<0.05$  were included in the model for both groups. Due to the limitation of HLM in group comparison, separate analyses of hierarchical linear modelling for *Sekolah* and *Madrasah* groups were performed.

## 7.5 Findings

The equations derived from null models for both the *Sekolah* (SS) and *Madrasah* (MS) groups were revealed (see Appendix 2). Within these models,  $READING_{ijk}$  represents students' English reading achievement, while  $\pi_{0jk}$  signifies the intercept of students' achievement (i) under teacher (j) in school (k). The term  $e_{ijk}$  denotes a level-1 random effect, indicating the deviation of student  $i$  in classroom (teacher)  $j$  within school  $k$  from the mean reading performance score. In the level-2 model, the teacher means ( $\pi_{0jk}$ ) vary randomly around a grand mean across schools.  $\beta_{00k}$  represents the average reading achievement score in school

k, and  $r_{0jk}$  stands for the teacher-level error term, capturing the random teacher effect or the deviation of teacher mean  $j$  from the school grand mean  $k$ . In the level-3 model,  $\beta_{00k}$  signifies the mean intercept of students' reading performance within school  $k$ .  $\gamma_{000}$  represents the grand mean of reading performance across all schools, and  $u_{00k}$  captures the random error related to school effects. Simultaneously, the final model, presented in Appendix 4, is applied to both the *Sekolah* (SS) and *Madrasah* (MS) groups. The equations in these groups indicate that the students' English reading results are a function of the overall intercept ( $\gamma_{000}$ ). In the SS group, seven direct or main effects, eight cross-level interaction effects, and a random error are revealed as significant. Similarly, in the MS group, there are seven direct effects, six cross-level moderation effects, and a random error. However, only the significant ( $p < 0.05$ ) direct and moderation effects are included in the final-model equations for both groups. Specific explanations about the predictors and their influences on the outcome, both directly and indirectly, are discussed in the subsequent section.

### ***7.5.1 The Direct Effect of Predictors on Students' Reading Scores between the Groups.***

Figures 2 and 3 along with Appendix 6, showcase the final model outcomes for fixed effects on students' reading performance between the compared *Sekolah* (SS) and *Madrasah* (MS) groups. Among the tested predictors, student reading anxiety (ANXREAD) and difficulty (DIFREAD) at the student level, along with achievement pressure (PRESS) and disciplinary climate (DSCPLN) at the school level, significantly impact students' English reading scores in both groups. Negative estimates for DIFREAD (SS,  $\beta = -0.26$ ; MS,  $\beta = -0.38$ ) and ANXREAD (SS,  $\beta = -0.05$ ; MS,  $\beta = -0.11$ ) indicate that high reading difficulty and anxiety lead to poorer English reading performance for students in both *Sekolah* and *Madrasah* schools. The differing effects of PRESS and DSCPLN in both groups suggest distinct interpretations. For instance, the negative coefficient of PRESS ( $\beta = -0.04$ ) and the positive estimate of DSCPLN ( $\beta = 0.04$ ) suggest that high achievement pressure in secular schools is associated with lower reading scores, while high discipline levels in secular schools lead to higher reading scores. Conversely, the positive effect of PRESS ( $\beta = 0.10$ ) and negative influence of DSCPLN ( $\beta = -0.11$ ) indicate that *Madrasah* students who experience high achievement pressure and low disciplinary climate achieve better reading scores. These results imply that each standard deviation increase in PRESS corresponds to a 0.04 decrease in *Sekolah* students' scores and a 0.10 increase in *Madrasah* students' reading performance. Likewise, a one standard deviation increase in DSCPLN results in a 0.04 rise in secular schools and a 0.10 drop in Islamic schools.

Additionally, in the *Sekolah* group, peer belonging (PEER,  $\beta=0.20$ ) and anxiety (ANX,  $\beta=-0.04$ ) at the student level, as well as school service (SCSERV,  $\beta=-0.17$ ), directly influence student reading achievement. In the *Madrasah* group, student gender (GENDER,  $\beta=0.09$ ) and teacher professional development in general pedagogy (PD3,  $\beta=0.11$ ), as well as school resource availability (RSCAV,  $\beta=0.13$ ), directly impact English reading tests. These results indicate that high-performing students in *Sekolah* tests are more engaged with their peers, less anxious, and attend public secular schools. In *Madrasah* schools, high reading scores are achieved by male students and those taught by teachers with strong knowledge of general pedagogy through PD programs, as well as those attending schools with ample resources. These findings suggest that a one standard deviation increase in PEER leads to a 0.20 increase, and ANX corresponds to a 0.04 decrease in *Sekolah* students' scores. Furthermore, a one standard deviation increase in RSCAV in *Madrasah* schools leads to a 0.13 increase in students' reading achievement.

### ***7.5.2 The Interaction Effects of the Predictors on the Slope of Student-level Factors and Reading Achievement across the Groups.***

Appendix 6, along with Figures 2 and 3, provides insights into the interaction effects of variables on the slope of student-level predictors and English reading performance in both the *Sekolah* (SS) and *Madrasah* (MS) groups. Several predictors moderate the slopes of students' reading anxiety (ANXREAD) and reading difficulty (DIFREAD) in both groups. Teacher support (SUPPORT) and morale (MORALE) only interact with the slope of peer belonging (PEER) and reading achievement in secular schools. Figure 4 depicts cross-level interaction effects in the *Sekolah* group, revealing interactions between school location in the village (SCLOC1,  $\beta=0.10$ ), ICT use (ICTUS,  $\beta=0.01$ ) at the teacher level, the slope of reading anxiety (ANXREAD), and reading achievement. These interactions suggest that English reading anxiety's effect is stronger in village schools, whereas city and district schools using more technology exhibit reduced reading anxiety and better outcomes. Moreover, cross-interaction effects are seen between the slope of students' reading difficulty (DIFREAD) and reading achievement in the *Sekolah* (SS) group. Teacher job status (JOBSTAT,  $\beta=-0.09$ ), job satisfaction (JOBS,  $\beta=-0.03$ ), school autonomy in textbook selection (AUTO3,  $\beta=-0.10$ ), and assessment (AUTO6,  $\beta=0.17$ ) exhibit moderation effects. These results suggest that non-permanent teachers in *Sekolah* schools, higher teacher job satisfaction, and school autonomy in textbook and assessment selection, interact with the slope of reading difficulty to influence reading achievement.



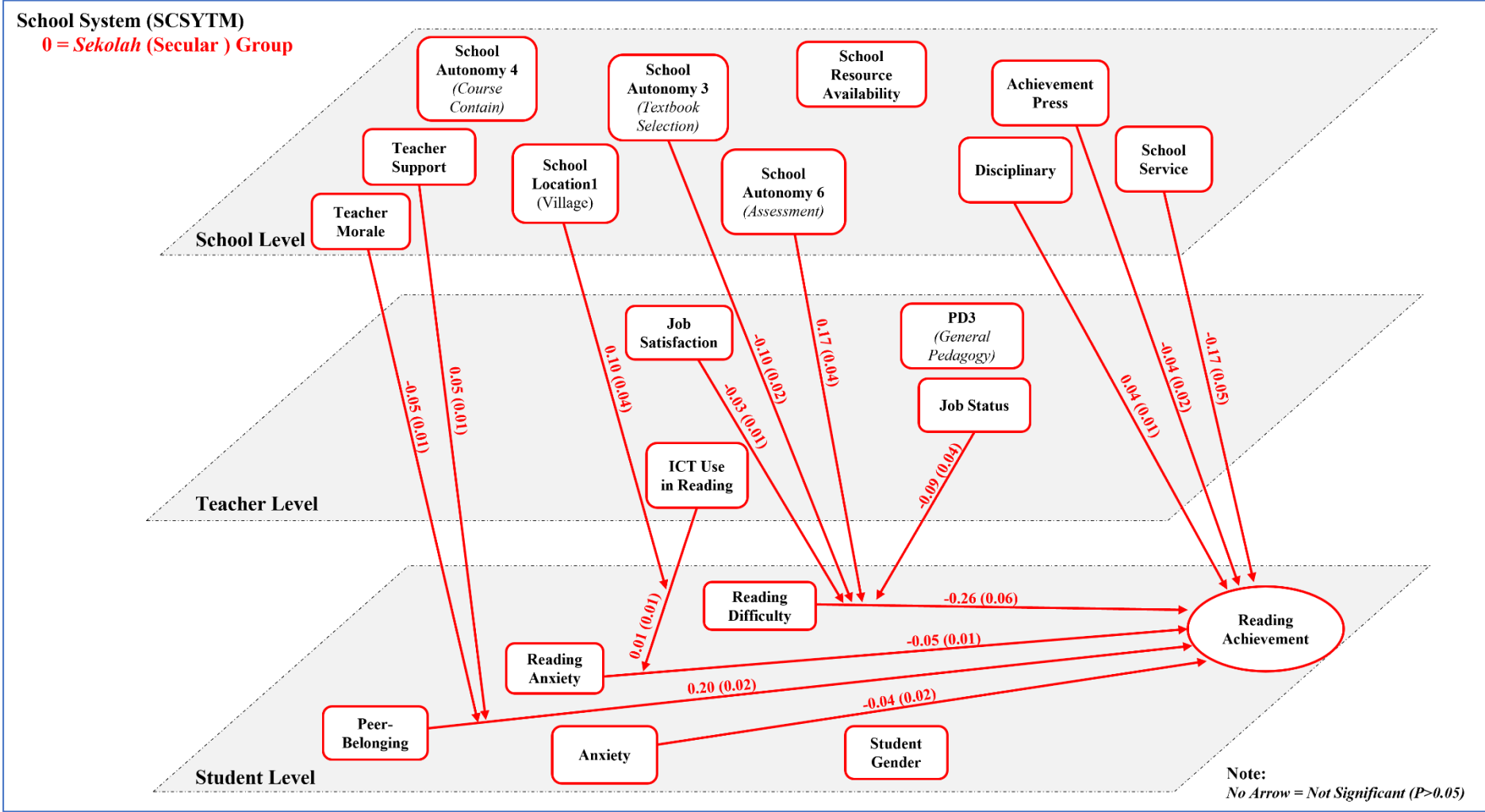
Furthermore, in the *Sekolah* group, interactions emerge between the slope of students' peer belonging (PEER) and reading achievement. Teacher morale (MORALE,  $\beta=-0.05$ ) and teacher support (SUPPORT,  $\beta=0.05$ ) act as moderators. Lower teacher morale strengthens the effect of students' engagement with their peers, while higher teacher support enhances the effect of peer belonging on reading performance. Additionally, school autonomy over course content (AUTO4,  $\beta=-0.02$ ) interacts negatively with the slope of reading anxiety (ANXREAD) and reading achievement in *Sekolah* schools. This indicates that greater autonomy over course content amplifies the effect of reading anxiety. Conversely, when English course content is determined by government authorities, the effect of reading anxiety weakens. Likewise, two cross-level interaction effects in the *Sekolah* group are identified: teacher job status (JOBSTAT,  $\beta=0.08$ ) and school resource availability (RSCAV,  $\beta=-0.07$ ). Permanent teachers intensify the effect of reading difficulty, while non-permanent teachers weaken it. In *Madrasah* schools, fewer school resources amplify the effect of reading difficulty, whereas more resources dampen its impact. These findings highlight the intricate interplay of various factors influencing English reading achievement and their interactions in different school contexts.

### ***7.5.3 Variance Explained by the Three-level Model between Groups***

The summarised variance components and explained variance proportions in null and final models across groups are found (see Appendix 7). In the null model, student-level factors explain 88% (SS) and 81% (MS) of reading performance variance. Teacher-level variance is 3% (SS) and 13% (MS), while school-level variance is 9% (*Sekolah*) and 6% (*Madrasah*). Final models (Table 5) include level-1, level-2, and level-3 predictors, explaining 85% (SS) and 82% (MS) student-level variance, 67% (SS) and 88% (MS) teacher-level variance, and 67% (*Sekolah*) and 75% (*Madrasah*) school-level variance. The final model explains 83% (SS) and 82% (MS) of total available variance, leaving 17% (SS) and 18% (MS) possibly due to other factors like family background.

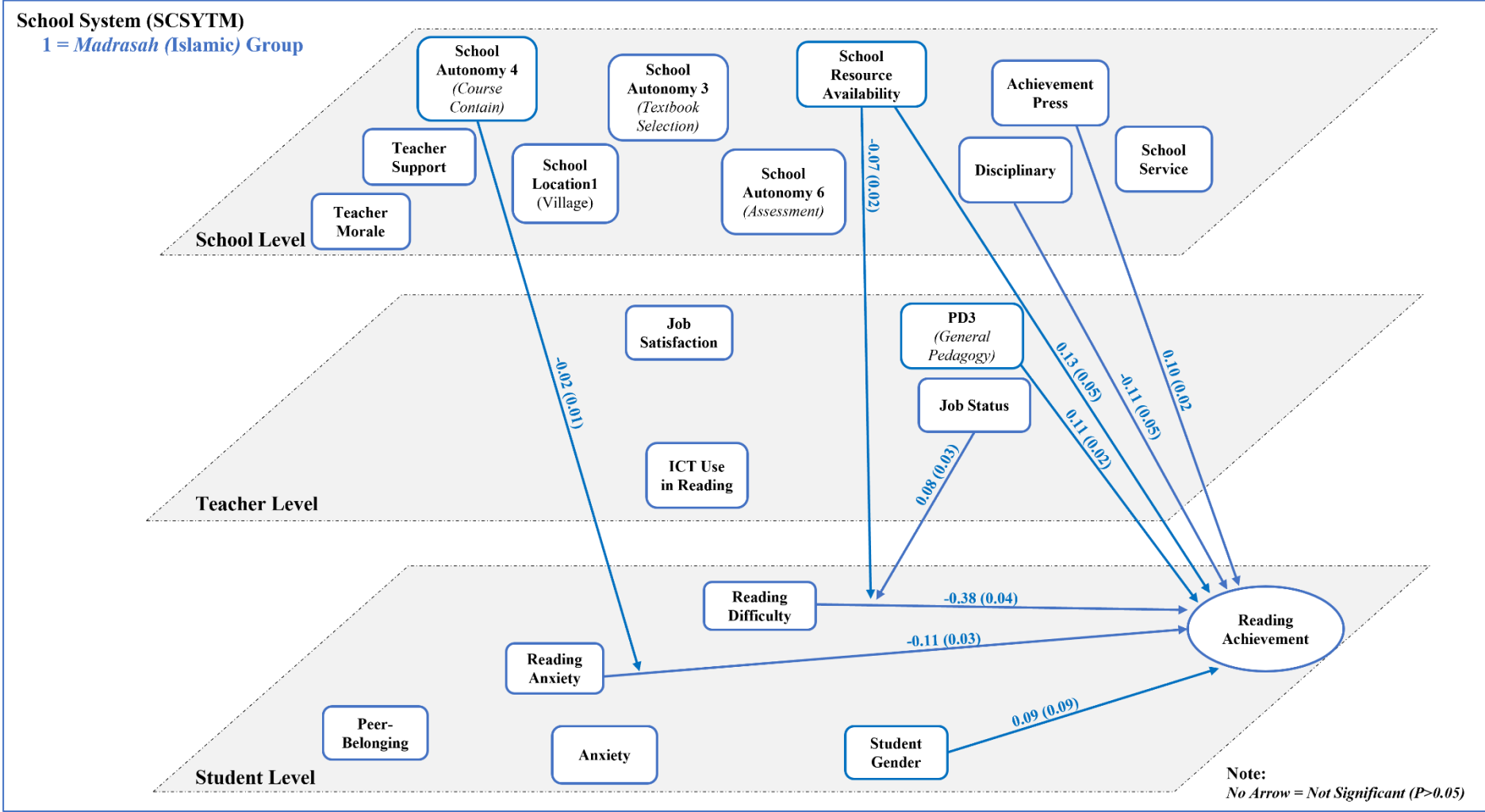
**Figure 7. 2**

*The Final Three-level Model of Students' Reading Achievement for Sekolah (SS) Group*



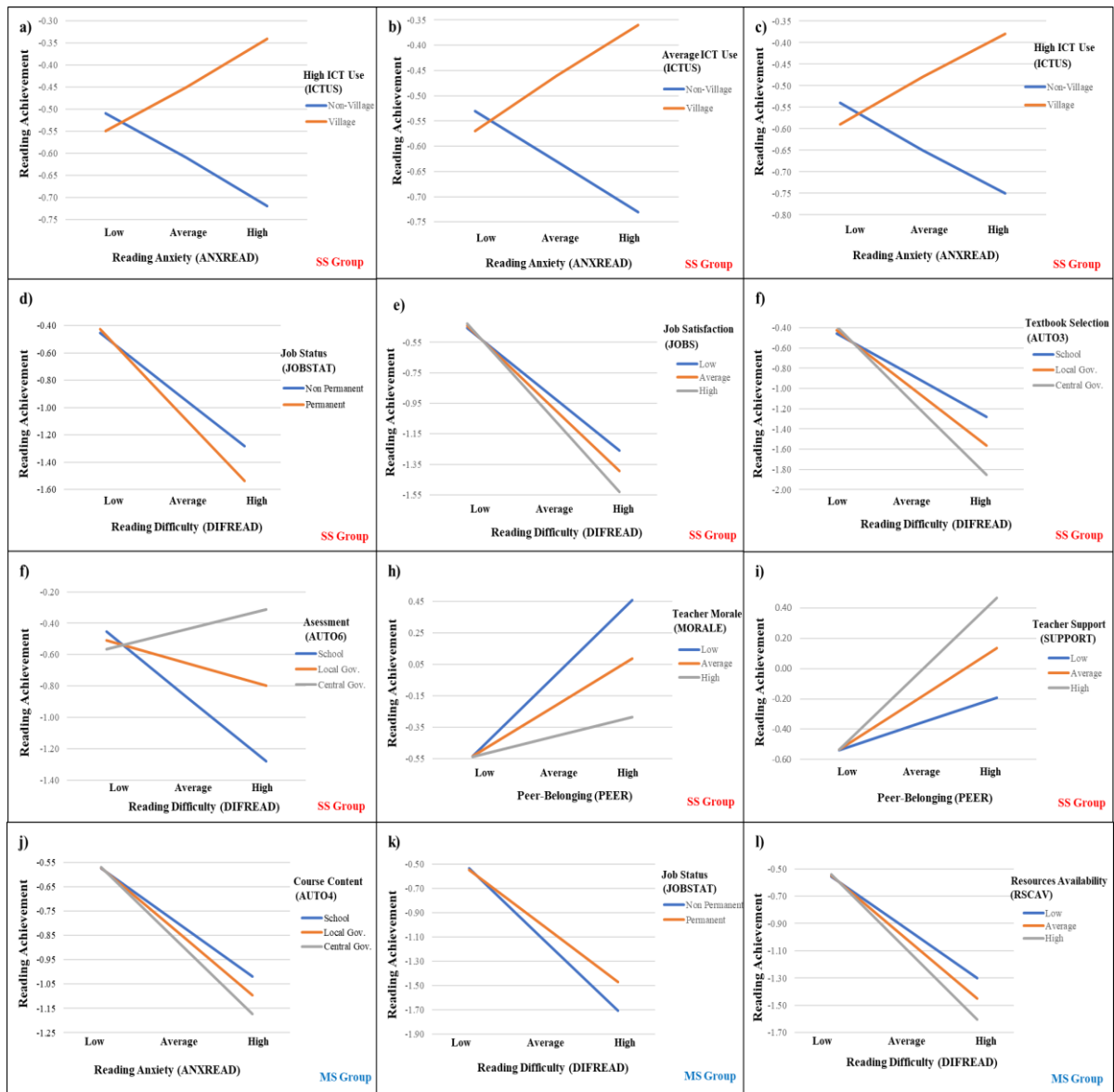
**Figure 7. 3**

*The Final Three-level Model of Students' Reading Achievement for Madrasah (MS) Group*



**Figure 7. 4**

*Interaction Effects of the Predictors on the Slope of Student-level Factors and Reading Achievement across the Groups*



## 7.6 Discussion

The primary significance of this study is that it addresses the differences between secular (*Sekolah*) and Islamic (*Madrasah*) schools in Indonesia by focusing on multilevel - school, teacher, and student-level - factors that influence their students' English achievement in different ways. As discussed previously, this research was based on prior studies which acknowledged the disadvantages of Islamic schools in terms of resources compared to secular schools (Hendajany, 2016; Newhouse & Beegle, 2006; Stern & Smith, 2016). Other

investigations have documented the great benefits of religious values in Islamic schools which are strongly associated with an effective school climate (Na'imah et al., 2022), positive teacher attitudes (Yafiz et al., 2022), students' behaviours in language learning (Amri et al., 2017; Bin Tahir, 2015) and wellbeing outcomes (Na'imah et al., 2022) leading to better learning outcomes. By combining the pro and con factors in both school contexts, found here were the direct and moderating effects of school attributes, resources, climate, teacher personal and professional characteristics, professional development and cooperative competencies, job-related attitudes and teaching effectiveness, student demographics, wellbeing, motivation, anxiety, and difficulty on student English reading differently in both *Sekolah* and *Madrasah* schools. Using the hierarchical linear modelling (HLM) techniques, this study provides interesting results.

Firstly, the findings of this study offer a nuanced understanding of the intricate interplay between student learning challenges, school climates, and their impact on English reading achievements within the *Sekolah* (SS) and *Madrasah* (MS) groups. The study underscores the parallel influence of student learning issues, such as reading difficulties and reading anxiety, as well as school climates characterized by achievement pressure and disciplinary level, on the English reading achievements of students in both contexts. Notably, the observed negative correlation between reading difficulties and anxiety with English reading scores corroborates earlier research that highlighted the detrimental effects of learning-related anxiety and difficulty on students' academic performance (Ahmad & Nisa, 2019; Saraswaty, 2018). Furthermore, the research delves into the distinct impacts of school climates on student achievement, revealing contrasting preferences and outcomes between *Madrasah* and *Sekolah* groups. The inclination of *Madrasah* students toward higher achievement pressure and lower discipline aligns with improved achievement, whereas *Sekolah* students show a preference for less achievement pressure and greater discipline, resulting in better reading scores. This revelation underscores the intricate interplay of contextual factors and individual needs within different educational settings, expanding upon prior studies (Ehiane, 2014; Ning et al., 2015; Shouse, 1996) by highlighting the context-dependent effects of achievement pressure and disciplinary approaches. These findings underscore the importance of context-aware interventions that consider students' learning challenges, preferences, and the unique school climates of *Sekolah* and *Madrasah*. The study contributes valuable insights into tailoring strategies to foster optimal learning environments and improve English reading outcomes across these diverse educational contexts.

This study offers valuable insights that reinforce previous research regarding the crucial role of student social relationships with peers and the alleviation of student anxiety in enhancing overall school performance within *Sekolah* contexts. These findings align with earlier studies by Finley (2018), Mikami et al. (2017), and Lindorff (2020), underlining the importance of positive peer interactions and reduced anxiety as contributing factors to improved academic outcomes. In contrast, this study challenges recent research by Ulva and Widyawati (2022), who suggested the advantages of full-day schooling for English achievement. The present findings suggest that while full-day schooling might benefit other subjects, it does not yield the same advantages in language learning, indicating the complex nature of school schedules and their impact on specific skills. Moreover, the study reaffirms the positive influence of teacher professional development on student performance, consistent with findings by Didion et al. (2020). The alignment between teachers' high levels of knowledge and students' enhanced reading scores in *Madrasah* schools underscores the pivotal role of educators' continuous growth in fostering improved student outcomes. Notably, this study underscores the critical impact of school resources in *Madrasah* settings, echoing the insights of Eric and Ezeugo (2019) and (Mahmood & Gondal, 2017). The link between insufficient resources and lower academic performance emphasizes the necessity of adequate educational materials and facilities to support effective learning environments. Interestingly, the observation of improved reading scores among boys in *Madrasah* schools challenges prior trends (Ali et al., 2011; Murtafi'ah & Putro, 2020) that favoured girls in language learning. This shift in the English achievement gap in favour of males within Islamic schools adds a new dimension to the gender-related dynamics influencing language proficiency. In summary, this study not only reaffirms previously established links between peer relationships, anxiety reduction, teacher professional development, and school resources with student performance but also introduces novel insights that challenge recent research trends and reveal unexpected outcomes, particularly in the context of gender differences. These findings collectively underscore the multifaceted and dynamic nature of factors influencing student achievement within diverse educational settings.

Although student reading difficulty and anxiety as well as peer belonging have direct effects on their reading scores, they might vary depending on the influence of other predictors in both groups. As an example, the use of technology in the English lessons in *Sekolah* schools located in the village increases their students' learning anxiety leading them to achieve low reading scores. In *Madrasah* schools where their English course content is determined by the government authorities, in contrast, the effect of reading anxiety is weaker which is contrary to the previous studies (OECD, 2011; Patrinos et al., 2015). Therefore, technology or ICT

familiarity is needed in the *Sekolah* group and school decisions aligned with student needs and diversity are necessary in Islamic schools. Moreover, the levels of student English reading difficulty in the *Sekolah* group vary depending on their teacher and school decision factors. This is evident that permanent teachers (Upa & Mbato, 2020) and highly satisfied teachers (Afshar & Doosti, 2016; Banerjee et al., 2017; Ortan et al., 2021) can decline their students' learning problems to obtain better academic outcomes. The prior results on the emphasis on schools' having autonomy in policy (OECD, 2011; Patrinos et al., 2015) is beneficial for teaching and learning needs and outcomes are generally in line with this study claiming that less learning difficulty faced by the students if their textbook and assessment are decided schools aligned with school needs and contexts. The availability of school resources in *Madrasah* schools can decrease their students' reading difficulty and improve student achievement (Eric & Ezeugo, 2019; Mahmood & Gondal, 2017). While non-permanent *Madrasah* teachers (Upa & Mbato, 2020) show good performance in teaching including they can solve their students' reading problems.

Simultaneously, the study highlights that while student factors such as reading difficulty, anxiety, and peer belonging directly impact reading scores, their effects can vary based on other influencing factors in both *Sekolah* and *Madrasah* contexts. For instance, the introduction of technology in English lessons within *Sekolah* schools located in villages intensifies students' learning anxiety, leading to lower reading scores. This contrasts with *Madrasah* schools, where the influence of reading anxiety is weaker due to standardized course content determined by government authorities, contrary to prior findings (OECD, 2011; Patrinos et al., 2015). This emphasizes the need for technology integration and tailored curricular decisions to address diverse needs in *Sekolah* and *Madrasah* groups. Furthermore, the variation in student English reading difficulty within the *Sekolah* group is influenced by teacher and school decisions. Notably, permanent teachers and highly satisfied teachers can effectively mitigate students' learning problems, aligning with studies by Upa and Mbato (2020), Afshar and Doosti (2016), Banerjee et al. (2017) and Ortan et al. (2021), emphasizing the positive impact of teacher characteristics on academic outcomes. This aligns with prior research emphasizing the benefits of school autonomy in policy (OECD, 2011; Patrinos et al., 2015), reinforcing the notion that student learning difficulties decrease when textbooks and assessments are aligned with contextual needs. Additionally, the availability of school resources in *Madrasah* schools emerges as a significant factor in reducing students' reading difficulties and improving achievement, consistent with Eric and Ezeugo (2019) and Mahmood and Gondal (2017). Interestingly, non-permanent *Madrasah* teachers demonstrate strong teaching

performance, effectively addressing students' reading challenges, as shown by Upa and Mbato (2020). This highlights the competence of non-permanent teachers and their ability to support students' learning needs. Altogether, the study emphasizes the contextual factors influencing the effects of student attributes on reading scores, including the role of technology, curricular decisions, teacher characteristics, school autonomy, and resource availability. These findings collectively underscore the importance of tailored strategies in addressing student challenges and optimizing reading outcomes in both *Sekolah* and *Madrasah* educational settings.

## **7.7 Conclusion**

This study provides a comprehensive examination of the distinctive influences on English reading achievement in Indonesian secular (*Sekolah*) and Islamic (*Madrasah*) schools. Notably, it addresses a significant gap by delving into the interplay of school, teacher, and student-level factors that impact English proficiency differently in both contexts. By integrating the benefits and challenges inherent to each school type, this study unveils direct and moderating effects of various attributes, resources, climates, teacher characteristics, professional development, student demographics, and well-being on English reading outcomes. The research underscores a substantial contribution by explicating that reading difficulties and anxiety, as well as school climates including achievement pressure and disciplinary levels, significantly influence English reading achievements for both *Sekolah* and *Madrasah* groups. Likewise, the study sheds light on the intricate dynamics of student social relationships, anxiety reduction, and the use of technology in *Sekolah* schools. In contrast, the effect of these factors in *Madrasah* schools aligns with a different set of circumstances, revealing the importance of contextual adjustments and tailored approaches to foster optimal learning outcomes. The implications of this study extend beyond its empirical findings. It calls for increased attention to contextual autonomy and accountability in educational policies, facilitating tailored approaches that address the distinct demands of the secular and Islamic education environments. Furthermore, addressing the resource accessibility challenges in Islamic schools and fostering positive school climates are critical for enhancing overall student performance. Enhancing teacher job satisfaction and providing professional development opportunities are pivotal steps toward bridging gaps in teaching quality. In addition, it is important to note that this study focuses only on Indonesian schooling contexts, which is a limitation. More research into different school contexts, such as other countries, involving home background factors, and methods is required.



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## 7.9 Appendices

### Appendix 7. 1

#### *Descriptive Statistics of the Tested Variables*

Variable		<i>Sekolah (SS)</i>				<i>Madrasah (MS)</i>				<b>Total</b>			
		Mean	SD	Sk	Ku	Mean	SD	Sk	Ku	Mean	SD	Sk	Ku
<b>School-level Factors</b>		<i>N=16</i>				<i>N=14</i>				<i>N=30</i>			
School Resource Availability	RSCAV	1.39	1.59	-0.03	0.90	-1.24	0.74	-1.22	0.67	1.58	1.83	0.56	-0.11
School Resource Quality	RSCAQT	-1.36	1.83	-0.08	-0.03	0.38	1.29	0.25	-1.15	-0.55	1.80	-0.37	0.04
Teacher Morale	MORALE	0.32	2.18	-0.28	-1.08	0.13	1.93	0.27	-0.86	0.23	2.03	-0.05	-1.06
Achievement Pressure	PRESS	-0.13	1.66	0.17	0.34	0.96	1.63	0.28	-0.84	0.38	1.71	0.16	-0.21
Disciplinary	DCPLN	-0.05	1.84	0.23	-0.08	1.25	2.82	-0.90	1.64	0.56	1.92	-0.22	-0.38
Teacher Support	SUPPORT	-0.02	1.94	0.17	-1.14	0.21	2.44	-0.19	-0.93	0.09	2.15	-0.17	-0.96
<b>Teacher-level Factors</b>		<i>N=34</i>				<i>N=30</i>				<i>N=64</i>			
Teacher Efficacy	EFF	1.71	2.38	-0.28	-0.82	1.17	3.13	-0.33	-0.39	1.45	2.74	-0.39	-0.31
Job Satisfactions	JOBS	1.33	1.57	0.47	-0.69	1.09	1.78	0.47	-0.70	1.22	1.66	0.43	-0.72
Teacher Collaboration	TCLB	1.54	2.53	-0.26	0.31	1.97	2.00	0.46	-0.74	1.74	2.29	-0.11	0.24
Team Teaching	TEAM	-0.57	1.24	0.00	-1.25	-0.50	1.05	0.22	-0.13	-0.54	1.15	0.06	-0.85
Reading Practice	READP	1.19	3.32	-0.46	-0.57	1.54	3.02	-0.36	-0.59	1.35	3.16	-0.43	-0.57
ICT Use	ICTUS	-0.68	1.75	-0.23	2.16	-0.65	2.03	-0.52	0.91	-0.66	1.87	-0.39	1.27
<b>Student-level Factors</b>		<i>N=726</i>				<i>N=593</i>				<i>N=1,319</i>			
Happiness	HAPPY	2.00	1.44	-0.25	-0.54	1.89	1.47	-0.17	-0.42	1.95	1.45	-0.21	-0.49
Optimism	OPT	2.39	1.54	0.00	-0.86	2.19	1.53	0.12	-0.71	2.30	1.54	0.05	-0.80
Anxiety	ANX	1.21	1.63	0.37	0.22	1.31	1.53	0.24	0.49	1.25	1.59	0.31	0.32
Peer Belonging	PEER	1.71	1.69	-0.16	0.15	1.62	1.63	0.09	-0.25	1.67	1.66	-0.05	-0.03
Bullying	BULLY	-1.33	1.54	0.37	0.04	-0.69	1.42	0.13	0.32	-1.04	1.52	0.21	0.02
Reading Motivation	MOTREAD	3.07	2.20	-0.06	-0.09	2.97	2.23	-0.11	-0.25	3.02	2.22	-0.09	-0.17
Reading Anxiety	ANXREAD	1.66	2.09	0.25	1.25	1.87	2.02	-0.21	1.20	1.76	2.06	0.05	1.18
Reading Difficulty	DIFREAD	1.26	1.59	0.44	1.63	1.40	1.54	0.42	1.25	1.32	1.57	0.43	1.46
Reading Achievement	READING	-0.54	0.99	0.42	1.50	-0.24	0.81	-0.03	1.11	-0.41	0.93	0.18	1.30

## Appendix 7. 2

### *Null-model Equations between the Groups*

<i>Sekolah (SS) Group</i>	<i>Madrasah (MS) Group</i>
<b>Level-1 Model</b>	<b>Level-1 Model</b>
$READING_{ijk} = \pi_{0jk} + e_{ijk}$	$READING_{ijk} = \pi_{0jk} + e_{ijk}$
<b>Level-2 Model</b>	<b>Level-2 Model</b>
$\pi_{0jk} = \gamma_{000} + u_{00k}$	$\pi_{0jk} = \gamma_{000} + u_{00k}$
<b>Level-3 Model</b>	<b>Level-3 Model</b>
$\beta_{00k} = \gamma_{000} + u_{00k}$	$\beta_{00k} = \gamma_{000} + u_{00k}$
<b>Mixed Model</b>	<b>Mixed Model</b>
$READING_{ijk} = \gamma_{000} + r_{0jk} + u_{00k} + e_{ijk}$	$READING_{ijk} = \gamma_{000} + r_{0jk} + u_{00k} + e_{ijk}$



### Appendix 7.3

#### *Null-model Results: Fixed Effects and Variance Components for Reading Achievement*

<b>Final Estimation of fixed effects:</b>						
Fixed effects	<i>Sekolah (SS)</i>			<i>Madrasah (MS)</i>		
	Coefficient (SE)	T-ratio	Appx <i>d.f.</i>	Coefficient (SE)	T-ratio	Appx <i>d.f.</i>
For INTRCPT1, $\pi_0$ For INTRCPT2, $\beta_{00}$ INTRCPT3, $\gamma_{000}$	-0.55 (0.09)	-6.05	15	-0.23 (0.06)	-3.77	13
<b>Final estimation of level-1 and level-2 variance components:</b>						
Random Effect	Reliability	Variance Component (SD)	$X^2(d.f.)$	Reliability	Variance Component (SD)	$X^2(d.f.)$
INTRCPT1, $r_0$ level-1, $e$	0.47	0.03 (0.19) 0.87 (0.93)	34.32 (18)	0.75	0.09 (0.29) 0.57 (0.75)	59.47 (16)
<b>Final estimation of level-3 variance components:</b>						
Random Effect	Reliability	Variance Component (SD)	$X^2(d.f.)$	Reliability	Variance Component (SD)	$X^2(d.f.)$
INTRCPT1/ INTRCPT2, $u_{00}$	0.71	0.09 (0.31)	54.30 (15)	0.01	0.04 (0.01)	14.59 (13)

## Appendix 7. 4

### Final-model Equations between the Groups

Sekolah (SS) Group	Madrasah (MS) Group
<b>Level-1 Model</b>	<b>Level-1 Model</b>
$\text{READING}_{ijk} = \pi_{0jk} + \pi_{1jk}*(\text{DIFREAD}_{ijk}) + \pi_{2jk}*(\text{ANXREAD}_{ijk}) + \pi_{3jk}*(\text{ANX}_{ijk}) + \pi_{4jk}*(\text{PEER}_{ijk}) + e_{ijk}$	$\text{READING}_{ijk} = \pi_{0jk} + \pi_{1jk}*(\text{GENDER}_{ijk}) + \pi_{2jk}*(\text{DIFREAD}_{ijk}) + \pi_{3jk}*(\text{ANXREAD}_{ijk}) + e_{ijk}$
<b>Level-2 Model</b>	<b>Level-2 Model</b>
$\begin{aligned} \pi_{0jk} &= \beta_{00k} \\ \pi_{1jk} &= \beta_{10k} + \beta_{11k}*(\text{JOBSTAT}_{jk}) + \beta_{12k}*(\text{JOBS}_{jk}) + r_{1jk} \\ \pi_{2jk} &= \beta_{20k} + \beta_{21k}*(\text{ICTUS}_{jk}) + r_{2jk} \\ \pi_{3jk} &= \beta_{30k} + r_{3jk} \\ \pi_{4jk} &= \beta_{40k} + r_{4jk} \end{aligned}$	$\begin{aligned} \pi_{0jk} &= \beta_{00k} + \beta_{01k}*(\text{PD3}_{jk}) \\ \pi_{1jk} &= \beta_{10k} \\ \pi_{2jk} &= \beta_{20k} + \beta_{21k}*(\text{JBSTAT}_{jk}) + r_{2jk} \\ \pi_{3jk} &= \beta_{30k} + r_{3jk} \end{aligned}$
<b>Level-3 Model</b>	<b>Level-3 Model</b>
$\begin{aligned} \beta_{00k} &= \gamma_{000} + \gamma_{001}(\text{SCSERV}_k) + \gamma_{002}(\text{PRESS}_k) + \gamma_{003}(\text{DSCPLN}_k) + u_{00k} \\ \beta_{10k} &= \gamma_{100} + \gamma_{101}(\text{AUTO3}_k) + \gamma_{102}(\text{AUTO6}_k) + u_{10k} \\ \beta_{11k} &= \gamma_{110} + u_{11k} \\ \beta_{12k} &= \gamma_{120} + u_{12k} \\ \beta_{20k} &= \gamma_{200} + u_{20k} \\ \beta_{21k} &= \gamma_{210} + \gamma_{211}(\text{SCLOC1}_k) + u_{21k} \\ \beta_{30k} &= \gamma_{300} + u_{30k} \\ \beta_{40k} &= \gamma_{400} + \gamma_{401}(\text{MORALE}_k) + \gamma_{402}(\text{SUPPORT}_k) + u_{40k} \end{aligned}$	$\begin{aligned} \beta_{00k} &= \gamma_{000} + \gamma_{001}(\text{PRESS}_k) + \gamma_{002}(\text{RDSCPLN}_k) + \gamma_{003}(\text{RSCAV}_k) \\ \beta_{01k} &= \gamma_{010} + u_{01k} \\ \beta_{10k} &= \gamma_{100} + u_{10k} \\ \beta_{20k} &= \gamma_{200} + \gamma_{201}(\text{RSCAV}_k) + u_{20k} \\ \beta_{21k} &= \gamma_{210} + u_{21k} \\ \beta_{30k} &= \gamma_{300} + \gamma_{301}(\text{AUTO4}_k) + u_{30k} \end{aligned}$
<b>Mixed Model</b>	<b>Mixed Model</b>
$\begin{aligned} \text{READING}_{ijk} &= \gamma_{000} + \gamma_{001}*\text{SCSERV}_k + \gamma_{002}*\text{PRESS}_k + \gamma_{003}*\text{DSCPLN}_k + \\ &\gamma_{100}*\text{DIFREAD}_{ijk} + \gamma_{101}*\text{DIFRED}_{ijk}*\text{AUTO3}_k + \\ &\gamma_{102}*\text{DIFREAD}_{ijk}*\text{AUTO6}_k + \gamma_{110}*\text{DIFREAD}_{ijk}*\text{JOBSTAT}_{jk} + \\ &\gamma_{120}*\text{DIFREAD}_{ijk}*\text{JOBS}_{jk} + \gamma_{200}*\text{ANXREAD}_{ijk} + \\ &\gamma_{210}*\text{ANXREAD}_{ijk}*\text{ICTUS}_{jk} + \gamma_{211}*\text{ANXREAD}_{ijk}*\text{ICTUS}_{jk}*\text{SCLOC1}_k + \\ &\gamma_{300}*\text{ANX}_{ijk} + \gamma_{400}*\text{PEER}_{ijk} + \gamma_{401}*\text{PEER}_{ijk}*\text{MORALE}_k + \\ &\gamma_{402}*\text{PEER}_{ijk}*\text{SUPPORT}_k + r_{1jk}*\text{DIFREAD}_{ijk} + r_{2jk}*\text{ANXREAD}_{ijk} + \\ &r_{3jk}*\text{ANX}_{ijk} + r_{4jk}*\text{PEER}_{ijk} + u_{00k} + u_{10k}*\text{DIFREAD}_{ijk} \\ &+ u_{11k}*\text{DIFREAD}_{ijk}*\text{JBSTAT}_{jk} + u_{12k}*\text{DIFREAD}_{ijk}*\text{JOBS}_{jk} \\ &+ u_{20k}*\text{ANXREAD}_{ijk} + u_{21k}*\text{ANXREAD}_{ijk}*\text{ICTUS}_{jk} + \\ &u_{30k}*\text{ANX}_{ijk} + u_{40k}*\text{PEER}_{ijk} + e_{ijk} \end{aligned}$	$\begin{aligned} \text{READING}_{ijk} &= \gamma_{000} + \gamma_{001}*\text{PRESS}_k + \gamma_{002}*\text{RDSCPLN}_k + \gamma_{003}*\text{RSCAV}_k + \\ &\gamma_{010}*\text{PD3}_{jk} + \gamma_{100}*\text{GENDER}_{ijk} + \gamma_{200}*\text{DIFREAD}_{ijk} + \\ &\gamma_{201}*\text{DIFREAD}_{ijk}*\text{RSCAV}_k + \gamma_{210}*\text{DIFREAD}_{ijk}*\text{JBSTAT}_{jk} + \\ &\gamma_{300}*\text{ANXREAD}_{ijk} + \gamma_{301}*\text{ANXREAD}_{ijk}*\text{AUTO4}_k + \\ &r_{2jk}*\text{DIFREAD}_{ijk} + r_{3jk}*\text{ANXREAD}_{ijk} + u_{01k}*\text{PD3}_{jk} + \\ &u_{10k}*\text{GENDER}_{ijk} + u_{20k}*\text{DIFREAD}_{ijk} + \\ &u_{21k}*\text{DIFREAD}_{ijk}*\text{JBSTAT}_{jk} + u_{30k}*\text{ANXREAD}_{ijk} + e_{ijk} \end{aligned}$
<p>Note: Only significant direct and Indirect Effects are Shown in the final-model equation in each group</p>	

## Appendix 7.5

### Final-model Results: Variance Components for Reading Achievement

<b>Final Estimation of fixed effects:</b>						
Random Effect	Sekolah (SS) Group			Madrasah (MS) Group		
	Reliability	Variance Component (SD)	X <sup>2</sup> (d.f.)	Reliability	Variance Component (SD)	X <sup>2</sup> (d.f.)
<b>Final estimation of level-1 and level-2 variance components:</b>						
INTRCPT1, $r_0$	0.05	0.01	45.80 (5)	0.05	0.01 (0.01)	***
DIFREAD slope, $r_1/r_2$	0.40	0.01	***	0.75	0.02 (0.13)	***
ANXREAD slope, $r_2/r_3$	0.24	0.00	179.54 (2)	0.73	0.01 (0.09)	55.87 (6)
ANX slope, $r_3$	0.28	0.00	235.95 (5)	-	-	***
PEER slope, $r_4$	0.19	0.00	188.68 (5)	-	-	***
level-1, $e$		0.13			0.10 (0.32)	
<b>Final estimation of level-3 variance components:</b>						
Random Effect	Reliability	Variance Component (SD)	X <sup>2</sup> (d.f.)	Reliability	Variance Component (SD)	X <sup>2</sup> (d.f.)
INTRCPT1/INTRCPT2, $u_{00}$	0.87	0.03 (0.19)	***	0.05	0.01 (0.03)	4.07 (2)
INTRCPT1/ PD3, $u_{01}$	-	-	-	0.05	0.00 (0.02)	5.79 (5)
GENDER/INTRCPT2, $u_{10}$	-	-	-	0.14	0.00 (0.05)	11.44 (5)
DIFREAD/INTRCPT2, $u_{10}$	0.25	0.03 (0.16)	***	0.49	0.00 (0.11)	19.87 (4)
DIFREAD/ JBSTAT, $u_{11}$	0.06	0.00 (0.05)	13.21 (2)	-	-	-
DIFREAD/JOBS, $u_{12}$	0.06	0.00 (0.02)	14.22 (2)	0.05	0.00 (0.02)	3.13 (5)
ANXREAD/INTRCPT2, $u_{20}$	0.18	0.00 (0.19)	13.00 (2)	0.44	0.00 (0.07)	12.11 (4)
ANXREAD/ICTUS, $u_{21}$	0.18	0.00 (0.01)	36.34 (1)	-	-	-
ANX/INTRCPT2, $u_{30}$	0.29	0.00 (0.03)	56.48 (1)	-	-	-
PEER/INTRCPT2, $u_{40}$	0.48	0.00 (0.07)	***	-	-	-

## Appendix 7. 6

### *Estimations of Variance Components for Reading Achievement across the Groups*

Model	Estimation of Variance components					
	Sekolah (SS)Group			Madrasah (MS) Group		
	Between students (n=726)	Between teachers (n=34)	Between schools (n=16)	Between students (n=593)	Between teachers (n=30)	Between schools (n=14)
Fully unconditional model	0.87	0.03	0.09	0.57	0.09	0.04
Final Model	0.13	0.01	0.03	0.10	0.01	0.01
Variance at each level						
Between students (level 1)	$0.87 / (0.87 + 0.03 + 0.09) = 0.88$		= 88%	$0.57 / (0.57 + 0.09 + 0.04) = 0.81$		= 81%
Between teachers (level 2)	$0.03 / (0.87 + 0.03 + 0.09) = 0.03$		= 3%	$0.09 / (0.57 + 0.09 + 0.04) = 0.13$		= 13%
Between schools (level 3)	$0.09 / (0.87 + 0.03 + 0.09) = 0.09$		= 9%	$0.04 / (0.57 + 0.09 + 0.04) = 0.06$		= 6%
The proportion of variance explained by the final model.						
Between students (level 1)	$(0.87 - 0.13) / 0.87 = 0.85$		= 85%	$(0.57 - 0.10) / 0.57 = 0.82$		= 82%
Between teachers (level 2)	$(0.03 - 0.01) / 0.03 = 0.67$		= 67%	$(0.09 - 0.01) / 0.09 = 0.88$		= 88%
Between schools (level 3)	$(0.09 - 0.03) / 0.09 = 0.67$		= 67%	$(0.04 - 0.01) / 0.01 = 0.75$		= 75%
The proportion of total variance explained by the final model.				The proportion of total variance explained by the final model.		
$(0.85 \times 0.88) + (0.67 \times 0.03) + (0.67 \times 0.09) = 0.83 = 83\%$				$(0.82 \times 0.81) + (0.88 \times 0.13) + (0.75 \times 0.06) = 0.81 = 82\%$		

## Appendix 7.7

### Final-model Results: Fixed Effects for Reading Achievement

HLM Models			Group	
Student Level	Teacher Level	School Level	Sekolah (SS)	Madrasah (MS)
For INTRCPT1, $\pi_0$ For INTRCPT2, $\beta_{00}$ INTRCPT3, $\gamma_{000}$			-0.54 (0.05)	-0.26 (0.02)
		SCSERV, $\gamma_{001}$	-0.17 (0.05)	NS
		PRESS, $\gamma_{002}/\gamma_{001}$	-0.04 (0.02)	0.10 (0.02)
		DSCPLN, $\gamma_{003}/\gamma_{002}$	0.04 (0.01)	-0.11 (0.03)
		RSCAV, $\gamma_{003}$	NS	0.13 (0.05)
	For PD3, $\beta_{01}$ INTRCPT3, $\gamma_{010}$		NS	0.11 (0.02)
For GENDER slope, $\pi_1$ For INTRCPT2, $\beta_{10}$ INTRCPT3, $\gamma_{100}$			NS	0.09 (0.09)
For DIFREAD slope, $\pi_1/\pi_2$ For INTRCPT2, $\beta_{10}/\beta_{20}$ INTRCPT3, $\gamma_{100}/\gamma_{200}$			-0.26 (0.06)	-0.38 (0.04)
		AUTO3, $\gamma_{101}$	-0.10 (0.02)	NS
		AUTO6, $\gamma_{102}$	0.17 (0.04)	NS
		RSCAV, $\gamma_{201}$	NS	-0.07 (0.02)
		For JOBSTAT, $\beta_{11}/\beta_{21}$ INTRCPT3, $\gamma_{110}/\gamma_{210}$		-0.09 (0.04)
	For JOBS, $\beta_{12}$ INTRCPT3, $\gamma_{120}$		-0.03 (0.01)	NS
For ANXREAD slope, $\pi_2/\pi_3$ For INTRCPT2, $\beta_{20}/\beta_{30}$ INTRCPT3, $\gamma_{200}/\gamma_{300}$			-0.05 (0.01)	-0.11 (0.03)
		AUTO4, $\gamma_{301}$	NS	-0.02 (0.01)
		For ICTUS, $\beta_{21}$ INTRCPT3, $\gamma_{210}$		0.01 (0.01)
		SCLOC1, $\gamma_{211}$	0.10 (0.04)	NS
For ANX slope, $\pi_3$ For INTRCPT2, $\beta_{30}$ INTRCPT3, $\gamma_{300}$			-0.04 (0.01)	NS
For PEER slope, $\pi_4$ For INTRCPT2, $\beta_{40}$ INTRCPT3, $\gamma_{400}$			0.20 (0.02)	NS
		MORALE, $\gamma_{401}$	-0.05 (0.01)	NS
		SUPPORT, $\gamma_{402}$	0.05 (0.01)	NS

**Note:** NS/ Not Significant

# **Chapter 8:**

Secular-Islamic Schools' Debates:  
School-, Teacher-, and Student-level Factors  
Influencing Students' English Listening  
Achievement

# Statement of Authorship Declaration

## Statement of Authorship

Title of Paper	<b>Secular-Islamic Schools' Debates: School-, Teacher-, and Student-level Factors Influencing Students' English Listening Achievement</b>		
Publication Status	<input type="checkbox"/> Published	<input type="checkbox"/> Accepted for Publication	<input type="checkbox"/> Unpublished and Unsubmitted work written in manuscript style.
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Publication Details	The manuscript was submitted to the " <i>Language Assessment Quarterly</i> " Journal and is under review status.		

## Principal Author

Name of Principal Author (Candidate)	<b>Abu Nawas</b>		
Contribution to the Paper	Contributed to data collection, performed analysis, interpreted data, wrote, revised the manuscript also acted as the corresponding author.		
Overall percentage (%)	65		
Certification:	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am the primary author of this paper.		
Signature		Date	07 August 2023

### Co-Authors' Contributions

By signing the statement of authorship, each author certifies that:

- I. the candidate's stated contribution to the publication is accurate (as detailed above);
- II. permission is granted for the candidate to include the publication in the thesis; and
- III. the sum of all co-author contributions is equal to 100% less the candidate's stated contribution.

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Contribution to the Paper	Supervised the development of work, guided in data analysis and interpretation, and developed, evaluated, and edited the manuscript.		
Signature		Date	07 August 2023

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Contribution to the Paper	Supervised the development of work, developed, evaluated, and edited the manuscript.		
Signature		Date	07 August 2023



# Secular-Islamic Schools' Debates: School-, Teacher-, and Student-level Factors Influencing Students' English Listening Achievement

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## Abstract

This study provides empirical evidence on how possible factors at school, teacher and student levels influence student English listening achievement in secular and Islamic schools differently. The total participants—30 schools, 64 English teachers, 1,319 students—were grouped based on their school system: 16 schools, 34 teachers and 726 students from secular/*Sekolah* schools, and 14 schools, 30 teachers and 593 students from Islamic/*Madrasah* schools. The hierarchical linear modelling results found that direct effects of listening difficulties, anxiety, happiness, teacher efficacy, professional development and school sector are shown in both groups. Separately, listening anxiety, motivation, peer-belonging, bullying, school resource quality, achievement press, teacher age and level of education directly influence student achievement in *Sekolah* schools, while student optimism was only found to affect student listening scores in *Madrasah*. Simultaneously, interaction effects of school and teacher variables were evident to influence the strengths of the effects of student learning problems and psychological wellbeing domains on listening outcomes were also revealed across the groups.

**Keywords:** Indonesia, secular-Islamic, listening, HLM

## 8.1 Introduction

Today, many non-English countries, including Indonesia, have reformed their English curriculum, to include listening comprehension as one of the underlying 21<sup>st</sup>-century skills in line with the needs of the country in global competitiveness (Pajarwati et al. 2021; Isadaud, Fikri, and Bukhari 2022). This has been likewise highlighted in some investigations which acknowledge the fundamental roles of listening in metalinguistic and cognitive skills. The studies suggest that people with better English listening competencies tend to do better in other language skills, such as speaking and writing (Ahmadi 2016; Song 2012; Leong and Ahmadi 2017; Bozorgian 2012). Other observations conducted in different school contexts (Zhang et al. 2017; Arthur et al. 2017; Sullivan 2011) have also confirmed that high critical thinking students are found in those who perform better in listening. Moreover, English listening has been reported as one of the fundamental skills needed in the workplace. People with superior listening skills know how to cooperate and deal with people from different countries; thus, they tend to get the job more easily than those who did poorly in listening (OECD 2021; Duwadi 2014; Longweni and Kroon 2018). With the extensive benefits of English listening established, the interest in the possible factors influencing the students' English listening competencies in various school settings and different countries has been raised considerably.

Apart from the poor performance in English skills, including listening, the discrepancy in language performance between the different school contexts has become the main problem in Indonesia. This claim has been evident in comparative studies, such as Newhouse and Beegle (2006) and Hendajany (2016), which assert the presence of differences in language competencies between Indonesian Islamic and non-Islamic schools. Utilizing data from the national examination test, the studies revealed that there is a discrepancy between private (mostly Islamic/*Madrasah* schools) and public non-Islamic or secular schools in English subjects. Private and *Madrasah* school students did worse in English compared to those attending public secular schools. In this case, some pieces of literature have identified some factors impacting the achievement gaps. For example, Stern and Smith (2016) suggest that school factors, such as school funding and resources, have become beneficial factors in better performance in secular schools. This has been reported in several studies (Ali et al. 2011; Muhajir 2016; Ependi 2020) which have noted that inadequate and low standards of classrooms, learning materials and laboratories remain challenging in most Indonesian *Madrasah* schools. Moreover, other studies (Muhajir 2016; ADB 2014) have also acknowledged that most Islamic school teachers are non-civil servant teachers. Unlike teachers

in secular schools which are mostly civil servant teachers, they receive low wages from the school budgets available. In other investigations (Kholis and Murwanti 2019; ADB 2014), it is simultaneously reported that most *Madrasah* teachers in Indonesia lack opportunities to participate in professional development programs, including teacher training and certification, compared to non-Islamic school teachers. Therefore, the issues have seriously affected the effectiveness of teaching and learning qualities aligned with the students' performance.

While there is a general perception that the advantages of secular schools in school resources explain better student achievement, several studies do not deny that spiritual values and Islamic traditions in *Madrasah* schools have a potential influence on school climate, teacher behaviours and students' needs in a positive manner. It has been highlighted that there is a strong correlation between Islamic values and effective school climate (Na'imah, Herdian, and Panatik 2022), teachers' professional attitudes (Yafiz et al. 2022) and students' attitudes toward learning languages (Amri, Tahir, and Ahmad 2017; Bin Tahir 2015) and psychological aspects (Na'imah, Herdian, and Panatik 2022) which can promote effective teaching and learning performance in Islamic schools. To address the benefits of school resources in secular schools and school climates in Islamic schools, the Indonesian central government has shifted their authorities to the district-level government and schools regarding the school operational and management policies to develop high-equity and quality education in both secular and Islamic schools (Rosser 2018). However, some studies have noted that the influences of school autonomy on teaching and learning effectiveness might be different depending on school contexts (The World Bank 2019; Chang et al. 2013).

From the discrepancy issues established between secular and Islamic education, however, few comparative studies in global and local contexts have focused on the possible factors affecting the students' language achievement, especially in terms of listening skills, between secular and *Madrasah* schools. Therefore, this investigation compares the scarce evidence regarding explained factors (e.g., school, teacher, and student-level factors) on students' English listening outcomes between the groups by proposing three major questions:

- 4) What are the discrepancies in the direct effects of student-level factors (demographics, learning motivation, anxiety, difficulty, and wellbeing), teacher-level factors (personal and professional attributes, professional development, cooperative competencies, professional attitudes, and teaching effectiveness) and school-level factors (demographics, resources, and climate) between secular

(*Sekolah*) and Islamic (*Madrasah*) schools on their students' English listening scores?

- 5) How do the measured school and teacher-level factors in secular and Islamic groups interact between the student-level factors and their English listening performance differently?
- 6) What are the proportions of variance in students' English listening scores in the *Sekolah* and *Madrasah* groups explained by the student, teacher, and school-level factors?

To address those issues, a comparison of the secular (*Sekolah*) and Islamic (*Madrasah*) schools has been separately done using statistics based on a multilevel analysis of how tested factors contribute to direct and interaction effects on students' English listening scores. The factors are school demographics and characteristics, autonomy, resources, climate, teacher demographics and professional characteristics, professional development, cooperation, attitudes, teaching effectiveness, student demographics, wellbeing, listening motivation, anxiety, and difficulty. A multi-level analysis has been carried out to investigate how these factors influence students' English listening competencies.

## **8.2 Study Context: Secular-Islamic Schools in Indonesia**

This study was conducted in Indonesia which has unique characteristics of the schooling systems—secular and Islamic education—managed by two ministries. There are separate governments, with the Islamic schools managed by the Ministry of Religious Affairs (MoRA), while non-Islamic or secular schools are under the Ministry of Education and Culture (MoEC). The dualistic educational systems were historically driven by the reactions and political debates in 1945 between secular and religious nationalists over the role of education in Indonesian society (Sirozi 2004; Nasution 1983). The largest number, or 84%, of the schools in Indonesia, are secular or non-religious schools, while only 16% are Islamic or *Madrasah* institutions. Separately, most secular schools (92%) are defined as public or government schools and 82% or the vast majority of *Madrasah* schools are in the private sector (OECD/ADB 2015). As established in the national education system law (20/2003), although the schools under MoEC and MoRA are subjected to having the same policies in curriculum, academic calendar, school levels (secular/Islamic primary, secular/Islamic secondary and secular/Islamic higher education), and teaching quality standards to achieve the same quality and equality of education

in Indonesia (Stern and Smith 2016). However, the presence of gaps in school inputs, processes and outputs between secular and Islamic schools is evident (Newhouse and Beegle 2006; Hendajany 2016; Bedi and Garg 2000).

## **8.3 Literature Review**

### ***8.3.1 Student-Level Factors***

Several studies have noted that student factors, such as psychological aspects in learning, significantly contribute to students' language achievement differently. Taking the evidence-based findings from the investigations conducted in global contexts, several recent studies revealed that student motivation has a positive influence on students' listening achievement (Chuah, Ngoi, and Foo 2022; Dölek 2022; Kortisarom 2020). This means that highly motivated students tend to perform better in listening. The finding is in line with a prior study by Goctu (2016) conducted in Georgia confirming the strong correlation between student motivation and their English listening skills. The study specifically revealed that the students are eager to master listening to achieve high scores, study abroad and get a better job. In a different school context, several investigations revealed that students in Islamic or *Madrasah* schools are more likely to have high motivation toward attaining English skills. The reasons for cross-cultural awareness, travelling abroad (Rahman et al. 2021) and Islamic propagation (Setiyadi and Sukirlan 2016) become their motivation to learn English skills, including listening competencies, which can potentially impact their listening positively.

Although students from different school settings tend to possess high learning motivation, other psychological problems such as learning anxiety and difficulty, are found to have negative impacts on student motivation and listening achievement. This claim has been evident in several studies (Hermida 2021; Ahmad and Nisa 2019; Saraswaty 2018; Mohamadi 2013) from different countries and school contexts, including in Islamic school settings. The investigations revealed that students with poor English scores, including listening, are more likely to be anxious and struggle in English learning tests. Particularly, the studies also report that some reasons are detected that affect the students' learning anxiety and difficulty. These include a lack of confidence, feeling worried about making mistakes, challenges with unfamiliar topics, words, and a lack of motivation in learning English. More particularly, in a study conducted in the Asian context, Mohamadi (2013) concludes that task characteristics, for example, text type and text speed, as well as learners' factors, lead to the students' problems in listening tests, leading to demotivation and poor performance. Other literature (Fong and Soni

2022; Sainio et al. 2019; Thakkar et al. 2016) has also confirmed that student learning anxiety and difficulty are strongly correlated, which indicates that students with high anxiety levels tend to struggle to learn and vice versa.

Although few specific studies have focused on the students' listening skills, several studies have demonstrated the strong impacts of student life quality or wellbeing domains on student English achievement. This trend has been confirmed in several studies from different contexts which highlight the significant effects of student wellbeing in emotional and psychological domains: happiness (Li 2020; Reindl, Tulis, and Dresel 2018), optimism (Huang 2022), and anxiety (Lindorff 2020) on their language skills. Students who felt happier and more optimistic performed better in English skills than the students who experienced less happiness and less optimism. Highly anxious students, on the other hand, did poorly in language skills compared to students with low anxiety. Regarding the effect of wellbeing domains in social life, some investigations conducted in global and Islamic school contexts likewise endorse the significant associations between student peer-belonging (Finley 2018; Mikami et al. 2017) and bullying (Alotaibi 2019; Muluk et al. 2021) on their language competencies. Students who got along with their peers did better, while those who experienced bullying performed worse in language outcomes. In addition, student demographics, such as student gender (Ali et al. 2011; Hidayanti and Umamah 2019), age (Bećirović and Hurić-Bećirović 2017; Gawi 2012) and school program (Aina, Ogundele, and Olanipekun 2013), are also predicted to influence the students' language skills in both global and Islamic school settings. However, the studies revealed inconsistent results among students from different demographics. Altogether, the reviewed studies point to the following general conclusion on the effect of the explained factors on students' language achievement in separate school settings. A comparative empirical investigation with a specific focus, such as English listening between secular and Islamic schools, is urgently suggested.

### ***8.3.2 Teacher-Level Factors***

An international assessment program of the Teaching and Learning International Survey (TALIS) has reported some teacher-level factors—professional development (PD), cooperative competencies, job-related attitudes, and teaching effectiveness—influencing student academic performance (OECD 2014). More specifically, this idea has been evident in a study by Desimone et al. (2002) who confirm the positive outcome of PD programs on teaching effectiveness and student language performance. The study endorses that the program helps the

teacher to update their knowledge of the lessons, enhancing teaching ability, professional attitudes, pedagogical approaches, and classroom management to promote student learning positively. Moreover, as part of teacher professional development programs, cooperative competencies, such as how they work collaboratively with other teachers in exchanging teaching materials, discussing students' learning progress and assessment (De Jong, Meirink, and Admiraal 2019), and also how they teach as a team (Kim, Jörg, and Klassen 2019), have positive influences on the effectiveness of pedagogical practices and student learning outcomes. The findings are in line with recent studies in Islamic schools which agree that teacher collaboration (Arkiang and Adwiah 2020) and team teaching (Tasrim and Supriyanto 2017) significantly expand teacher's teaching confidence, which leads to higher teaching effectiveness and better student achievements.

Furthermore, teacher attitudes towards their jobs, such as self-efficacy and job satisfaction, are likewise deemed to influence teaching and learning quality (OECD 2009; Demir 2020; Lopes and Oliveira 2020). Some studies conducted in the EFL context have highlighted that teachers with high levels of self-efficacy (Ma 2022; Alibakhshi, Nikdel, and Labbafi 2020) and job satisfaction (Banerjee et al. 2017; Afshar and Doosti 2016) strongly promote their teaching performance and student English achievement. With high levels of efficacy, teachers can create creative teaching and learning which affects student motivation and learning performance. Simultaneously, teachers who are more satisfied with their jobs are shown to contribute better learning outcomes for their students. It also can enhance the connection between teachers, leading to better student psychological learning behaviours, such as motivation to learn and reducing learning problems (Ortan, Simut, and Simut 2021). This claim seems to be aligned with an observation by Moradi (2013) which has focused on the influence of other teacher factors (e.g. teaching effectiveness in listening class) on Iranian student English performance. The study revealed that effective teaching practices, especially strategy instruction can develop the student's listening comprehension. Concurrently, the use of technology as a part of effective teaching practice in EFL lessons is also apparent in supporting student motivation and achievements (Azmi 2017). On the other hand, the use of technology probably also affects student learning behaviour negatively (Bhuttah et al. 2021). Additionally, teaching effectiveness might be different based on the different teacher demographics. This has aligned with the early studies conducted in global and Islamic school contexts which revealed inconsistent results on the effects of teacher gender (Alufohai and Ibhafidon 2015; Hwang and Fitzpatrick 2021) and age (Shah and Udgaonkar 2018; Zulkifli, Hamzah, and Razak 2022) on teaching effectiveness and student outcomes. Apart from teacher

job status (Upa and Mbato 2020), the positive effect of teaching experience, level of education (Clotfelter, Ladd, and Vigdor 2006), and certification (Darling-Hammond 2000) on teaching practice are revealed. This suggests that experienced, highly educated, and certified teachers tend to perform effectively in teaching, while permanent teachers did poorly in teaching. Taken together, the prior study generally supports the effects of explained factors on student performance in different school contexts. A single study which has focused on specific language skills, such as listening and compared between different school settings—Islamic and non-Islamic schools—remain scarce.

### ***8.3.3 School-Level Factors***

A study by the OECD (2005) has proposed a conceptual framework which portrays how several factors—school autonomy/policy, resources and climate— influence students' outcomes, such as language skills. The great influence of school autonomy on student achievement has been highlighted in earlier investigations (Patrinos, Arcia, and Macdonald 2015; OECD 2011) reporting that schools with greater operational autonomy can produce students who do better in language learning. The studies also confirm that the autonomy given to the schools in deciding their assessment, selecting textbooks and content, and hiring their teachers, is better at achieving learning outcomes and dealing with school-community demands. Similarly, the strong effects of school resources are found to influence student language learning outcomes (Mahmood and Gondal 2017; Eric and Ezeugo 2019). This has been supported in some studies conducted in global school contexts which claim that effective school facilities (e.g., classrooms and libraries) enhance students' learning engagement and language outcomes. The available and qualified teaching materials/media (Abdulrahman, Basalama, and Widodo 2018) and teachers (Darling-Hammond 2000) are strongly linked to effective teaching and learning processes which can address the student's needs and solve learning issues. In the Islamic school setting, not much research has investigated the impact of school autonomy on students' language outcomes. However, the shortcomings of the availability and quality of school resources, such as school facilities and teacher quality, have explained the poor student performance in Islamic schools in Indonesia (Kholis and Murwanti 2019; ADB 2014; Muhajir 2016).

Apart from the school inputs, the OECD (2005) also believes that the quality of school life or climate as a school process has a strong influence on student learning outcomes. The study specifically asserts that school climates such as how enthused the teachers are, how the



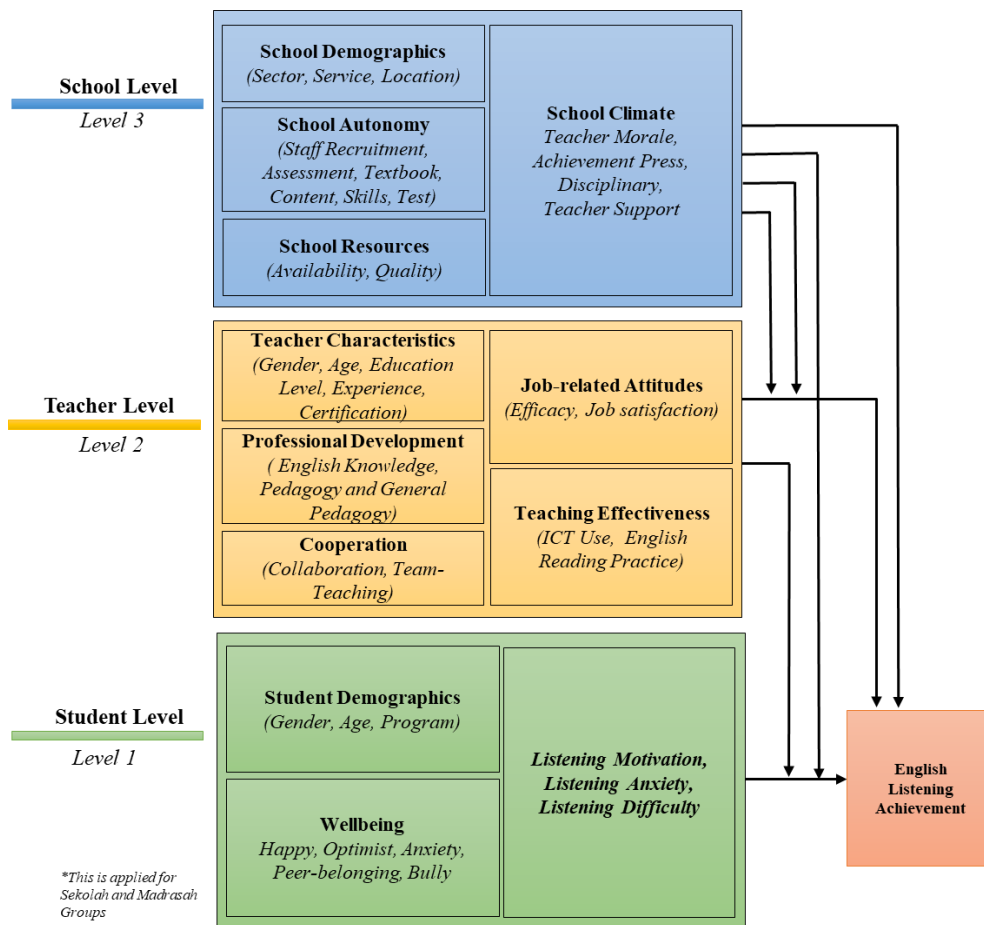
schools focus on student achievement, how the schools deal with discipline, and how the teachers support their students possibly influence school outputs, including student achievement. This has been evident in separate studies which have highlighted the impact of school climates on student language skills. For example, teacher enthusiasm or morale (Sabin 2015) and support (Sharma 2016) are evident as influencing student achievement positively. This is because highly enthusiastic teachers are more likely to enjoy teaching their students and are happier with their job (Govindarajan 2012; OECD 2016). Simultaneously, teachers who enjoy assisting their students can enhance their students' learning motivation and solve learning problems (Wong, Tao, and Konishi 2018; Lumpkin 2007). Other school climates, such as achievement press and discipline also influence student performance positively. This is shown in some observations which support the strong association between achievement press (Shouse 1996), discipline (Ning et al. 2015; Ehiane 2014) and student language skills. The studies conducted in general school contexts confirm that schools which are more concerned with student performance and school discipline performed better in language. In Islamic school contexts, school climates are likewise endorsed to influence Indonesian and Malaysian student performance positively (Na'imah, Herdian, and Panatik 2022). Though, the study suggests that school climates or cultures are strongly related to religion or Islamic values, which might affect the student learning outcomes differently. Additionally, several observations also have demonstrated that school demographic factors influence different learning outcomes for students. For instance, students attending private schools (Cadiz-Gabejan 2022; Madrid and Barrios 2018), full-day schools (Ellah and Ita 2017; Suardi, Emzir, and Rafli 2017), and schools located in the cities (Ulva and Widyawati 2022) did better in learning. On the other hand, other findings report that private Islamic schools did poorly in English achievement (Ali et al. 2011; Muhajir 2016; Muttaqin et al. 2019). Altogether, the previous investigations have provided general conclusions on the possible influences of the explained factors at the school level on student performance in different school contexts. However, comparative studies between different school settings focusing on specific language skills remains scarce.

#### **8.4 Conceptual Framework**

Figure 8. 1 shows the hypothesized three-level (3L) model of English listening performance developed from the theoretical background discussed in the previous section. The model illustrates how a group of variables or predictors at the school, teacher and student levels directly influence the students' listening achievement as the outcome variable. At the school level, the predictors are school demographics and characteristics, autonomy, school resources

and school climate. The variables at the teacher level include teacher demographic and characteristics, professional development, cooperation, and professional attitudes. The predictors of student demographics, wellbeing, listening motivation, anxiety and difficulty are included at the student level. Concurrently, the hypothesized 3L model likewise describes the possible cross-level interfaces among the predictors at the school, teacher, and student levels on the students' listening achievement. Additionally, the specific details of the tested variables employed in this study are established in the methodology section.

**Figure 8. 1**  
*Conceptual Framework*



## 8.5 Methodology

### 8.5.1 Participants

This study involved 30 schools, 64 English teachers and 1,319 grade-12 students in Indonesia. The samples were selected using a two-stage stratified sampling procedure (Cohen, Manion, and Morrison 2002; Mills and Gay 2016) where the samples were grouped into similar groups of secular (*Sekolah*) and Islamic (*Madrasah*) groups. In the *Sekolah* group, 16 schools, 34 teachers and 726 students participated, while 14 schools, 30 teachers and 593 students from the *Madrasah* group were selected from separate strata. The procedure involved two phases at the district and school levels. Twelve school districts were nominated based on the possibility of each area having at least one secular and one Islamic school. Then, the individual schools were sampled within the areas; the total of the classrooms/teachers were nominated within the selected schools, and the students were chosen within the classrooms. This technique is more accurate in proportional and non-proportional sampling and assures the representations of the related subgroups within the sample (Mills and Gay 2016; Ross 2005). Therefore, this study has provided an adequate representation of secular and Islamic schools, teachers, and students as the target population in the sample.

### 8.5.2 Measurers

#### *School-level Variables*

Four groups of school variables were obtained based on the school principals' answers to the school questionnaire adapted from OECD (2005). (1) *School Demographics and Characteristics* questions were asked in terms of the school characteristics and features, including school sector (SCSECTOR, 0=public, 1=private), school service (SCSERV, 0=non-full-day, 1=full-day), and location (SCLOC) and coded into raw scores apart from SCLOC. The variable of school location (SCLOC) was converted into three dummy variables of school location in the village (SCLOC1, 0=no, 1=yes), districts (SCLOC2, 0=no, 1=yes) and cities (SCLOC3, as the baseline variable). (2) *School Autonomy (AUTO)* refers to the levels of autonomy in staff recruitment (AUTO1), standardized testing (AUTO2), textbooks (AUTO3), content (AUTO4), skills offered (AUTO5), and assessment (AUTO6). Those six variables were measured using the raw codes of 0=school, 1=local government, and 2=central government levels. (3) *School Resources Availability (RSCAV) and Quality (RSCQT)* were obtained from the principals' reports on how many staff, learning materials and facilities exist

in their schools, and what their qualities are. (4) *School Climates*: teacher morale (MORALE), achievement pressure (PRESS), disciplinary level (DSCPLN) and teacher support (SUPPORT) reflect the questions on how their school life and environment were made, including the relationships among the school communities, schools' concerns on student achievement, disciplinary climates, and teachers' support offered to their students. The variables of school resources and climates were measured using a four-point Likert scale (1 = *strongly disagree*, 2 = *disagree*, 3 = *agree*, and 4 = *strongly agree*) and converted to the Weighted Likelihood Estimate (WLE) scores utilizing Rasch analysis.

### *Teacher-level Variables*

Five groups of teacher measures adapted from the OECD (2014) were used in this study. (1) *Teacher Demographics and Characteristics* refer to the questions regarding their gender (GENDER, 0=female, 1=male), age group (TCAGE, between 20 and >50 years), level of education (EDULV, 0=bachelor, 1=master), job status (JOBSTAT, 0=non-permanent, 1=permanent), teaching experience (TCEXP, between <5 and > 20 years), and certification (CERT, 0=no, 1=yes). (2) *Professional Development (PD)* refers to the questions of how much (1=<25%, 2=26%-50%, 3=51-75%, 4=76%-100%) of knowledge in English (PD1), English pedagogy (PD2) and general pedagogy (PD3) they obtained after participating in teacher training. (3) *Teacher Cooperation* reflects teacher responses on how they worked collaboratively (TCLB) and taught as a team in the same class (TEAM). (4) *Professional Attitudes*—job satisfaction (JOBS) and self-efficacy (EFF)—refer to the questions on how confident and fulfilled they were with their teaching ability and job. (5) *Teaching Effectiveness*, including the use of ICT (ICTUS) and listening practice (LISTP), is based on the teacher's answers regarding how they used technology and taught English listening in line with the learning goals. In addition, the variables of teacher demographics and professional development were coded using their raw scores, while the variables of teacher cooperation, professional attitudes and teaching effectiveness were scaled using a four-point Likert scale (1 = *strongly disagree*, 2 = *disagree*, 3 = *agree*, and 4 = *strongly agree*) into WLE scores.

### *Student-level Variables*

Four theoretical scales at the student level were used in this study. (1) *Student Demographics*, such as gender (GENDER, 0=female, 1=male), age (AGE, 14-20 years) and school program (PROG), were obtained based on the student's responses to the questionnaire using their raw

codes, except for the school program. The PROG variable was converted into three dummy variables, such as the program in science (PROG1 as the baseline variable), social (PROG2, 0=no, 1=yes), language (PROG3, 0=no, 1=yes), and Islamic studies (PROG4, 0=no, 1=yes, only applied in *Madrasah* group). (2) *Wellbeing* reflects on the questions adapted from the OECD (2017) about the student's emotions and social life qualities and experiences, including happiness (HAPPY), optimism (OPT), anxiety (ANX), peer-belonging (PEER) and bullying (BULLY). (3) *Listening Motivation* (MOTLIST) adapted from the OECD (2019), *Anxiety* (ANXLIST) and *Difficulty* (DIFLIST) adapted from Hamouda (2013) were taken from their answers on how they were motivated and/or struggled in English listening. (4) *Listening Achievement* (LISTENING) adapted from the Indonesian Ministry of Education and Culture (MoEC 2017), was attained from students' English listening test scores. The variables of student wellbeing, listening motivation, anxiety, and difficulty were quantified using a four-point Likert scale (*1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree*), while the listening scores were coded as dichotomous scores (0=false, 1=true). However, those variables were similarly scaled using the WLE scores.

### ***8.5.3 Method of Analysis: Hierarchical Linear Modelling (HLM)***

Hierarchical linear modelling (HLM) utilizing HLM software (Raudenbush et al. 2019) was undertaken to examine the associations within and between the hierarchical levels of grouped data. The analysis is a more accurate way to explore the direct and cross-level interaction effects between the predictors at the different levels and to measure the variance among the tested variables at the different data levels. The HLM analysis only accepts one dependent variable at level 1 of the hierarchy as being affected by several independent variables within and between the levels (Luo and Azen 2013; Woltman et al. 2012). In performing HLM analysis, a series of procedures were completed. (1) Three levels of data of student, teacher, and school for in *Sekolah* (SS) and *Madrasah* (MS) groups were involved. (2) Null or an unconditional model with no independent variables from any level was performed to determine the interclass correlation (ICC). (3) A random coefficient model was included to examine the direct effects of variables at level 1 (student-level factors) and the outcome (listening performance). (4) The combination of level 1, level 2 and level 3 predictors was conducted to test the direct or main influences of the different predictors at the student, teacher, and school levels on English listening performance. (5) The cross-level moderation effects were undertaken to assess the interaction effects that exist between level-1 (student), level-2

(teacher) and level-3 (school) variables. However, only the predictors with a significance level of  $p$ -value  $<0.05$  were included in the 3L model of the *Sekolah* and *Madrasah* groups.

## 8.6 Findings

In this study, a null or unconditional model for each group was first performed (see Appendix 8. 1).  $LISTENING_{ijk}$  represents students' listening performance, and  $\pi_{0jk}$  is the intercept of students' performance ( $i$ ) under teacher ( $j$ ) in school ( $k$ ). The  $e_{ijk}$  is a level-1 random effect of the student, including the deviation of student  $i$  in the classroom (teacher)  $j$  in school  $k$ ; from the average score of students' listening achievement. At the level-2 model, each average of the teacher ( $\pi_{0jk}$ ) is signified as varying randomly around a grand mean within the school.  $\pi_{0jk}$  signifies the intercept or average scores of students' listening scores ( $i$ ) under teacher ( $j$ ) in school ( $k$ ).  $\beta_{00k}$  is the mean score of students' listening performance in school ( $k$ ), while  $r_{0jk}$  denotes the teacher-level (level 2) error term of random teacher effect or the deviation of teacher average ( $j$ ) from the school grand mean( $k$ ). In the level-3 model,  $\beta_{00k}$  is the average of the intercept of the student's listening achievement in school ( $k$ ).  $\gamma_{000}$  is the grand mean of students' listening achievement within schools, while  $u_{00k}$  represents the random error for the school effect.

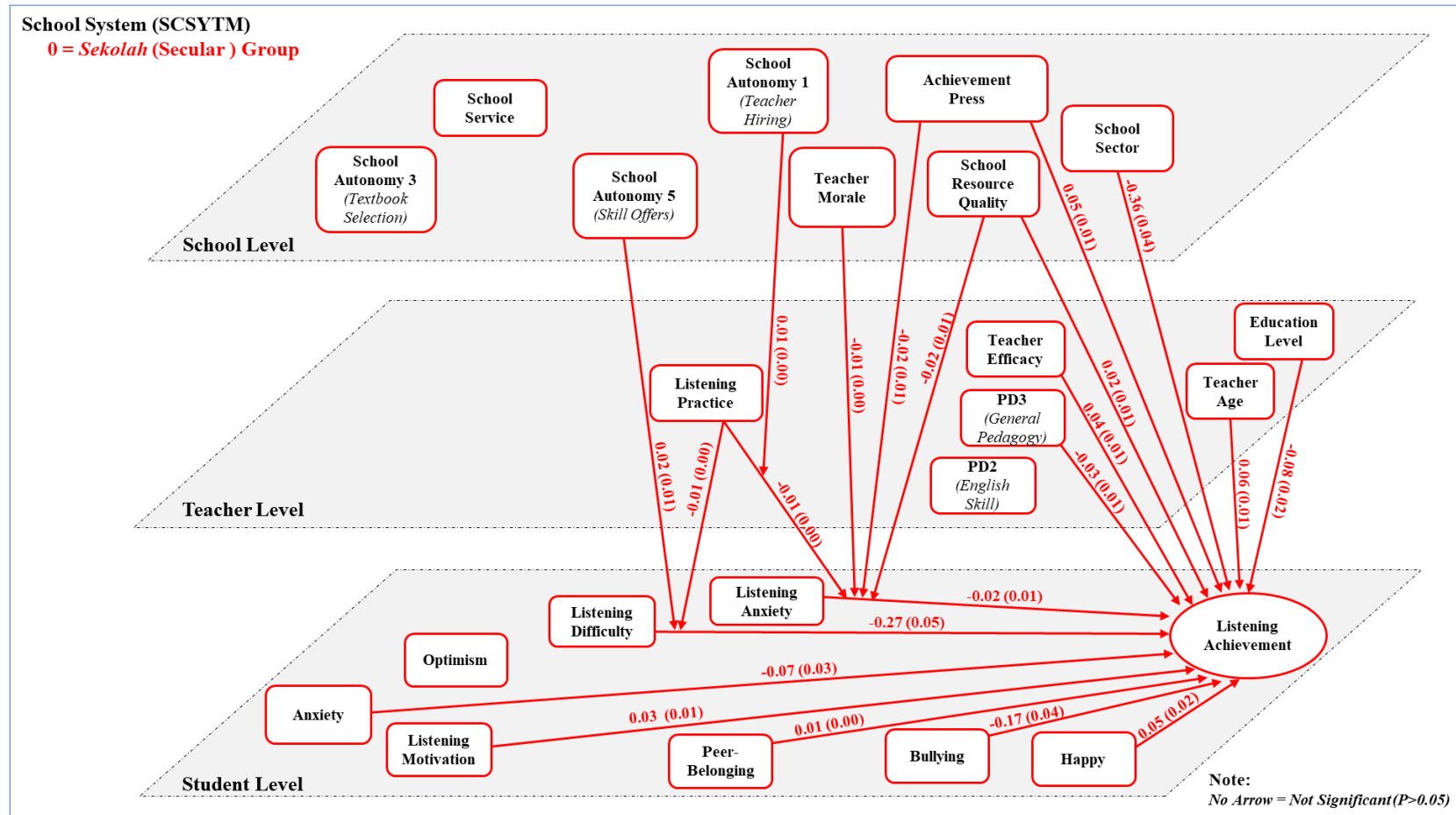
Furthermore, the overall equations for the final model applied to *Sekolah* (SS) and *Madrasah* (MS) groups are shown in Appendix 8. 2. The individual equations illustrated in both groups designate that the combined students' English listening scores are identified as the function of the overall intercept ( $\gamma_{000}$ ). Although many variables illustrated in the conceptual framework were predicted to influence the student listening scores in both groups, only the significant ( $p < 0.05$ ) predictors are discussed. There are 14 direct or main effects, eight cross-level interaction effects and a random error revealed in the *Sekolah* group. Simultaneously, seven direct effects, four cross-level moderating effects and a random error are shown in the *Madrasah* group. In the following section, specific pieces of information regarding the predictors and how they influence the students' listening achievement as the outcome variable, directly and indirectly, are established.

**Table 8. 1***Final-model Results: Fixed Effects for Listening Achievement across the Groups*

Student Level	HLM Models		Group	
	Teacher Level	School Level	Sekolah (SS)	Madrasah (MS)
For INTRCPT1, $\pi_0$ For INTRCPT2, $\beta_{00}$ INTRCPT3, $\gamma_{000}$		- SCSECTOR, $\gamma_{001}/\gamma_{001}$ PRESS, $\gamma_{002}$ RSCQT, $\gamma_{003}$	-0.36 (0.05) -0.36 (0.04) 0.05 (0.01) 0.02 (0.01)	-0.63 (0.06) 0.14 (0.05) - -
	For TCAGE, $\beta_{01}$ INTRCPT3, $\gamma_{010}$		0.06 (0.01)	-
	For EDULV, $\beta_{02}$ INTRCPT3, $\gamma_{010}$		-0.08 (0.02)	-
	For PD2, $\beta_{01}$ INTRCPT3, $\gamma_{010}$		-	0.05 (0.02)
	For PD3, $\beta_{03}$ INTRCPT3, $\gamma_{030}$		-0.03 (0.01)	-
	For EFF, $\beta_{04}/\beta_{02}$ INTRCPT3, $\gamma_{040}$		0.04 (0.01)	0.01 (0.01)
For MOTLIST slope, $\pi_1$ For INTRCPT2, $\beta_{10}$ INTRCPT3, $\gamma_{100}$			0.03 (0.01)	-
For DIFLIST slope, $\pi_2/\pi_1$ For INTRCPT2, $\beta_{20}/\beta_{10}$ INTRCPT3, $\gamma_{200}/\gamma_{100}$		- AUTO5, $\gamma_{201}/\gamma_{102}$ SCSERV, $\gamma_{101}$ PRESS, $\gamma_{103}$	-0.27 (0.05) 0.02 (0.01) - -	-0.23 (0.04) 0.06 (0.02) -0.12 (0.02) 0.03 (0.01)
	For LISTP, $\beta_{21}$ INTRCPT3, $\gamma_{210}$		-0.01 (0.00)	-
For ANXLIST slope, $\pi_3$ For INTRCPT2, $\beta_{30}$ INTRCPT3, $\gamma_{300}$		- MORALE, $\gamma_{301}$ PRESS, $\gamma_{302}$ RSCQT, $\gamma_{303}$	-0.02 (0.01) -0.01 (0.00) -0.02 (0.01) 0.02 (0.00)	- - - -
	For LISTP, $\beta_{31}$ INTRCPT3, $\gamma_{310}$	- AUTO1, $\gamma_{311}$	-0.01 (0.00) 0.01 (0.00)	- -
For HAPPY slope, $\pi_4/\pi_2$ For INTRCPT2, $\beta_{40}/\beta_{20}$ INTRCPT3, $\gamma_{400}/\gamma_{200}$			0.05 (0.02)	0.04 (0.01)
For OPT slope, $\pi_3$ For INTRCPT2, $\beta_{20}$ INTRCPT3, $\gamma_{200}$		SCSERV, $\gamma_{301}$	- -	0.04 (0.01) -0.03 (0.02)
For ANX slope, $\pi_5/\pi_4$ For INTRCPT2, $\beta_{50}/\beta_{40}$ INTRCPT3, $\gamma_{500}/\gamma_{400}$		AUTO3, $\gamma_{401}$	-0.07 (0.03) -	-0.22 (0.05) -0.06 (0.02)
For PEER slope, $\pi_6$ For INTRCPT2, $\beta_{60}$ INTRCPT3, $\gamma_{600}$			0.01 (0.00)	-
For BULLY slope, $\pi_7$ For INTRCPT2, $\beta_{70}$ INTRCPT3, $\gamma_{700}$			-0.17 (0.04)	-

**Figure 8. 2**

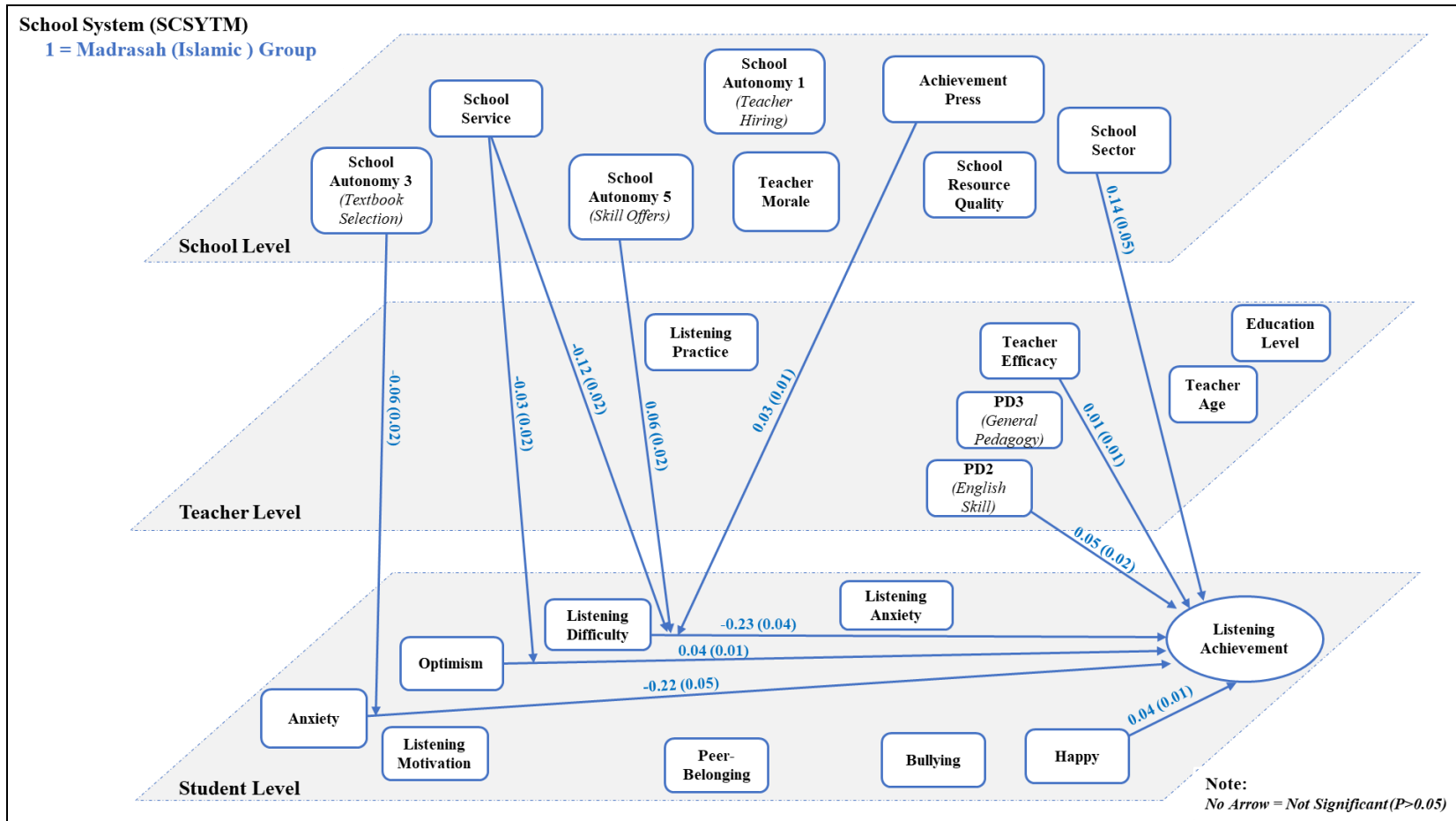
*The Final Three-level Model of Students' Listening Achievement for Sekolah (SS)*





**Figure 8. 3**

*The Final Three-level Model of Students' Listening Achievement for Madrasah (MS) Group*



**Table 8. 2***Estimations of Variance Components for Listening Achievement across the Groups*

Model	Estimation of Variance components					
	Sekolah (SS) Group			Madrasah (MS) Group		
	Between students (n=726)	Between teachers (n=34)	Between schools (n=16)	Between students (n=593)	Between teachers (n=30)	Between schools (n=14)
Fully unconditional model	0.63	0.06	0.12	0.61	0.07	0.12
Final Model	0.01	0.01	0.01	0.07	0.02	0.01
Variance at each level						
Between students (level 1)	$0.63 / (0.63 + 0.06 + 0.12) = 0.78$		= 78%	$0.61 / (0.61 + 0.07 + 0.12) = 0.76$		= 76%
Between teachers (level 2)	$0.06 / (0.63 + 0.06 + 0.12) = 0.07$		= 7%	$0.07 / (0.61 + 0.07 + 0.12) = 0.09$		= 9%
Between schools (level 3)	$0.12 / (0.63 + 0.06 + 0.12) = 0.15$		= 15%	$0.12 / (0.61 + 0.07 + 0.12) = 0.15$		= 15%
The proportion of variance explained by the final model						
Between students (level 1)	$(0.63 - 0.01) / 0.63 = 0.98$		= 98%	$(0.61 - 0.07) / 0.61 = 0.89$		= 89%
Between teachers (level 2)	$(0.06 - 0.01) / 0.06 = 0.83$		= 83%	$(0.07 - 0.02) / 0.07 = 0.85$		= 71%
Between schools (level 3)	$(0.12 - 0.01) / 0.12 = 0.91$		= 92%	$(0.12 - 0.01) / 0.12 = 1.00$		= 92%
The proportion of total variance explained by the final model $(0.98 \times 0.78) + (0.83 \times 0.07) + (0.92 \times 0.15) = 0.96 = 96\%$			The proportion of total variance explained by the final model $(0.89 \times 0.76) + (0.71 \times 0.09) + (0.92 \times 0.15) = 0.88 = 88\%$			

### ***8.6.1 The Direct Effect of Predictors on Students' Listening Achievement across the Groups.***

Table 8. 1, Figure 8. 2 and Figure 8. 3 describe the final model outcomes of the fixed effects for students' listening achievement between the *Sekolah* (SS) and *Madrasah* (MS) groups. Of the total predictors, student listening difficulty (DIFLIST), happiness (HAPPY) anxiety (ANX), teacher efficacy (EFF) and school sector (SCSECTOR) similarly influence the students' listening scores in both groups. The strong negative effects of DIFLIST on students' achievement shown in the *Sekolah* (-0.27) and *Madrasah* (-0.23) groups indicate that students with high difficulty in learning tend to have low listening achievement. It suggests that with each standard deviation increase in DIFLIST, there is a 0.27 decrease in secular students' scores and a 0.23 in Islamic students for their listening scores. The positive influences of HAPPY (SS=0.05, MS=0.04) in both groups designate that students in secular and *Madrasah* schools who were happier with their life performed better in English listening. The negative effects of ANX on students' listening performance were also revealed in both groups indicating that highly anxious students did poorly in listening tests. However, a strong effect of -0.22 is clearly shown in the MS group compared to those in the SS group (-0.07). This indicates that with the increase of one standard deviation in ANX, there is a 0.22 drop in *Madrasah* students' scores and only a 0.07 decrease in the *Sekolah* group. In terms of the direct influences of other predictors at the teacher and school levels across the groups, the positive effects of EFF (SS=0.04, MS=0.01) conclude that high listening scores were found in the classes where the *Sekolah* and *Madrasah* teachers had high efficacy in teaching. Different trends of SCSECTOR in the SS (-0.36) and MS (0.14) groups signal that public secular schools performed better compared to those from private *Sekolah* schools, while those who attended public *Madrasah* did worse in English listening.

In separate findings, the other student learning behaviours such as listening motivation (MOTLIST, 0.03) and anxiety (ANXLIST, -0.02) and social wellbeing domains of peer-belonging (PEER, 0.01) and bullying (BULLY, -0.17) were only found to have direct effects on student achievement in the SS group. The positive effects of MOTLIST and PEER signal that highly motivated students in learning and those who were more engaged with their peers tend to achieve high English listening scores. On the other hand, the negative estimates of ANXLIST and BULLY designate that the students who experienced more anxiety in listening and were more bullied tended to do worse in English listening. Of total direct effects at the student level revealed, the predictor of BULLY contributes a strong negative effect which

designates that with each standard deviation increase in BULLY, there is a 0.17-point decrease in students' scores in the *Sekolah* group. Moreover, some variables at the teacher level (level 2), such as teacher age (AGE, 0.06), level of education (EDULV, -0.08), and professional development in general pedagogy (PD3, -0.03), influence students' English listening achievement directly. The findings suggest that the classes where the students were taught by older teachers and teachers who hold bachelor's degrees obtained high listening scores. Similarly, high listening scores were found in the classes where the teachers had a high knowledge of English pedagogy. Moreover, the school predictors, including achievement pressure (PRESS, 0.05) and the quality of school resources (RSCQT, 0.02), directly influence students' listening outcomes. The positive effects of PRESS and RSCQT indicate that *Sekolah* schools, which put more pressure on student performance and with higher-quality school resources, attained better English listening performance. These suggest that with the increase of one standard deviation in PRESS and RSCQT, there are 0.05 and 0.02 increases in students' scores.

Regarding the results only obtained in the *Madrasah* group, student optimism (OPT, 0.04) at the student level and professional development in English pedagogy (PD2, 0.05) at the teacher level are shown to have direct influences on their listening scores. The positive effects of OPT signal that highly optimistic students in *Madrasah* schools and those under the teachers who had a strong knowledge of English pedagogy in professional development programs performed better in English listening.

### ***8.6.2 The Interaction Effects of the Predictors on the Slope of Student-level Factors and Listening Achievement between the Groups***

Table 8. 1 likewise provides similar results of the interaction effects of the school autonomy in skill offered (AUTO5) on the slope of the student-level variables and English listening scores in both groups. The predictor was similarly found to interact with the slope of students' listening difficulty (DIFLIST, SS=0.02, MS=0.06) on their listening scores positively in both groups. The positive moderation effects of AUTO5 in both groups designate that in the secular and Islamic schools where the English skills on offer were decided by the central government, the students' listening difficulty is lower. The strongest students' listening difficulty was shown in the schools where their skills offered were determined at the school level. Likewise, this study shows that some predictors were revealed to interact with the slope of DIFLIST and listening achievement. For example, in the SS group, listening practice (LISP, -0.01) was detected to have a negative effect between the students' DIFLIST and listening achievement.

In contrast, the predictors at the school level, such as the negative effect of school service (SCSERV, 0.12) and positive influence of achievement press (PRESS, 0.03) on the slope of DIFLIST and student scores in *Madrasah* schools. These findings suggest that in the classrooms where the *Sekolah* teachers more often practice English listening, strong listening difficulty is shown. In contrast, in the English classes where the listening practice is low, the students' listening difficulty is weaker, leading to better English listening outcomes. The results obtained in the MS group designate the discrepancy in listening difficulty between full-day and non-full-day schools where the full-day *Madrasah* school students tend to have greater difficulties in English listening compared to those from regular or non-full-day schools. Simultaneously, it signifies that in Islamic schools where the achievement pressure is higher, the lower students' listening difficulties are shown. In contrast, schools with low pressure on achievement tend to have higher listening difficulty in turn lower English listening scores.

Only revealed in the *Sekolah* group, the cross-level moderation effect between the school autonomy in teaching recruitment (AUTO1, 0.01), listening practice (LISTP, -0.01) at the teacher level, and the slope of listening anxiety (ANXLIST) and listening achievement is documented. It signifies that for the high, average, and low listening practice in the class by the teachers hired by the central government, the effect of English listening anxiety is weaker. In contrast, in secular schools where their English teachers were recruited by the school and local government and have high, average, and low listening practice, the effect of students' listening anxiety is stronger and worse in English listening. Moreover, three cross-level interactions between teacher morale (MORALE, -0.01), achievement press (PRESS, -0.02), and school resource quality (RSCQT, 0.02) between listening anxiety (ANXLIST) and students' listening achievement are also shown. The findings indicate that in secular schools where teacher morale and achievement press are higher, the effect of students' listening anxiety is stronger. Lower listening anxiety is shown in *Sekolah* schools with low teacher morale levels and low pressure on achievement leading to better listening achievement. Moreover, the positive influence of RSCQT between ANXLIST and listening achievement indicates that schools with low school resources quality are more likely to have strong listening anxiety. In the *Sekolah* schools where the school resources are of high quality, the effect of student anxiety is lower, which in turn leads to high listening scores.

Furthermore, as only detected in *Madrasah* groups, school service (SCSERV) and autonomy in textbook selection (AUTO3) were found to have moderation effects between the student wellbeing domains of optimism (OPT) and anxiety (ANX) and their listening scores. The negative effect of SCSERV (-0.03) between OPT and student achievement signals that the

students attending full-day Islamic schools tend to have stronger optimism levels than those in non-full-day schools. Although slightly lower optimism is shown in non-full-day schools, they tend to do better in English listening. Simultaneously, the interaction effect of AUTO3 (-0.06) on ANX and listening achievement designates that the *Madrasah* schools, where their English textbooks are selected by the central government, are more likely to have the strongest anxiety. In contrast, in the schools where their textbooks are decided by the school, weak anxiety levels are shown which explained higher English listening scores.

### ***8.6.3 Variance Explained by the Three-level Model between Groups***

The estimated variance components and proportions of the variance explained by the final three-level model between secular (*Sekolah*, SS) and Islamic (*Madrasah*, MS) school groups are presented in Table 8. 2. The outcomes of the calculation for the variance at each level revealed that most of the variance, such as 78% in SS and 76% in MS, is attributed to the student-level factors in both groups. It is then followed by the school (15% in SS and 15% in MS) and teacher-level (7% in SS and 9% in MS) factors. For comparison to the null or unconditional model, the result which includes student, teacher, and student-level factors in both groups for English listening achievement explains about 98% in SS and 89% in MS groups at the level-1. Moreover, 83% in the SS and 71% in the MS group at level-2, also 92% and 92% of the variance at level-3 in the SS and MS groups, are revealed. Taking into consideration the amount of variance explained by the final model at each level, the totals of 96% (in *Sekolah*) and 88% (in *Madrasah*) of the total available variance have been explained by the final models between the comparative groups.

## **8.7 Discussion and Conclusion**

Even though many predictors in the *Sekolah* (SS) group are found to influence the students' English listening achievement compared to the *Madrasah* (MS) group, five variables of student happiness, anxiety, listening difficulty, teacher efficacy and school sector similarly influence student performance directly in both groups. The positive influence of happiness indicates that secular and Islamic school students who were happier with their life tended to perform better. Those who were more anxious and struggles to learn, on the other hand, obtained lower listening scores. Moreover, the positive influence of teacher efficacy indicates that the students under teachers with high efficacy levels did better in English listening in both groups. The different trends of the effects of the school sector signal that public secular schools achieved higher listening scores, while public *Madrasah* schools did more poorly in listening than

private *Madrasahs*. The results corroborate the earlier investigations of which negative factors impact listening complexities (Hermida 2021; Saraswaty 2018; Mohamadi 2013) and the prominent role of student joy (Li 2020; Reindl, Tulis, and Dresel 2018) and teacher efficacy (Ma 2022; Alibakhshi, Nikdel, and Labbafi 2020) in their learning achievement. The finding obtained in the SS group seems to support Newhouse and Beegle (2006) who found that government schools outperformed private schools, while the finding resulting in the MS group is contrary to the studies by Ali et al. (2011) and Muttaqin et al. (2019).

Interestingly, this study expands a piece of new evidence that the strong effects of listening difficulty across the groups were statistically moderated by some other factors. For example, in both groups, the strength of the effects of student listening difficulty on their achievement was interacted by the school's decision over the English skills offered. Where the strongest students' listening difficulty in *Sekolah* and *Madrasah* schools was revealed in the schools where their skills offered were determined at the school level. In separate findings, this study highlights that in secular schools, the strong listening difficulty is shown in the classrooms where the *Sekolah* teachers more often practice English listening. Simultaneously, the students attending full-day *Madrasah* schools more struggled in listening lessons than the students from non-full-day schools, and the Islamic schools with low pressure on achievement tend to have higher listening difficulty in turn lower English listening scores. These results reflect that the claims of effectiveness of autonomous schools (OECD 2011) and achievement pressure (OECD 2005) on student psychology and academic outcomes vary depending on school context, types and needs (OECD 2011). Aligning the school autonomy and pressure to achieve climate with the school environment and student diversity allows the schools to create the decision and school climate that are relevant, engaging and effective as well as more impactful for the school community. Likewise, this study supports that teaching quality might promote different teaching and learning outcomes depending on teacher demographics (Alufohai and Ibhafidon 2015; Hwang and Fitzpatrick 2021) and what teaching methods and teaching strategies they used in teaching (Bhuttah et al. 2021). In this case, offering appropriate teaching methods that cater for the student's needs is essential to optimize the teaching and learning experiences, including solving the student learning problems.

Separately, in the *Sekolah* group, this study shows that listening motivation, listening anxiety, life anxiety, peer belonging, bullying, teacher age, level of education, school resources quality and achievement press contribute directly to student listening outcomes. These results indicate that students who possess high learning motivation and engage more with their peers tended to do better in listening, while those who were more anxious in listening tests, worried

about their life and experienced more bullying obtained lower listening results. These findings are consistent with the early investigations reporting the robust effects of student learning behaviours, including motivation (Chuah, Ngoi, and Foo 2022; Dölek 2022; Kortisarom 2020), and anxiety (Ahmad and Nisa 2019), on student learning as well as how the student anxiety (Lindorff 2020) and social wellbeing domains of peer belonging and bullying (Alotaibi 2019; Muluk et al. 2021) influence their school outcomes. Seeming to expand the prior research, this study offers exciting evidence reporting that teacher morale, achievement pressure, the quality of the school resources and listening practice interacted with the strength of the effects of listening anxiety on student achievement in secular schools. In the *Sekolah* schools where teacher morale and achievement press are higher, the effect of students' listening anxiety is stronger leading to poor listening achievement. In schools where the school resources are of high quality, the effect of student anxiety is lower, which in turn leads to high listening scores. Another cross-level moderation effect between the school autonomy in teaching recruitment, listening practice at the teacher level, and the slope of listening anxiety and listening achievement were revealed in the *Sekolah* group. This suggests that that for the listening practice was taught by the teachers hired by the central government, the effect of English listening anxiety was weaker and performed better in listening tests. Although no specific studies focus on the moderation effects of the explained factors between the student predictors and listening achievement, the findings broadly support the previous studies which claim the influence of school climates (OECD 2005), school resources (Mahmood and Gondal 2017; Eric and Ezeugo 2019) and teaching effectiveness (Moradi 2013). The unexpected findings of the influences of high teacher morals on high learning anxiety and low student outcomes as well as might be affected by the teaching strategies employed that are not effective to address the student's problems and needs.

Regarding the direct effects of other predictors on student achievement in the *Sekolah* group, this study shows that in the classroom where the students were taught by older teachers and teachers who had only completed bachelor's degrees, they did well in English listening, while high listening scores were revealed in the classes where the teachers had a high knowledge of English pedagogy. The findings support the prior observations on how teacher age (Shah and Udgaonkar 2018; Zulkifli, Hamzah, and Razak 2022), level of education (Clotfelter, Ladd, and Vigdor 2006) and professional development (OECD 2014) influence student outcomes. However, the quality of teaching resulting in better student performance is not solely determined by the teacher's personal and professional attributes. However, a combination of high-quality teaching skills and positive teacher attitudes can bring benefits to



effective teaching and learning. In *Madrasah* schools, this study shows a positive direct influence of professional development in English pedagogy on their listening scores signalling that *Madrasah* students under the teachers who had a strong knowledge of English pedagogy in professional development programs obtained high scores. Simultaneously, the positive effects of optimism signal that highly optimistic students in *Madrasah* schools and those under the teachers who had a strong knowledge of English pedagogy in professional development programs performed better in English listening. The findings are in line with the previous studies claiming the possible effects of teacher education (OECD 2014), student anxiety (Lindorff 2020) and optimism (Huang 2022) on student school outcomes. However, this study supports that student wellbeing domains, such as anxiety and optimism might vary depending on school settings. Where their English textbooks are selected by the central government and *Madrasah* students in non-full-day schools tended to have the strongest anxiety and the students in non-full-day schools. In this case, school autonomy aligned with student demands and promoting a positive school climate across the school settings allows the school to create positive school culture dealing with psychological and academic benefits for their students.

To conclude, this study has offered empirical evidence on school, teacher and student-level factors, directly and indirectly, affecting the students' listening achievement in Indonesian secular and Islamic schools which explained around 97% (in the *Sekolah* group) and 90% (in the *Madrasah* group) of the total available variance. Likewise, this paper provides practical and policy implications and recommendations for providing the quality of school resources in the *Sekolah* group and putting greater emphasis on school autonomy related to the teaching and learning processes and levels of achievement pressure on students based on the school local contexts, school-community needs, and student diversity is strongly recommended in SS and MS groups. Moreover, it has been suggested that developing teacher efficacy and involving teachers in professional development programs, also minimizes the achievement gaps between public and private schools in each group. Likewise, this study has recommended that participating *Sekolah* school teachers from different age groups and levels of education enhance their teaching quality and teacher morale. In the *Madrasah* schools, minimizing the gaps between the full-day and non-full-day *Madrasah* is strongly suggested by identifying what factors makes them different. Simultaneously, it is importantly proposed to enhance student listening motivation, as well as happiness and reduce the learning problems, such as anxiety and difficulty in English listening as well as life anxiety in both groups. However, only focusing on Indonesian secular-Islamic school contexts is the limitation of this study. Future investigations conducted in different contexts, variables and methods are necessary.

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## 8.9 Appendices

### Appendix 8. 1

*Null-model Equations between the Groups*

<i>Sekolah (SS) Group</i>	<i>Madrasah (MS) Group</i>
<b>Level-1 Model</b>	<b>Level-1 Model</b>
$LISTENING_{ijk} = \pi_{0jk} + e_{ijk}$	$LISTENING_{ijk} = \pi_{0jk} + e_{ijk}$ $\pi_{0jk} + e_{ijk}$
<b>Level-2 Model</b>	<b>Level-2 Model</b>
$\pi_{0jk} = \pi_{0jk} = \beta_{00k} + r_{0jk}$	$\pi_{0jk} = \beta_{00k} + r_{0jk}$ $\pi_{0jk} = \beta_{00k} + r_{0jk}$
<b>Level-3 Model</b>	<b>Level-3 Model</b>
$\beta_{00k} = \gamma_{000} + u_{00k}$	$\beta_{00k} = \gamma_{000} + u_{00k}$
<b>Mixed Model</b>	<b>Mixed Model</b>
$LISTENING_{ijk} = LISTENING_{ijk} = \gamma_{000} + r_{0jk} + u_{00k} + e_{ijk}$	$LISTENING_{ijk} = \gamma_{000} + r_{0jk} + u_{00k} + e_{ijk}$

## Appendix 8. 2

### Final-model Equations between the Group

<b>Sekolah (SS) Group</b>		<b>Madrasah (MS) Group</b>	
<b>Level-1 Model</b>		<b>Level-1 Model</b>	
LISTENING <sub>ijk</sub> =	$\pi_{0jk} + \pi_{1jk}*(MOTLIST_{ijk}) + \pi_{2jk}*(DIFLIST_{ijk}) + \pi_{3jk}*(ANXLIST_{ijk}) + \pi_{4jk}*(HAPPY_{ijk}) + \pi_{5jk}*(ANX_{ijk}) + \pi_{6jk}*(PEER_{ijk}) + \pi_{7jk}*(BULLY_{ijk}) + e_{ijk}$	LISTENING <sub>ijk</sub> =	$\pi_{0jk} + \pi_{1jk}*(DIFLIST_{ijk}) + \pi_{2jk}*(HAPPY_{ijk}) + \pi_{3jk}*(OPT_{ijk}) + \pi_{4jk}*(ANX_{ijk}) + e_{ijk}$
<b>Level-2 Model</b>		<b>Level-2 Model</b>	
$\pi_{0jk} =$	$\beta_{00k} + \beta_{01k}*(GENDER_{jk}) + \beta_{02k}*(CERT_{jk}) + \beta_{03k}*(EFF_{jk})$	$\pi_{0jk} =$	$\beta_{00k} + \beta_{01k}*(PD2_{jk}) + \beta_{02k}*(EFF_{jk}) + r_{0jk}$
$\pi_{1jk} =$	$\beta_{10k}$	$\pi_{1jk} =$	$\beta_{10k} + r_{1jk}$
$\pi_{2jk} =$	$\beta_{20k} + \beta_{21k}*(LISTP_{jk})$	$\pi_{2jk} =$	$\beta_{20k} + r_{2jk}$
$\pi_{3jk} =$	$\beta_{30k} + \beta_{31k}*(LISTP_{jk})$	$\pi_{3jk} =$	$\beta_{30k} + r_{3jk}$
$\pi_{4jk} =$	$\beta_{40k} + r_{4jk}$	$\pi_{4jk} =$	$\beta_{40k} + r_{4jk}$
$\pi_{5jk} =$	$\beta_{50k} + r_{5jk}$		
$\pi_{6jk} =$	$\beta_{60k} + r_{6jk}$		
$\pi_{7jk} =$	$\beta_{70k} + r_{7jk}$		
<b>Level-3 Model</b>		<b>Level-3 Model</b>	
$\beta_{00k} =$	$\gamma_{000} + \gamma_{001}(SCSECTOR_k) + \gamma_{002}(PRESS_k) + \gamma_{003}(SUPPORT_k)$	$\beta_{00k} =$	$\gamma_{000} + \gamma_{001}(SCSECTOR_k)$
$\beta_{01k} =$	$\gamma_{010}$	$\beta_{01k} =$	$\gamma_{010} + u_{01k}$
$\beta_{02k} =$	$\gamma_{020}$	$\beta_{02k} =$	$\gamma_{020} + u_{02k}$
$\beta_{03k} =$	$\gamma_{030}$	$\beta_{10k} =$	$\gamma_{100} + \gamma_{101}(SCSERV_k) + \gamma_{102}(AUTO5_k) + u_{10k}$
$\beta_{10k} =$	$\gamma_{100} + \gamma_{101}(PRESS_k)$	$\beta_{20k} =$	$\gamma_{103}(PRESS_k) + u_{10k}$
$\beta_{20k} =$	$\gamma_{200}$	$\beta_{30k} =$	$\gamma_{200} + u_{20k}$
$\beta_{21k} =$	$\gamma_{210} + \gamma_{211}(AUTO3_k) + \gamma_{212}(AUTO4_k) + \gamma_{213}(AUTO5_k)$	$\beta_{40k} =$	$\gamma_{300} + \gamma_{301}(SCSERV_k) + \gamma_{400} + \gamma_{401}(AUTO3_k) + u_{40k}$
$\beta_{30k} =$	$\gamma_{300} + u_{30k}$		
$\beta_{31k} =$	$\gamma_{310} + \gamma_{311}(AUTO1_k) + u_{31k}$		
$\beta_{40k} =$	$\gamma_{400} + \gamma_{401}(MORALE_k) + u_{40k}$		
$\beta_{50k} =$	$\gamma_{500}$		
$\beta_{60k} =$	$\gamma_{600} + \gamma_{601}(SCSECTOR_k)$		
$\beta_{70k} =$	$\gamma_{700}$		
<b>Mixed-Model</b>		<b>Mixed-Model</b>	
LISTENING <sub>ijk</sub> =	$\gamma_{000} + \gamma_{001}*SCSECTOR_k + \gamma_{002}*PRESS_k + \gamma_{003}*SUPPORT_k + \gamma_{010}*GENDER_{jk} + \gamma_{020}*CERT_{jk} + \gamma_{030}*EFF_{jk} + \gamma_{100}*MOTLIST_{ijk} + \gamma_{101}*MOTLIST_{ijk}*PRESS_k + \gamma_{200}*DIFLIST_{ijk} + \gamma_{210}*DIFLIST_{ijk}*LISTP_{jk} + \gamma_{211}*DIFLIST_{ijk}*LISTP_{jk}*AUTO3_k + \gamma_{212}*DIFLIST_{ijk}*LISTP_{jk}*AUTO4_k + \gamma_{213}*DIFLIST_{ijk}*LISTP_{jk}*AUTO5_k + \gamma_{300}*ANXLIST_{ijk} + \gamma_{310}*ANXLIST_{ijk}*LISTP_{jk} + \gamma_{311}*ANXLIST_{ijk}*LISTP_{jk}*AUTO1_k + \gamma_{400}*HAPPY_{ijk} + \gamma_{401}*HAPPY_{ijk}*MORALE_k + \gamma_{500}*ANX_{ijk} + \gamma_{600}*PEER_{ijk} + \gamma_{601}*PEER_{ijk}*SCSECTOR_k + \gamma_{700}*BULLY_{ijk} + r_{4jk}*HAPPY_{ijk} + r_{5jk}*ANX_{ijk} + r_{6jk}*PEER_{ijk} + r_{7jk}*BULLY_{ijk} + u_{30k}*ANXLIST_{ijk} + u_{31k}*ANXLIST_{ijk}*LISTP_{jk} + u_{40k}*HAPPY_{ijk} + e_{ijk}$	LISTENING <sub>ijk</sub> =	$\gamma_{000} + \gamma_{001}*SCSECTOR_k + \gamma_{010}*PD2_{jk} + \gamma_{020}*EFF_{jk} + \gamma_{100}*DIFLIST_{ijk} + \gamma_{101}*DIFLIST_{ijk}*SCSERV_k + \gamma_{102}*DIFLIST_{ijk}*AUTO5_k + \gamma_{103}*DIFLIST_{ijk}*PRESS_k + \gamma_{200}*HAPPY_{ijk} + \gamma_{300}*OPT_{ijk} + \gamma_{301}*OPT_{ijk}*SCSERV_k + \gamma_{400}*ANX_{ijk} + \gamma_{401}*ANX_{ijk}*AUTO3_k + r_{0jk} + r_{1jk}*DIFLIST_{ijk} + r_{2jk}*HAPPY_{ijk} + r_{3jk}*OPT_{ijk} + r_{4jk}*ANX_{ijk} + u_{01k}*PD2_{jk} + u_{02k}*EFF_{jk} + u_{10k}*DIFLIST_{ijk} + u_{20k}*HAPPY_{ijk} + u_{40k}*ANX_{ijk} + e_{ijk}$

### Appendix 8. 3

#### Descriptive Statistics of the Tested Variables

Variable		Sekolah (SS)				Madrasah (MS)				Total			
		Mean	SD	Sk	Ku	Mean	SD	Sk	Ku	Mean	SD	Sk	Ku
<b>School-level Factors</b>		<i>N=16</i>				<i>N=14</i>				<i>N=30</i>			
School Resource Availability	RSCAV	1.39	1.59	-0.03	0.90	-1.24	0.74	-1.22	0.67	1.58	1.83	0.56	-0.11
School Resource Quality	RSCAQT	-1.36	1.83	-0.08	-0.03	0.38	1.29	0.25	-1.15	-0.55	1.80	-0.37	0.04
Teacher Morale	MORALE	0.32	2.18	-0.28	-1.08	0.13	1.93	0.27	-0.86	0.23	2.03	-0.05	-1.06
Achievement Pressure	PRESS	-0.13	1.66	0.17	0.34	0.96	1.63	0.28	-0.84	0.38	1.71	0.16	-0.21
Disciplinary	DCPLN	-0.05	1.84	0.23	-0.08	1.25	2.82	-0.90	1.64	0.56	1.92	-0.22	-0.38
Teacher Support	SUPPORT	-0.02	1.94	0.17	-1.14	0.21	2.44	-0.19	-0.93	0.09	2.15	-0.17	-0.96
<b>Teacher-level Factors</b>		<i>N=34</i>				<i>N=30</i>				<i>N=64</i>			
Teacher Efficacy	EFF	1.71	2.38	-0.28	-0.82	1.17	3.13	-0.33	-0.39	1.45	2.74	-0.39	-0.31
Job Satisfactions	JOBS	1.33	1.57	0.47	-0.69	1.09	1.78	0.47	-0.70	1.22	1.66	0.43	-0.72
Teacher Collaboration	TCLB	1.54	2.53	-0.26	0.31	1.97	2.00	0.46	-0.74	1.74	2.29	-0.11	0.24
Team Teaching	TEAM	-0.57	1.24	0.00	-1.25	-0.50	1.05	0.22	-0.13	-0.54	1.15	0.06	-0.85
Listening Practice	LISTP	1.04	3.44	-0.26	-0.14	1.29	2.92	-0.17	-0.83	1.16	3.18	-0.30	-0.16
ICT Use	ICTUS	-0.68	1.75	-0.23	2.16	-0.65	2.03	-0.52	0.91	-0.66	1.87	-0.39	1.27
<b>Student-level Factors</b>		<i>N=726</i>				<i>N=593</i>				<i>N=1,319</i>			
Happiness	HAPPY	2.00	1.44	-0.25	-0.54	1.89	1.47	-0.17	-0.42	1.95	1.45	-0.21	-0.49
Optimism	OPT	2.39	1.54	0.00	-0.86	2.19	1.53	0.12	-0.71	2.30	1.54	0.05	-0.80
Anxiety	ANX	1.21	1.63	0.37	0.22	1.31	1.53	0.24	0.49	1.25	1.59	0.31	0.32
Peer Belonging	PEER	1.71	1.69	-0.16	0.15	1.62	1.63	0.09	-0.25	1.67	1.66	-0.05	-0.03
Bullying	BULLY	-1.33	1.54	0.37	0.04	-0.69	1.42	0.13	0.32	-1.04	1.52	0.21	0.02
Listening Motivation	MOTLIST	2.28	1.94	0.24	-0.23	2.31	1.77	0.14	-0.36	2.29	1.87	0.20	-0.26
Listening Anxiety	ANXLIST	1.57	1.69	0.29	0.99	1.66	1.66	0.41	0.33	1.63	1.96	0.09	0.76
Listening Difficulty	DIFLIST	1.51	2.00	0.13	0.92	1.77	1.95	0.06	0.62	1.61	1.68	0.34	0.70
Listening Achievement	LISTENING	-0.44	0.09	-0.11	0.77	-0.43	0.90	-0.30	0.62	-0.44	0.90	-0.20	0.69

# **Chapter 9:**

**Bridging Boundaries:  
Conclusive Key Findings, Implications and  
Limitations of the Study**

# **Bridging Boundaries: Conclusive Key Findings, Implications and Limitations of the Study**

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## **9.1 Introduction**

The main purpose of this concluding chapter is to provide a comprehensive overview of the main findings, implications, and limitations of this study. The previous chapters have presented a series of in-depth comparative analyses, aiming to address the rationales of the challenges and discrepancies between the secular and Islamic schools in Indonesia and internationally. Moreover, as the research journey unfolded, a range of data collection methods, including statistical and interview data, was employed to collect representative data from the principals, English teachers and Year 12 students attending secular or *Sekolah* and Islamic or *Madrasah* schools. The data was then analysed using rigorous techniques to examine the disparities between Indonesian secular and Islamic schools in student achievement (e.g., English lessons), the possible factors of student demographics, wellbeing, learning behaviours, teacher demographics, professional characteristics, professional development, cooperative competencies, job-related attitudes, teaching effectiveness, school demographics, resources and climates, and how those factors contributed to direct and indirect effects on their student English outcomes differently across the groups. The separate findings were discussed in the foremost analytical chapters, for example, Chapter 2 to Chapter 8 aligned with the six research questions and the main research aim presented in Chapter 1. Then, the key findings are summarised and comprehensively discussed in this chapter, followed by an examination of their implications for the knowledge about this topic, practice, policy, and methodology. The limitations of the study are critically examined by acknowledging the potential biases and the areas which warrant further exploration. Overall, by reviewing in detail the key research findings, significance and limitations, this study aims to offer a robust and balanced investigation of the research conducted. It aims to contribute to the broader scholarly literature in the field by comparing the effectiveness of religious and non-religious education, specifically secular and Islamic schools.

## **9.2 Summary of the Main Findings**

### ***9.2.1 The trend in discrepancies in students' achievement has changed in favour of Madrasah schools; poor performance of boys, those attending full-day and private secular schools may explain this situation.***

The discrepancies in the marks or grades attained by students attending secular (*Sekolah*) and Islamic (*Madrasah*) schools in English lessons were revealed. The statistical evidence in this study shows that there were significant differences between *Sekolah* and *Madrasah* schools in English reading and listening skills, favouring students enrolled in Islamic schools (Chapter 2). Higher mean reading and listening scores in these schools indicate that *Madrasah* school students are better at constructing what text means in a variety of contexts and for numerous purposes as a literary experience in English reading text. Simultaneously, they were good at discovering one piece of specific information uttered by the speaker in the English listening tests compared to those attending secular schools. Moreover, this study highlights that student English achievement in both groups varied and was moderated by student gender and school characteristics. The findings revealed female students in secular schools attained higher scores in reading tests than males, while boys did better than girls in Islamic schools. For the students' listening performance, those enrolled in public *Sekolah* schools did better than those in private secular schools, while students in public Islamic schools obtained lower scores than those in private Islamic schools. Simultaneously, the achievement discrepancy in English listening performance between full-day and non-full-day or regular schools in secular education was revealed to favour non-full-day schools (Chapter 8). The worst English scores of boys, that is, those who were enrolled in full-day and private secular schools might become a very critical issue given the lower overall scores achieved by the *Sekolah* compared to the *Madrasah* schools. The findings confirm the new trend of achievement discrepancy between secular-Islamic education, where students attending Islamic schools did better in English than secular school students (Chapter 2).

### ***9.2.2 Learning anxiety and difficulty are stronger than motivation, and discrepancies are shown across the school systems, sectors, and student gender.***

The students' learning behaviours were found to influence learning outcomes differently across the groups. This research has demonstrated that the influence of student learning motivation on performance is only evident in secular schools, as no direct effect was revealed in Islamic

schools (Chapter 4). The positive direct effect of learning motivation on student listening achievement signifies that *Madrasah* students who were very motivated to learn did better in English listening tests. Conversely, those who enrolled in Islamic schools with lower learning motivation did worse in English. Unlike prior studies' findings, learning problems, such as anxiety and difficulty in reading and listening tests, greatly contributed robust influences on students' English performance in both groups. The strong negative effects of anxiety and difficulty strongly suggest that the students from secular and Islamic schools who felt more anxious struggled with English reading and performed poorly at listening, while those who had minimal levels of learning problems did better. In essence, the strong effects of learning problems on student performance in both groups signify that although students possessed high motivation (e.g., those in secular schools), they might feel more anxious and struggle to learn, which could mean that there are delays in them learning well.

Furthermore, this study found that the levels of student learning motivation, anxiety and difficulty were significantly different across the groups. High levels of listening motivation in favour of *Madrasah* students meant that students in Islamic schools were more motivated in listening lessons for communication, travelling and job prospects compared to the students attending secular institutions. Meanwhile, both *Sekolah* and *Madrasah* groups were likely to have the same levels of motivation in English reading lessons. More specifically, this study highlights that the levels of students' learning motivation, especially in English reading and listening lessons, varied across the school and student demographics in secular and Islamic education, and were strongly affected by their wellbeing. For example, in secular schools, there was a discrepancy in learning motivation detected across the school sectors. Students in public secular schools possessed higher motivation in English listening than those in private schools, while the students who enrolled in public and private *Sekolah* schools were likely to have the same levels of reading motivation (Chapter 3). Likewise, positive effects of optimism on listening motivation and negative influences of gender on reading motivation were revealed in the *Sekolah* group. This signals that highly optimistic students were more likely to have higher listening motivation, and female students in secular schools possessed higher motivation in reading subjects. For the students attending *Madrasah* institutions, their motivation levels were different according to their school majors and anxiety levels. *Madrasah* students who enrolled in science programs and felt less anxious were greatly motivated in listening lessons, while those majoring in language and having high levels of anxiety had poor motivation in English reading (Chapter 4).

In terms of what factors affect the levels of student learning problems in both groups, this study found that school attributes, gender, age, wellbeing, and other learning behaviours influenced their anxiety and difficulty in English learning. This study found that students in the private *Sekolah* school group possessed greater listening anxiety and difficulty than students in public schools. This suggests that private school students felt more anxious and experienced more problems, such as psychological, technical, and contextual issues in English lessons, than those in public secular schools (Chapter 3). Similarly, higher anxiety levels in learning were experienced by the male students and those who felt unhappy, as well as the *Sekolah* students who felt less engaged and got more bullied by their peers. Secular school students who were more anxious and less motivated to learn tended to have greater learning difficulties. Likewise, students who felt more optimistic, less anxious, and had fewer bullying experiences were more likely to have fewer problems in English classes (Chapter 4). In the *Madrasah* schools, female and male students had the same levels of reading anxiety, and younger students were more anxious in English reading than older ones. Highly optimistic and less anxious students were more likely to possess lower anxiety levels in listening, while *Madrasah* students who felt happier and less worried about their life and learning had fewer problems in learning, leading them to perform better in reading tests (Chapter 4).

### ***9.2.3 Wellbeing domains are associated with student outcomes across the groups and strong direct effects of social domains are shown in secular schools.***

Similar to the learning behaviours, student wellbeing aspects were found to wield significant, direct influences on students' English performance across the groups. Student anxiety had negative effects on English reading and listening scores in secular schools, while a strong effect of anxiety on listening achievement was only revealed in *Madrasah* schools. This suggests that students who had low anxiety levels were more likely to obtain high scores in both English subjects in *Sekolah* schools but only in listening in Islamic schools. Another domain, happiness, was similar wielding a direct influence on students' listening in both groups, while student optimism was only found to influence student listening performance in Islamic schools. These findings signal that secular and *Madrasah* school students who were happier, and students attending Islamic schools who were more optimistic, did better in listening lessons. Regarding the influence of social wellbeing domains, this study revealed that the predictors of peer belonging and bullying contributed to the strong effects of student English achievement in *Sekolah* schools. The positive effects of peer belonging on their reading and listening scores strongly suggest that the students who felt more accepted by their peers performed better in



both English lessons. By contrast, the negative influence of bullying on listening signifies that the students enrolled in secular schools who experienced more bullying did worse in English listening lessons compared to those who experienced less bullying (Chapter 4).

Furthermore, this study finds that the levels of student wellbeing when comparing secular and Islamic schools were similar apart from the bullying domain. A high average score of bullying in Islamic schools indicates that the students attending *Madrasah* schools experienced more bullying than those in *Sekolah* schools (Chapter 3). In contrast, the lack of significant differences in other domains suggested that the students' happiness, optimism, anxiety and peer belonging levels did not differ between the groups. Moreover, in both groups, the levels of student wellbeing varied across the school and student characteristics. For example, students in public Islamic schools were happier and less optimistic than those attending private schools. Female students and those who enrolled in science programs at the *Sekolah* schools felt more engaged with their peers than boys, and the students majoring in language studies, while much-bullied students who were victimised by older students in secular schools, did not. Simultaneously, this study also highlights that the student wellbeing aspects across the groups influenced one another. In secular schools, those who were more engaged and experienced less bullying from their peers were happier and less anxious. Those who felt more belonging to their peers experienced less bullying. Similarly, the *Madrasah* students who were bullied and unhappy were more anxious, while those who were happier exhibited high optimism. From the results attained, wellbeing domains contributed direct and indirect influences on students' English achievement in both groups. However, more direct and mediating effects of peer belonging and bullying were shown in *Sekolah* schools as they undertook English lessons differently (Chapter 4).

#### ***9.2.4 Professional development has direct and indirect effects on teaching effectiveness and student learning; most Madrasah teachers have limited ability to access such development opportunities.***

This study concludes that teacher education, or professional development, has numerous advantages for the effectiveness of teaching and learning. Six teachers from *Sekolah* and *Madrasah* schools believed that professional development not only strongly enhances the teachers' pedagogical knowledge and skills, but it also can advance the strong connections among the teachers and improves their attitudes toward their jobs (Chapter 5). Teacher education equips teachers with much-needed knowledge and skills which can help them provide high-quality teaching, create learning engagement, address students' needs, and foster

better student grades. Professional development programs can also support teacher networks and improve their sense of confidence and satisfaction with their jobs. This claim was similarly reported in statistical findings detecting positive direct effects of teacher professional development on teacher cooperation, attitudes, teaching effectiveness and student learning outcomes across the groups. The *Sekolah* and *Madrasah* teachers who similarly obtained a greater knowledge of the English language in teacher education collaborated more often with other teachers. Likewise, those who obtained greater knowledge in English pedagogy taught listening lessons more effectively, while those who obtained greater knowledge in general pedagogy in teacher training were more likely to have higher teaching efficacy.

In separate findings, teachers who more frequently taught as a team were found in the secular teachers who obtained greater knowledge in English pedagogy and those in *Madrasah* schools who had greater knowledge in general pedagogy. Better-performing teachers in reading lessons were identified as the secular school teachers who completed teaching training and obtained greater knowledge in the English and pedagogy domains. Meanwhile, *Madrasah* teachers who had greater knowledge of general pedagogy used technology in their English classes more frequently. Likewise, regarding the effects of teacher professional development on student achievement between the groups, this study revealed that professional development in the general pedagogy domain had a positive direct effect on students' English reading scores in *Madrasah* schools, and a negative effect on listening achievement in secular schools. This suggests that higher reading scores were gained by *Madrasah* students who learned under teachers with advanced knowledge of general pedagogy, while higher listening performance in secular schools was found in classrooms where the teachers had a command of English pedagogy. The positive influence of professional development in English pedagogy on student listening in *Madrasah* schools signifies that students who were taught by teachers who attained greater English pedagogical skills in their training did better in English listening.

Although professional development has abundant benefits, all teachers do not have the same opportunities to get involved. This claim has been stated by most teachers in Islamic schools reporting that they tend to be disadvantaged by teacher training opportunities due to their job status and lack of school funding to pay for it. Most of them are not part of the public service, nor are they permanent teachers, so they have limited access or means to participate in professional development programs compared to those who work in secular schools. They also claimed that they work in private *Madrasah* schools operated by non-profit foundations and hence do not receive enough funding support to participate in teacher training. Thus, this issue can lead to teachers in *Madrasah* schools struggling to update their pedagogical knowledge

and skills. Moreover, this study also revealed that teachers' mastery of English knowledge and pedagogy after completing the PD program varied depending on their school, personal and professional attributes. For example, in *Sekolah* groups, teachers who worked in public schools, males, older teachers, uncertified teachers and experienced teachers had less knowledge of English and pedagogy domains. Teachers who held Master's degrees attained greater English knowledge in the *Sekolah* group and greater English pedagogy in the *Madrasah* group. Greater English knowledge obtained by the permanent teachers in the latter, and greater English pedagogy attained by non-permanent teachers in secular schools, were also revealed in this study. Simultaneously, female teachers in Islamic schools attained more general pedagogy skills in the professional development program (Chapter 6).

### ***9.2.5 Cooperative competencies are allied with teacher efficacy, job satisfaction and effective teaching performance in both groups.***

When asked about the advantages of teacher-cooperative competencies, all teachers from the secular and Islamic school groups stated that teacher collaboration and teaching as a team offer some benefits such as enhancing the positive school climate, teaching qualities and student learning effectiveness (Chapter 5). Teacher cooperation builds a sense of teamwork, relationships with peers and commitment to the school's goals. When teachers have opportunities to work collaboratively and function as a team, they can share ideas, teaching materials and methods and this can improve their instructional knowledge and skills, leading to high efficacy and job satisfaction. This claim has been evident in the statistical results revealed in this study that show teachers' cooperative competencies have direct effects on their job-related attitudes and performance across the groups. The positive influence of teacher collaboration on job satisfaction, and the direct effect of team teaching on efficacy, were revealed in both groups; *Sekolah* and *Madrasah* teachers who more frequently collaborated with their peers possessed greater job satisfaction, while those who more often taught as a team had higher self-efficacy.

Regarding the effects of teacher cooperation on teaching effectiveness, this study found that *Sekolah* teachers who worked as a team more regularly did better in teaching listening. In Islamic schools, teachers who taught English reading effectively were identified as those who had high job satisfaction, while teachers who taught as a team more often used technology in English lessons. This study emphasizes that the levels of teacher cooperative competencies in secular and Islamic schools varied across the school sector and teacher characteristics. It emerges that in *Sekolah* schools, younger teachers work collaboratively more

often with their peers, while female teachers and those who work in private schools more often taught as a team compared to males and teachers in public secular schools (Chapter 5).

### ***9.2.6 Job-related attitudes of teachers refer to effective teaching and learning; low efficacy and job satisfaction levels remain problematic in Madrasah Schools.***

Six teachers from *Sekolah* and *Madrasah* schools agreed that teachers with high self-efficacy and job satisfaction can create effective teaching and learning environments. They believed that when teachers are greatly encouraged about their teaching abilities, they can promote innovative and stimulating environments. Teachers who are less satisfied with their profession, conversely, tend to have less enthusiasm for work and a poor commitment to their workplace quality and student success. This agrees with the statistical results revealed in this study that job-related attitudes, such as self-efficacy and job satisfaction, had direct effects on teaching effectiveness across the groups. The positive effects of teacher efficacy on reading practice and job satisfaction on ICT use in the *Sekolah* group indicate teachers in secular schools who were more confident taught English reading effectively, while those who possessed higher job satisfaction used technology more often in English lessons. In Islamic schools, direct influences of teacher efficacy on listening practice and job satisfaction on reading practices were detected. Here, it suggested that *Madrasah* teachers who had high levels of efficacy were better at teaching listening, while those who were more satisfied with their job performed better in teaching English reading (Chapter 5).

In terms of the effects of teacher attitudes on student learning, this study found that teacher efficacy did have a direct effect on students' listening scores in both groups. This finding signifies that *Sekolah* and *Madrasah* students under the teachers who possessed high self-efficacy performed better in listening lessons, while those who were taught by teachers with low efficacy levels did poorly in English listening (Chapter 8). Likewise, this study also shows that teacher job satisfaction only had an interaction effect between students' reading difficulty and their achievement in secular schools. The negative influence means that in the classrooms where *Sekolah* students were taught by teachers who were largely satisfied with their job, difficulty in reading was lower and helped them achieve better in English reading. In contrast, greater reading difficulty led to lower scores in reading lessons and was more evident in classrooms under secular school teachers where job satisfaction was poor (Chapter 7). Moreover, this study highlights that although no significant gaps in the levels of teacher attitudes appeared between the groups, teachers in the *Madrasah* groups exhibited low self-

efficacy and were less satisfied with their job compared to teachers in secular schools. This claim is supported by *Madrasah* teachers in private schools reporting that most teachers in Islamic institutions are non-civil servant/honorary teachers and they receive low wages and lack teacher training opportunities which strongly, and negatively, affects their teaching efficacy and job satisfaction. Most teachers working in secular schools are civil-servant or public servant teachers who receive standard salaries from the government and more offers to participate in teacher training. Simultaneously, the discrepancies in levels of teacher attitudes varied across the teacher demographics in both groups. For example, females and older teachers had higher job satisfaction while young teachers were more confident with their abilities in *Sekolah* schools. In *Madrasah* schools, male teachers were more satisfied than females, and no significant differences in teacher efficacy and job fulfilment were found according to age (Chapter 5).

***9.2.7 Autonomy in schools' textbooks and assessment selections has positive effects on student learning and wellbeing, while other categories have different outcomes.***

When asked about the benefits of the autonomous decision, the school principals in both groups similarly endorsed the view that schools with the autonomy to decide their teaching and learning activities are more effective in addressing contextual teaching and learning needs. They highlighted that school autonomy does not guide student achievement directly, but it does strongly affect the teaching and learning process. Teachers are more comfortable teaching in their classes, and it is easier for students to understand the lessons and enhance their learning quality and performance (Chapter 6). This claim has been allied with the statistical findings revealed in this study reporting that school autonomy had only an indirect influence on student performance by contributing to the interaction effects between the student learning behaviours and student performance across the groups. For example, in secular schools, school autonomy in the aspects of textbook selection and assessment was found to interact between the students' reading difficulty and achievement. Moreover, the effect of autonomy in book selection indicates that for the students who enrolled in secular schools whose English textbooks were selected by the relevant central government department, the influence of reading difficulty was stronger, while a lower reading difficulty level was revealed in those whose textbooks were chosen by the schools. The moderating effect on school autonomy in assessment indicates that for schools in which their standard assessment criteria were established by the central government, the effect of student reading difficulty was stronger. Less reading difficulty was

found in secular schools whose assessment policy was selected at the school level (Chapter 7). Similarly, the effect of school autonomy in teacher recruitment was found to interact across listening teaching practice, listening anxiety and achievement. The negative effect indicates that in the classroom where the teachers were hired by the government, the effect of student learning anxiety is weaker in listening lessons. Meanwhile, high learning anxiety, which led to achieving poor outcomes in listening lessons, was found when the teachers were recruited by the schools and local government (Chapter 8).

In Islamic schools, school autonomy in course content selection was revealed to negatively moderate students' reading anxiety and their English achievement. The interaction influence means that in the *Madrasah* schools, which dictate their English course content, the effect of reading anxiety was slightly stronger and led to poorer performance. A low level of reading anxiety was found in the schools in which English course content was selected by the government bureaucracy (Chapter 7). In listening lessons, school autonomy in English skills had a positive moderating effect between student listening difficulty and listening performance. This finding indicates that in Islamic schools where the English skills on offer were determined by the central government, the students' listening difficulty was not as pronounced. The strongest students' listening difficulty (leading to low reading scores) was detected in the *Madrasah* schools where English skills were dictated by school authorities. Moreover, not only did it affect students' learning problems, the effects of school autonomy in Islamic schools interacted with student wellbeing domains and what students achieved. This suggests that *Madrasah* schools with English textbooks determined by the central government were more likely to report the strongest anxiety levels. In contrast, in the Islamic schools which organised their own textbooks, weak anxiety levels were detected explaining the higher English listening performance (Chapter 8).

### ***9.2.8 School resources facilitate teaching and learning effectively; inadequate learning facilities in Islamic schools and poor-quality resources in secular schools are evident.***

Six principals from *Sekolah* and *Madrasah* schools agreed that good school resources promote teaching and learning effectively (Chapter 6). Most asserted that the availability and quality of school resources not only promoted positive and supportive learning for students to perform better, but it also significantly influenced school life quality, including a positive school environment and connections between school communities. This aligns with statistical findings in this study reporting the direct effects of school resources on student achievement and school

climates. The positive effect of the availability of school resources on student English reading in Islamic schools, and the positive influence of the quality of the school resources on listening achievement in *Sekolah* schools, highlight that advanced reading schools are evident in *Madrasah* schools. Their resources are more available, while the secular school students, who did better in listening tests, were in schools with high-quality resources. Simultaneously, this study also found that the schools with fewer resources had higher achievement pressures and support for students, as well as a low disciplinary climate. Conversely, the schools with high-quality resources were more likely to have high teacher morale or enthusiasm, good discipline and lower pressure to achieve for their students. This indicates that school resources have become vital components in promoting positive school life quality and strong connections among the school communities.

However, another finding of this study is that the availability and quality of school resources differed significantly between secular and Islamic schools. Resources in secular schools are better compared to Islamic schools, while the quality of resources is still problematic in *Sekolah* institutions. This is in line with the interview results reporting that most secular schools have enough resources; however, some school facilities are not of good quality. Likewise, the school principals from *Madrasah* schools similarly recognized that deficiencies in school infrastructure, learning materials and laboratories remain challenges in Islamic schools (Chapter 6). Moreover, the school resources were found to have interaction effects with student learning problems and student achievement in both groups. This suggests that the availability and quality of school resources have caused disparities in student learning problems and achievement across the groups. The claims have been verified in this study which reports that the availability of school resources moderated student difficulty and student English reading performance in *Madrasah* schools negatively. In the meantime, the negative interaction effect of the quality of school resources on student learning anxiety and listening achievement was evident in the *Sekolah* schools. The findings indicate that the effect of reading difficulty is stronger in Islamic schools with fewer resources, while the weaker effect of reading difficulty was exposed in those schools with more resources (Chapter 7). Secular schools with poor-quality resources were more likely to demonstrate robust listening anxiety. In contrast, in schools where the resources were of high quality, the effect of student anxiety was less, leading them to achieve higher English listening scores (Chapter 8).

### ***9.2.9 Positive school climates support positive teaching and learning environments; achievement pressure and disciplinary climates have different effects on student performance between the groups.***

Positive school climates foster positive learning environments and better learning outcomes. This claim has been supported by the principals from secular and *Madrasah* schools highlighting that school climate aspects, such as teacher morale, teacher support, disciplinary climate, and achievement pressure, are not only associated with student performance but also promote a strong connection between the school community and teaching and learning engagement. They agreed that schools with high teacher morale can enhance relationships and collaboration among the teachers as well as teacher enthusiasm, and the schools which provide more support to their students can promote effective teaching and learning. Likewise, they emphasised that teacher morale and support can improve students' learning motivation, wellbeing and can address learning problems. For other school climates, such as disciplinary and achievement pressure, the principals acknowledged that roles of discipline such as punishment and rewards, as well as putting more pressure on student achievement, can generate positive and negative student outcomes. School discipline and achievement pressure can create comfortable and effective teaching and learning environments and can enhance students' learning motivations so they can perform better. In contrast, high levels of discipline and pressure to achieve can also affect students' psychological aspects, such as anxiety, which can have negative ramifications (Chapter 6).

These findings are consistent with the statistical results of this study which revealed different trends in the effects of disciplinary and achievement pressure for both groups and pointed towards different conclusions. The positive influence of discipline and the negative effect of achievement pressure on student reading achievement in the *Sekolah* group suggest that secular schools which had high levels of discipline were more likely to attain high reading scores, while the schools that put more pressure on student achievement tended to do worse in reading. In contrast, the negative effect of the disciplinary environment and the positive influence of pressure on achievement in Islamic schools showed that students attending *Madrasah* schools with low disciplinary levels and high pressure to achieve did better at English reading tests compared to those who enrolled in Islamic schools with high discipline and low achievement pressure (Chapter 7). Moreover, this study concludes that school climates had interaction effects between student wellbeing and learning problems, and student performance across the groups. For instance, teacher morale and achievement pressure were



revealed to moderate student listening anxiety and achievement in secular schools, while pressure to achieve had an interaction effect on students' listening difficulty and English performance in Islamic schools. The findings suggest that in *Sekolah* schools, where teacher morale and achievement pressure were higher, the influence of students' listening anxiety was stronger. Lower listening anxiety was revealed in *Sekolah* schools, with poor teacher morale levels and low achievement pressure, resulting in high listening scores. In Islamic schools, where achievement pressure was higher, the effect of listening difficulty was weaker. The high listening difficulty was experienced by the students attending *Madrasah* schools with lower pressure to achieve, enabling them to enjoy high listening performance (Chapter 8). Regarding the moderating effect of school climates on wellbeing and achievement, this study found that teacher morale and support interacted with student peer belonging and their reading achievement in secular schools. The negative effect of teacher morale and the positive influence of teacher support suggest that in secular schools, where teacher morale was high and teacher support was lower, the effect of students' engagement with their peers is stronger. In contrast, in *Sekolah* schools with low teacher morale but high teacher support, the effect of peer belonging was weaker (Chapter 7).

Furthermore, the levels of teacher morale differed significantly between the groups, while other school climates varied across school location and autonomy decisions and were affected by the availability and quality of resources. These were evident in this study revealing that teacher morale in *Sekolah* schools was higher, indicating that teachers' professional interest and enthusiasm in secular schools was better than in *Madrasah* schools. Simultaneously, the schools located in the cities provided more teacher support than the schools situated in districts and villages, while high disciplinary levels were shown in the schools in rural areas. Teachers who were hired by the central government provided more support and were more concerned about achievement pressure on students compared to the other teachers hired by the school and local authorities. Additionally, this study found that the schools with fewer resources had higher pressure and provided more support to their students, while greater discipline was revealed in the schools when more resources were available. The schools with high-quality resources were more disciplined and had higher teacher morale, while more achievement pressure was shown in the schools with low-quality resources. These claims were aligned with the interview results reported in this study; however, the principals from *Madrasah* schools emphasised that Islamic values, morals, tradition, and practice were strongly involved in the school climates in those schools (Chapter 6).

## 9.3 Implications of the Study

### *9.3.1 Knowledge: Mind the Gaps*

The presence of achievement gaps between secular and Islamic education has been a topic of discussion and concern in the literature. Several studies have extensively explored the discrepancies in student performance between them and favoured students attending secular schools (Ameli, Azam, and Merali 2006; Newhouse and Beegle 2006; Hendajany 2016). Although there is no definitive agreement, some investigations have predicted that the resource constraints in Islamic schools can actually lead to bridging achievement gaps compared to their secular counterparts. Factors including insufficient funds, inadequate facilities (Ali et al. 2011; Muhajir 2016; ADB 2014; Ependi 2020) and teacher quality (Afkar et al. 2020; Ilias et al. 2022; Gul and Shah 2019) have been identified as the major contributors to these disparities. Likewise, the debate surrounding the effects of school climates (Abdullah 2019; Na'imah, Herdian, and Panatik 2022), teacher attitudes (Dewi et al. 2021; Yafiz et al. 2022), cooperative competencies (Arkiang and Adwiah 2020), student learning attitudes (Farid and Lamb 2020; Kim 2017; Özsari and Büyükkarci 2022; Nafsiah 2019) and wellbeing (Joshnloo and Weijers 2019; Jin and Zhang 2018; Huang 2022) on mitigating these gaps adds complexity to the issue.

Despite the continuing emphasis on the disparities between secular and Islamic education over the school's effectiveness and outcomes from the early investigations, there are still shortcomings that can be cited. First, recent comparative studies between secular-Islamic education are still not enough. Some prior investigations conducted in Indonesia only focused on student achievement comparisons for the most part. Second, other separate observations employed in some countries, including Indonesia, Malaysia, India, Pakistan, Bangladesh, Turkey, and the United Kingdom, have acknowledged the possible factors which may explain the poor school outcomes for Islamic education. However, they tend to fail to quantify the associations and influences of the explained factors on student achievement. Third, the quantitative studies on secular-Islamic education comparisons have been limited to factors that influence school outcomes differently. Attempts to examine the possible effects of school, teacher and student-level factors on student English achievements have not been carried out.

From the gaps identified above, the general knowledge contributions of this study are offered. Firstly, this might be the first comparative study on secular-Islamic education which investigates the disparities and effects of multi-level factors, such as school, teacher, and student-level factors on student English achievement. The findings provide a valuable opportunity to remove the gaps between secular and Islamic schools shedding light on the

factors which contribute to the variations in student English learning outcomes. Secondly, this study has acknowledged a new claim or trend in the presence of English achievement gaps between secular and Islamic schools, one in favour of the students attending Islamic/*Madrasah* schools. This indicates that the Islamic school has made significant progress in narrowing the gap and enhancing students' English learning outcomes. Likewise, the findings emphasise the need to identify the underlying reasons for the achievement gaps and ultimately promote more inclusive and effective practices. Thirdly, despite many studies having emphasised the significance of learning motivation on student academic performance, this study offers insightful knowledge that student wellbeing and learning problems are stronger contributors to achievement than motivation. This knowledge underscores the significance of students' wellness development and early detection and intervention for their English learning anxiety and difficulty.

Fourthly, this study has strengthened the significant roles of teachers' professional development, cooperative competencies, attitudes to their jobs and resources earmarked for English teaching and learning effectiveness in Indonesian secular and Islamic education. Investing more in those factors can enhance a teacher's pedagogical knowledge and skills, emphasise the value of a collaborative and conducive learning environment, and develop teacher enthusiasm and commitment, leading to improved English proficiency in Indonesian schools. Fifth, this study has generated a new understanding of the various effects of school autonomy and climates on school contexts. For example, knowledge of the importance of considering the specific characteristics and needs of the schools when implementing policies related to their autonomy is necessary. Simultaneously, the need to consider the specific characteristics and cultural contexts of the schools when creating the right climate, realistic achievement pressures and disciplinary approaches are suggested.

### ***9.3.2 Practice and Policy: Towards the Equity***

The findings revealed in this study are believed to have several implications for education practice and policy to shape equity across secular-Islamic schools in Indonesia as follows:

- 1) Promote inclusive teaching practices for all genders and school characteristics in secular schools.*

The existence of poor English performance by boys, as well as those in full-day and private schools, was identified as the key factor contributing to lower English achievement in secular schools than those in Islamic schools. In this case, *Sekolah* teachers played a crucial role in

promoting high-quality instruction that catered for diverse learning needs and preferences. This included implementing differentiated instructions, providing personalised support to address the specific learning needs of boys, full-day school students and those in private schools, as well as promoting collaborative and peer-learning activities which allowed them to learn from each other. Likewise, a comprehensive education policy and governmental support addressing disparities in quality across the student gender and school characteristics, such as allocating adequate resources, improving teacher quality, implementing research-based practices and monitoring the school output progress to ensure equal access and achievement for all Indonesian students, are strongly suggested.

2) *Prioritise student wellness development and identify learning problem deficits in secular and Islamic Schools.*

This study recognises that student wellbeing and learning problems have great impacts on student English achievement in both groups. For this reason, it is suggested that educational institutions should prioritise student wellness by creating a supportive and inclusive environment in both secular and Islamic schools. This can be done by providing social-emotional learning programs, mental health support and creating positive school climates. Moreover, detecting and addressing the student learning problems in English lessons promptly, such as learning anxiety and difficulty, is important. Promoting early intervention strategies, personalised learning approaches, and targeted support can help students overcome their learning problems and improve their English skills. Teacher education and professional development programs which include crucial components of student wellbeing (e.g. emotional, psychological, social and physical domains) and learning needs are strongly advised. Likewise, policymakers under the Ministry of Education and Culture (MoEC) and Ministry of Religious Affairs (MoRA) should allocate sufficient resources to develop support services, including counselling and specialised interventions, and ensure that policies prioritise student learning and wellness development. Importantly, regular assessment programs in student academic and psychological aspects are more significant in both groups for monitoring their student outcomes. In secular schools, the social wellbeing domains have strong influences on students' English achievement. Thus, promoting students' collaboration could enhance their sense of belonging with peers and prevent bullying.

3) *Establish mandatory and regular professional development programs for all Indonesian educators, including Madrasah teachers.*

This study supports a growing recognition of the prominent roles of professional development in improving teaching and learning performance in both groups. It is essential to prioritise ongoing teaching training and to establish these as regular and compulsory programs for all educators in Indonesian schools. However, a significant concern arises regarding the limited opportunities for teachers in private schools (mostly in *Madrasahs*) in terms of participation in professional development programs. To address this issue, the Indonesian government, especially the Ministry of Religious Affairs, should ensure equal access to teacher training for *Madrasah* teachers. This may involve partnering with other public and private institutions, providing resources or budgets allocated for teacher education programs, and exploring various models of training which are aligned with student needs and school contexts. The implications can enhance teaching quality and improve the students' learning outcomes on national and international scales.

4) *Encourage teachers to cooperate to enhance attitudes, and provide effective teaching in both groups, tackle teacher self-efficacy and job satisfaction challenges in Madrasah.*

Teacher cooperation plays a crucial role in enhancing efficacy and satisfaction with the job, as well as improving teaching and learning effectiveness. Practice and policy implications which focus on establishing opportunities for collaboration among the teachers, and teaching as a team within and between the schools, are needed. This can be achieved through some activities, such as professional learning communities, education seminars, workshops, and conferences, as well as mentorship programs which can facilitate the sharing of best knowledge, teaching practices, strategies, and resources. However, this study highlights that the low wages of teachers in *Madrasah* schools were the main factor negatively affecting their cooperative competencies, attitudes, and performance. In this case, central and local governments should be aware of this issue and offer support specifically tailored to teachers' needs. They should ensure that all teachers, including non-civil servant teachers (e.g., mostly found in *Madrasah* schools), receive similar standard salaries and compensation as they have similar invaluable contributions and responsibilities to provide high-quality education. Thus, talented educators who can promote quality education in all school types in Indonesia can be recruited.

5) *Promote autonomous schools to enhance contextual learning and encourage parental involvement in school decisions.*

Schools which organise their own textbooks and assessments can reduce students' learning problems and improve their English success in both school settings. This proves that by fostering autonomous schools, schools and teachers can tailor their teaching strategies and curriculum to align with students' needs, interests, and school contexts. This allows for more contextual and relevant learning experiences which encourage deep engagement and understanding. In Indonesia, the promotion of autonomous schools aligned with decentralisation has been implemented. The central governments, MoEC and MoRA, have transferred their authorities to the local government and schools to make their own decisions about teaching and learning, including curriculum development, materials, and teacher recruitment. However, other areas of school autonomy, for example, teacher hiring, skill offers, and course content, were found not to enhance students learning positively. In this case, it is suggested that other school communities should be involved, including teachers and parents, when decisions have to be made. Unfortunately, parental involvement in school decisions in Indonesia remains low level. Consequently, the schools should ensure that school decisions regarding the education policy are aligned with the aspirations and values of the community and this might help to create positive outcomes. Likewise, the active involvement of parents in the decision-making process can benefit the system as valuable input which improves a sense of ownership and commitment among parents and leads to a supportive education environment.

6) *Address the inadequacy of school resources in Madrasah schools and ensure the quality of available resources in Sekolah schools.*

The availability and quality of school resources play a crucial role in creating a supportive and effective learning environment, as evidenced by this study. Adequate and high-quality resources, including school facilities, infrastructure, teaching and learning materials, technology integrations and school staff collectively, contribute to positive school climates and better student outcomes. However, the lack of resources in *Madrasah* schools and the low quality of resources available in secular schools are still problematic in most Indonesian institutions and need urgent solutions. Support from the government to prioritise the allocation of resources in Islamic schools and address the resource quality problems in secular schools is needed to bridge discrepancies and create a more equitable education system. This could be done by investing in school facilities, infrastructure, learning materials, technology, and teacher training. Likewise, policies which focus on the regulation and regular monitoring of the quality

of school resources are necessary for all schools. This can ensure that students receive high-standard resources which can foster education equity, enable students to have equal opportunities and empower them to achieve academic success.

7) *Enhance positive school climates aligned with the students' needs and interests for positive learning outcomes.*

This study contends that positive school climates support positive learning and wellbeing for students. Climates of teacher support and morale promote a supportive learning environment which leads to positive wellness and better learning performance, including in English lessons. This could be achieved through prioritising the wellbeing and socio-emotional growth of school communities. It includes fostering a sense of school belonging and community. Schools can promote strong connections among their communities, encourage them to participate and be involved in the decision-making process, and allow the students to ask for learning and emotional support if they need it. However, other school climates such as achievement pressure and discipline influence student learning differently. This study highlighted various outcomes of achievement pressure and disciplinary climates on student English performance in secular and Islamic schools. The students in secular schools who are under more pressure to achieve obtained lower scores, while *Madrasah* students with higher pressure to contend with performed better. Simultaneously, high-discipline schools contributed to a positive effect on student achievement in *Sekolah* schools, while *Madrasah* schools with low disciplinary levels did better.

Based on these findings, it is crucial to promote various school climates and cultures depending on the students' needs and contexts. It is suggested that the schools implement approaches that strike a balance between increasing academic pressure and maintaining student wellbeing. The schools should also implement effective discipline strategies which can enhance a safe and respectful learning environment. For policy implications, this study suggests the education authorities operating secular and Islamic education recognise the significance of a positive climate and embed it within the education system in Indonesia. This involves establishing policies which promote social and emotional learning programs and integrating them into the curriculum, considering a balance between academic pressure and student wellness, and establishing comprehensive disciplinary policies which are fair, consistent, fully disclosed and honest. Likewise, policies which attempt to narrow education disparities and lead to factors which hinder positive school climates, including bullying, violence and discrimination are strongly needed in the many school types in Indonesia.

### ***9.3.3 Methodology: Fairness in Measuring and Comparing***

This study has employed a series of statistical analyses which have been specifically used by international assessment programs in education. At first, instrument validity and reliability analyses using Confirmatory Factor Analysis (CFA) and Rasch Measurement Model (RMM) were done. CFA using Mplus 7 software (Muthén and Muthén 1998-2017) was run to measure how well an instrument that contains multiple items measures the construct (Wang and Wang 2019; Brown 2015). The RMM using Conquest software (Wu et al. 2007) was executed to examine how well the tested items are delivered based on the level of test-taker ability (Bond and Fox 2015; Boone 2016) and to convert the raw scores obtained from the questionnaires and tests to the Weighted Likelihood Estimate (WLE) scales to reduce scoring bias (Warm 1989). Moreover, more specific CFA and Rasch analyses, such as Measurement Invariance (MI) and Differentiate Item Functioning (DIF), were employed in this study. The MI was conducted to test whether the students from secular and Islamic schools could infer the same psychometric understanding of the underlying constructs (Bialosiewicz, Murphy, and Berry 2013; Wang and Wang 2019), while DIF analysis was undertaken to confirm the fairness and equity of the English reading and listening test items across the groups (Bond and Fox 2015; Brown and Bonsaksen 2019). For this reason, this study has ensured that the instruments used in this study, such as questionnaires and achievement tests, were valid and reliable.

Furthermore, descriptive statistics, independent sample *t*-test and three-way analysis of variance (ANOVA) using IBM SPSS were carried out. The descriptive analysis using the exploration technique compared the central tendencies of the observed variables (WLE) at student, teacher, and school levels between secular or *Sekolah* and Islamic or *Madrasah* groups. Simultaneously, an independent sample *t*-test and three-way ANOVA as the advanced mean comparisons were run to examine the significant differences in the tested variables between the groups resulting from the descriptive statistics (Pallant 2016). A Multigroup/Structural Equation Modelling (MG/SEM) using Mplus software was undertaken to examine the relationships among multiple variables between the groups by combining multiple regression and assessing the direct and indirect effects described in the theoretical model (Wang and Wang 2019). Likewise, the analysis of Hierarchical Linear Modelling (HLM) using HLM software (Raudenbush et al. 2019) was done to examine the associations within and between the hierarchical levels of grouped data levels, including school, teacher and student data. This analysis is more accurate as it explores the direct and cross-level interaction effects between the variables at different levels, and estimates the differences among the variables at different



data levels (Luo and Azen 2013; Woltman et al. 2012). In addition, thematic analysis using NVivo 12 software (Jackson and Bazeley 2019) was done to analyze the qualitative data obtained from semi-structured interviews. This approach is more precise in achieving the objectives of this study, as it is more flexible and able to afford rich information to be associated with the research problems as results are gathered from the statistical data (Clarke and Braun 2017; Nowell et al. 2017).

Apart from the advanced analyses used in this study to generate meaningful and reliable conclusions, this thesis introduced and highlighted the methodological implications in support of the representativeness of the sample and the fairness of the measurement tools used for comparative purposes. For example, in this study, twenty-four stratifications (STRATUM) were nominated based on the types of combined school systems (secular and Islamic-based education) and twelve districts. This method helped to ensure that the sample represented different groups of secular and Islamic schools, reflecting the diversity of the population and enhancing the generalisability of the findings to the larger population. By sampling each stratum separately, the study obtained more accurate estimates within each subgroup. It is because the strata are typically selected to have relatively homogeneous characteristics, that they can lead to better precision in estimates.

Moreover, the accuracy of measurement tools in the comparative study was checked to ensure that the instruments were unbiased, more reliable, and valid across different populations and contexts, namely secular and Islamic school settings. This study conducted a measurement invariance test to find out whether underlying constructs on the questionnaires could be inferred in the same way across the groups (Chapter 3). This test reflects the stability of the measurement attributes (e.g., factor structure, item loading, intercepts, and residuals) which indicate that the constructs being measured have similar meanings and interpretations. Likewise, the analysis of Differential Item Functioning (DIF) was run to determine whether the test items (English test items) function similarly between the students from *Sekolah* and *Madrasah* groups (Chapter 2). DIF analysis helps researchers investigate the potential impact of group differences on test scores and ensure fairness and unbiased measurement. The use of measurement invariance and differential item functioning in this study has enhanced the rigour and robustness of comparative studies, and generated more reliable and meaningful findings, facilitating substantive interpretations and guiding policy and practice decisions.

## 9.4 Limitations and Recommendations for Further Research

The recent COVID-19 pandemic has presented unprecedented challenges in data collection for this study. Due to the travel restrictions and closures of the schools during the pandemic, the researchers encountered significant challenges. As a result, substantial changes in research methodologies were undertaken, including a re-evaluation of research scope, sample size and instrumentation methods. The researchers streamlined the sample size and scope and embraced remote data collection methods given the required safety considerations. This situation affected the availability and accessibility of the proposed participants, resulting in problems related to sample size. Difficulties were encountered in recruiting an adequate sample size due to restrictions on access to the specific population directly, or their non-willingness to participate in this study during uncertain times, so the sample size may be smaller than originally planned. Simultaneously, with restrictions on in-person interaction and mobility, researchers shifted from traditional or face-to-face data collection methods to online surveys and tests. This required developing and modifying the research instrument tools to facilitate remote data collection, ensure the reliability and validity of the measurements in virtual environments and account for the potential impacts of the pandemic on measurement instruments.

These necessary adjustments have been instrumental in sustaining research endeavours during this challenging time, even as they entail several certain limitations that warrant consideration in future studies. For example, **1) Research Scope**, this study was conducted in secular-Islamic schools in only one part of Indonesia and focused solely on English lessons. The findings may not be applicable to other contexts or populations and may restrict the ability to generate broader conclusions beyond the specific study area. Therefore, expanding the research scope to include several regions or countries and other subjects would allow for more a comprehensive understanding of the topic and enhance the potential for generalisability and greater applicability of the findings. **2) Sample size**, this study involved 1,319 students, 64 teachers and 30 principals from *Sekolah* and *Madrasah* schools. However, the number of teachers and principals is relatively small for the statistical analyses, which may not adequately represent the target population and may limit the generalisability of the findings, potentially leading to biased or unreliable conclusions, and the statistical power to detect meaningful effects of relationships may be compromised. Nonetheless, in this study, the statistical results obtained from teachers and principals/school data were confirmed by qualitative data to explain or elaborate on the quantitative findings through triangulation. **3) Self-report questionnaires and online research instruments**, this study used self-report

questionnaires which were at the mercy of various response biases. The respondents may have provided answers they believed were socially expected or presentable, which could lead to inaccurate, misleading or distorted data given the subjective nature of people's responses. Likewise, the respondents completed online surveys and tests remotely and they may have completed the survey and test in various settings with potential interruptions possibly affecting the results. Participants may also have found complex or ambiguous questions which may have been misunderstood and have affected the accuracy of the response. All those who took part in this study were from different demographic backgrounds and some might not have been familiar with online surveys and tests which may have hindered the accuracy of the responses and abilities. By addressing the challenges/limitations highlighted in this study, more meaningful results can be documented in future studies that pursue this topic and could address the issues encountered.

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# Appendices

## Appendix A

### *Ethical Approval*



RESEARCH SERVICES  
OFFICE OF RESEARCH ETHICS, COMPLIANCE  
AND INTEGRITY  
THE UNIVERSITY OF ADELAIDE

LEVEL 4, RUNDLE MALL PLAZA  
50 RUNDLE MALL  
ADELAIDE SA 5000 AUSTRALIA

TELEPHONE +61 8 8313 5137  
FACSIMILE +61 8 8313 3700  
EMAIL hrec@adelaide.edu.au

CRICOS Provider Number 00123M

Our reference 34373

08 April 2020

Dr Igusti Darmawan  
School of Education

Dear Dr Darmawan

**ETHICS APPROVAL No:** H-2020-038  
**PROJECT TITLE:** General vs Madrasah: Public school systems and achievement differences in English receptive skills in South Sulawesi, Indonesia

The ethics application for the above project has been reviewed by the Low Risk Human Research Ethics Review Group (Faculty of Arts and Faculty of the Professions) and is deemed to meet the requirements of the *National Statement on Ethical Conduct in Human Research 2007 (Updated 2018)* involving no more than low risk for research participants.

You are authorised to commence your research on: 08/04/2020  
The ethics expiry date for this project is: 30/04/2023

#### **NAMED INVESTIGATORS:**

Chief Investigator: Dr Igusti Darmawan  
Student - Postgraduate Doctorate by Research (PhD): Mr Abu Nawas  
Associate Investigator: Dr Nina Maadad

**CONDITIONS OF APPROVAL:** Thank you for addressing the feedback. The revised ethics application provided on the 1st of April 2020 has been approved.

Ethics approval is granted for three years and is subject to satisfactory annual reporting. The form titled Annual Report on Project Status is to be used when reporting annual progress and project completion and can be downloaded at <http://www.adelaide.edu.au/research-services/oreci/human/reporting/>. Prior to expiry, ethics approval may be extended for a further period.

Participants in the study are to be given a copy of the information sheet and the signed consent form to retain. It is also a condition of approval that you immediately report anything which might warrant review of ethical approval including:

- serious or unexpected adverse effects on participants,
- previously unforeseen events which might affect continued ethical acceptability of the project,
- proposed changes to the protocol or project investigators; and
- the project is discontinued before the expected date of completion.



## Appendix B

### Research Permission Letter



**PEMERINTAH PROVINSI SULAWESI SELATAN  
DINAS PENANAMAN MODAL DAN PELAYANAN TERPADU SATU PINTU  
BIDANG PENYELENGGARAAN PELAYANAN PERIZINAN**

Nomor : **5048/S.01/PTSP/2020**  
Lampiran : -

Perihal : **Izin Penelitian**

**KepadaYth.**

1. Para Walikota/Bupati Se Provinsi Sulawesi Selatan
2. Kepala Kantor Kementerian Agama Se Prov. Sulsel
3. Kepala Dinas Pendidikan Prov. Sulsel

di-  
**Tempat**

Berdasarkan surat Associate Head Internasional School Eof Education The University of Adelaide Australia Nomor : SA 505 tanggal 01 Januari 1970 perihal tersebut diatas, mahasiswa/peneliti dibawah ini:

N a m a : **ABU NAWAS**  
Nomor Pokok : a1729464  
Program Studi : -  
Pekerjaan/Lembaga : Mahasiswa(S3)  
Alamat : The University Of Adelaide Australia

Bermaksud untuk melakukan penelitian di daerah/kantor saudara dalam rangka penyusunan Disertasi, dengan judul :

**" GENERAL VS MASRAH : SCHOOL SYSTE, AND ACHIEVEMENT DIFFERENCES IN ENGLISH RECEPTIVE SKILLS IN SOUTH SULAWESI, INDONESIA "**

Yang akan dilaksanakan dari : Tgl. **24 Agustus s/d 24 November 2020**

Sehubungan dengan hal tersebut diatas, pada prinsipnya kami **menyetujui** kegiatan dimaksud dengan ketentuan yang tertera di belakang surat izin penelitian.

Demikian Surat Keterangan ini diberikan agar dipergunakan sebagaimana mestinya.

Diterbitkan di Makassar  
Pada tanggal : 24 Agustus 2020

**A.n. GUBERNUR SULAWESI SELATAN  
KEPALA DINAS PENANAMAN MODAL DAN PELAYANAN TERPADU  
SATU PINTU PROVINSI SULAWESI SELATAN**  
Selaku Administrator Pelayanan Perizinan Terpadu

**Dr. JAYADI NAS, S.Sos., M.Si**

Pangkat : Pembina Tk.I  
Nip : 19710501 199803 1 004

Tembusan Yth  
1. Associate Head Internasional School Eof Education The University of Adelaide Australia;  
2. *Pertinggal.*

SIMAP PTSP 24-08-2020



Jl. Bougenville No.5 Telp. (0411) 441077 Fax. (0411) 448936  
Website : <http://simap.sulselprov.go.id> Email : [ptsp@sulselprov.go.id](mailto:ptsp@sulselprov.go.id)  
Makassar 90231



## Appendix C

### Information Sheet for Principal/School



#### **PARTICIPANT INFORMATION SHEET FOR PRINCIPAL**

**PROJECT TITLE:** General vs *Madrasah*: Public School Systems and Achievement Differences in English Receptive Skills in South Sulawesi, Indonesia

**HUMAN RESEARCH ETHICS COMMITTEE APPROVAL NUMBER:**

**PRINCIPAL INVESTIGATOR:** Dr I Gusti Ngurah Darmawan

**STUDENT RESEARCHER:** Abu Nawas

**STUDENT'S DEGREE:** PhD in Education

Dear Participant,

You are invited to participate in the research project described below.

#### **What is the project about?**

This research project is generally about an investigation on what and how school systems in general and *Madrasah* schools affect their grade-12 students' English receptive skills in South Sulawesi, Indonesia. Specifically, by focusing on three-level factors, this research will address the gaps as well as the insufficient study on the influence of school culture, policy and resources (school factors), professional practice and attitudes (teacher factors), and learning attitudes and wellbeing (student factor) on students' English listening and reading performance. The findings will serve as an important basis for educational leaders in Indonesia to regulate relevant policies and systems to achieve quality and equity in education.

#### **Who is undertaking the project?**

This project is being conducted by Abu Nawas, a PhD student at the University of Adelaide in South Australia. This research will form the basis for the degree of Doctor of Philosophy under the supervision of Dr I Gusti Ngurah Darmawan (Principal supervisor) and Dr Nina Maadad (Co-supervisor).

#### **Why am I being invited to participate?**

You are being invited as you are a principal who is presently leading those participating students and teachers in a selected secondary school in South Sulawesi, Indonesia.

#### **What am I being invited to do?**

You will be involved in a survey and an interview session.

- You are invited to complete a survey. The survey involves questions which are related to the general background/ demographic of your school, culture, policy and resources in your school.
- After participation in the survey, you may be invited to participate in an audio-recorded semi-structured interview with the prior notice within the invitation letter/email and consent form. This interview consists of the open-ended question about your opinions and perceptions of your school regarding school climate, policy and resources that might affect your students' English learning and achievement. One agreeable teacher may be selected to participate in an interview. The location and time for the interview will depend upon the agreement.

- It is important to note that participation in this study is optional. In the case where you choose not to participate or choose to discontinue, this will not affect your professional development and career life in any way.

**How much time will my involvement in the project take?**

It should take 20 minutes to complete the questionnaire and 20 minutes for a semi-structured interview.

**Are there any risks associated with participating in this project?**

There are no foreseen risks in this study. Questionnaires and interviews will be confidential and anonymous to preserve your identity. Risk and safety issues will be duly considered in the choice of the venue and time for interviews. Only aggregated data will be reported. If you experienced any issue of feeling stressed regarding consuming time for participating in English tests, questionnaires and interviews, you can contact the researcher to discuss the issue. The researcher will plan for you to make immediate contact with a psychologist or counsellor at the counselling service or other health or community service in your local area.

**What are the potential benefits of the research project?**

This research may benefit you and/or the community in several ways:

1. A questionnaire and interview may be a fruitful reflection on the influence of your school system on your students' English learning progress.
2. Grade-12 students will experience English reading and listening tests which can be their practical or trial test before taking the actual national examination at the end of their study.
3. This study will serve as an important basis for school and educational leaders to regulate relevant policies and systems in line with decentralization for education outcomes development.

**Can I withdraw from the project?**

Participation in this project is completely voluntary, if you disagree with participation, you can withdraw from the study at any time without prejudice or choose not to answer any questions. Participation or non-participation will not affect your grades at the affiliated schools.

**What will happen to my information?**

Your name will be de-identified and the related information will be coded in the data analysis and interpretation. All your information will be stored in the strictest confidentiality on the University of Adelaide database during the entire research project (3 years) and the report of the research findings and publication. The hard copy of the questionnaire and achievement test and the transcripts of the interview will be securely locked in the researcher's locker in the office. All information will be stored in a secure place, including in the researcher's password-protected computer or a secure locker in the researcher's office. Access to the data will be restricted only to the researcher and his supervisors.

The data collected from you will be used for academic purposes only, and the result will be reported in PhD thesis, journal articles, and conference proceedings. Only summary data will be published, and you may have access to the results of the study through journal articles and conference proceedings. Furthermore, the use of the data in future projects will only be done upon approval from you. Therefore, the researcher is obliged to fully inform you of any future use

of the data. If you refuse to permit the use of the data in any future project, your decision will not affect your academic grade at school. Your information will only be used as described in this participant information sheet and it will only be disclosed according to the consent provided, except as required by law.

**Whom do I contact if I have questions about the project?**

Shall you have questions or inquiries regarding the project, please do not hesitate to contact the researcher or the supervisory panel in the following details:

Name, Title,	Email
Dr I Gusti Ngurah Darmawan	<a href="mailto:lgusti.darmawan@adelaide.edu.au">lgusti.darmawan@adelaide.edu.au</a>
Dr Nina Maadad	<a href="mailto:nina.maadad@adelaide.edu.au">nina.maadad@adelaide.edu.au</a>
Mr Abu Nawas	<a href="mailto:abu.nawas@adelaide.edu.au">abu.nawas@adelaide.edu.au</a>

**What if I have a complaint or any concerns?**

The study has been approved by the Human Research Ethics Committee at the University of Adelaide (approval number H-2019-xxx). This research project will be conducted according to the NHMRC National Statement on Ethical Conduct in Human Research 2007 (Updated 2018). If you have questions or problems associated with the practical aspects of your participation in the project or wish to raise a concern or complaint about the project, then you should consult the Principal Investigator. If you wish to speak with an independent person regarding concerns or a complaint, the University's policy on research involving human participants, or your rights as a participant, please contact the Human Research Ethics Committee's Secretariat on:

Phone: +61 8 8313 6028

Email: [hrec@adelaide.edu.au](mailto:hrec@adelaide.edu.au)

Post: Level 4, Rundle Mall Plaza, 50 Rundle Mall, ADELAIDE SA 5000

Any complaint or concern will be treated in confidence and fully investigated. You will be informed of the outcome.

**If I want to participate, what do I do?**

If you would like to participate in this research, please the consent form which is attached via the letter or email of recruitment and return it to the researcher. You will be given a copy of the consent form and this information sheet for your documentation.

Yours sincerely,

**Principal Supervisor** : I Gusti Ngurah Darmawan

**Co-supervisor** : Nina Maadad

**Researcher** : Abu Nawas

## Appendix D

### Information Sheet for Teacher



#### **PARTICIPANT INFORMATION SHEET FOR TEACHER**

**PROJECT TITLE:** General vs *Madrasah*: Public School Systems and Achievement Differences in English Receptive Skills in South Sulawesi, Indonesia

**HUMAN RESEARCH ETHICS COMMITTEE APPROVAL NUMBER:**

**PRINCIPAL INVESTIGATOR:** Dr I Gusti Ngurah Darmawan

**STUDENT RESEARCHER:** Abu Nawas

**STUDENT'S DEGREE:** PhD in Education

Dear Participant,

You are invited to participate in the research project described below.

#### **What is the project about?**

This research project is generally about an investigation on what and how school systems in general and *Madrasah* schools affect their grade-12 students' English receptive skills in South Sulawesi, Indonesia. Specifically, by focusing on three-level factors, this research will address the gaps as well as the insufficient study on the influence of school culture, policy and resources (school factors), professional practice and attitudes (teacher factors), and learning attitudes and wellbeing (student factor) on students' English listening and reading performance. The findings will serve as an important basis for educational leaders in Indonesia to regulate relevant policies and systems to achieve quality and equity in education.

#### **Who is undertaking the project?**

This project is being conducted by Abu Nawas, a PhD student at the University of Adelaide in South Australia. This research will form the basis for the degree of Doctor of Philosophy under the supervision of Dr I Gusti Ngurah Darmawan (Principal supervisor) and Dr Nina Maadad (Co-supervisor).

#### **Why am I being invited to participate?**

You are being invited as you are a Grade-12 English teacher who teaches the participants in a selected secondary school in South Sulawesi, Indonesia.

#### **What am I being invited to do?**

You will be involved in a survey and an interview session.

- You are also invited to complete a survey. The survey involves questions which are related to your general background/ demographic, professional attitudes and practices. After participation in the survey, you may be invited to participate in an audio-recorded semi-structured interview with the prior notice within the invitation letter/email and consent form. This interview consists of the open-ended question regarding your opinions and perceptions your attitudes toward your profession and professional practices in teaching English lessons in line with your school system implementation. One agreeable teacher may be selected to participate in an interview. The location and time for the interview will depend upon the agreement.



- It is important to note that participation in this study is optional. In the case where you choose not to participate or choose to discontinue, this will not affect your professional development and career life in any way.

#### **How much time will my involvement in the project take?**

It should take 20 minutes to complete the questionnaire and 20 minutes for a semi-structured interview.

#### **Are there any risks associated with participating in this project?**

There are no foreseen risks in this study. Questionnaires and interviews will be confidential and anonymous to preserve your identity. Risk and safety issues will be duly considered in the choice of the venue and time for interviews. Only aggregated data will be reported. If you experienced any issue of feeling stressed regarding consuming the time for participating in an English test, questionnaire and interview, you can contact the researcher to discuss the issue. The researcher will plan for you to make immediate contact with a psychologist or counsellor at the counselling service or other health or community service in your local area.

#### **What are the potential benefits of the research project?**

This research may benefit you and/or the community in several ways:

1. The questionnaire and interview may be a fruitful reflection on your professional attitudes and practices related to your student's learning and achievement in English subjects.
2. From the students' result test, you can identify your students' strengths and weaknesses in English lessons, thus, you can address their weaknesses through improving your teaching skill or knowledge.

#### **Can I withdraw from the project?**

Participation in this project is completely voluntary, if you disagree to participate, you can withdraw from the study at any time without prejudice or choose not to answer any questions. Participation or non-participation will not affect your grades at the affiliated schools.

#### **What will happen to my information?**

Your name will be de-identified, and the related information will be coded in the data analysis and interpretation. All your information will be stored in the strictest confidentiality on the University of Adelaide database during the entire research project (3 years) and the report of the research findings and publication. The hard copy of the questionnaire and achievement test and the transcripts of the interview will be securely locked in the researcher's locker in the office. All information will be stored in a secure place, including in the researcher's password-protected computer or a secure locker in the researcher's office. Access to the data will be restricted only to the researcher and his supervisors.

The data collected from you will be used for academic purposes only, and the result will be reported in PhD thesis, journal articles, and conference proceedings. Only summary data will be published, and you may have access to the results of the study through journal articles and conference proceedings. Furthermore, the use of the data in future projects will only be done upon approval from you. Therefore, the researcher is obliged to fully inform you of any future use of the data. If you refuse to permit the use of the data in any future project, your decision will not affect your academic grade at school. Your information will only be used as described in this

participant information sheet and it will only be disclosed according to the consent provided, except as required by law.

**Whom do I contact if I have questions about the project?**

Shall you have questions or inquiries regarding the project, please do not hesitate to contact the researcher or the supervisory panel in the following details:

Name, Title,	Email
Dr I Gusti Ngurah Darmawan	<a href="mailto:lgusti.darmawan@adelaide.edu.au">lgusti.darmawan@adelaide.edu.au</a>
Dr Nina Maadad	<a href="mailto:nina.maadad@adelaide.edu.au">nina.maadad@adelaide.edu.au</a>
Mr Abu Nawas	<a href="mailto:abu.nawas@adelaide.edu.au">abu.nawas@adelaide.edu.au</a>

**What if I have a complaint or any concerns?**

The study has been approved by the Human Research Ethics Committee at the University of Adelaide (approval number H-2019-xxx). This research project will be conducted according to the NHMRC National Statement on Ethical Conduct in Human Research 2007 (Updated 2018). If you have questions or problems associated with the practical aspects of your participation in the project or wish to raise a concern or complaint about the project, then you should consult the Principal Investigator. If you wish to speak with an independent person regarding concerns or a complaint, the University's policy on research involving human participants, or your rights as a participant, please contact the Human Research Ethics Committee's Secretariat on:

Phone: +61 8 8313 6028

Email: [hrec@adelaide.edu.au](mailto:hrec@adelaide.edu.au)

Post: Level 4, Rundle Mall Plaza, 50 Rundle Mall, ADELAIDE SA 5000

Any complaint or concern will be treated in confidence and fully investigated. You will be informed of the outcome.

**If I want to participate, what do I do?**

If you would like to participate in this research, please the consent form which is attached via the letter or email of recruitment and return it to the researcher. You will be given a copy of the consent form and this information sheet for your documentation.

Yours sincerely,

**Principal Supervisor** : I Gusti Ngurah Darmawan  
**Co-supervisor** : Nina Maadad  
**Researcher** : Abu Nawas

## Appendix E

### Information Sheet for Student



#### **PARTICIPANT INFORMATION SHEET FOR STUDENT**

**PROJECT TITLE:** General vs *Madrasah*: Public School Systems and Achievement Differences in English Receptive Skills in South Sulawesi, Indonesia

**HUMAN RESEARCH ETHICS COMMITTEE APPROVAL NUMBER:**

**PRINCIPAL INVESTIGATOR:** Dr I Gusti Ngurah Darmawan

**STUDENT RESEARCHER:** Abu Nawas

**STUDENT'S DEGREE:** PhD in Education

Dear Participant,

You are invited to participate in the research project described below.

#### **What is the project about?**

This research project is generally about an investigation on what and how school systems in general and Madrasah schools affect their grade-12 students' English receptive skills in South Sulawesi, Indonesia. Specifically, by focusing on three-level factors, this research will address the gaps as well as the insufficient study on the influence of school culture, policy and resources (school factors), professional practice and attitudes (teacher factors), and learning attitudes and wellbeing (student factor) on students' English listening and reading performance. The findings will serve as an important basis for educational leaders in Indonesia to regulate relevant policies and systems to achieve quality and equity in education.

#### **Who is undertaking the project?**

This project is being conducted by Abu Nawas, a PhD student at the University of Adelaide in South Australia. This research will form the basis for the degree of Doctor of Philosophy under the supervision of Dr I Gusti Ngurah Darmawan (Principal supervisor) and Dr Nina Maadad (Co-supervisor).

#### **Why am I being invited to participate?**

You are being invited as you are a Grade-12 student in a selected secondary school in South Sulawesi, Indonesia.

#### **What am I being invited to do?**

You will be involved in an English test, a survey and an interview session.

- You are invited to undertake English reading and listening test which will be conducted in the classroom under the invigilation of your English teacher. The test covers Grade-12 English topics about dialogue and types of functional texts.
- After taking the test, you are also invited to take a survey. The survey involves questions which are related to your general background/ demographic, learning attitudes and wellbeing. Upon completion, the survey will be collected by your teacher.

After that, you may be invited to participate in an audio-recorded semi-structured interview with the prior notice within the invitation letter/email and consent form. This interview consists of open-ended questions regarding your opinions and perceptions of your English learning attitude and your school life in line with your school system



implementation. One agreeable student may be selected to participate in an interview. The location and time for the interview will depend upon the agreement.

- It is important to note that participation in this study is optional. In the case where you choose not to participate or choose to discontinue, this will not affect your academic grades.

#### **How much time will my involvement in the project take?**

Students take English reading and listening tests for approximately 60 minutes. It takes about 20 minutes to complete the survey and 20 minutes for a semi-structured interview.

#### **Are there any risks associated with participating in this project?**

There are no foreseen risks in this study. Questionnaires and interviews will be confidential and anonymous to preserve your identity. Risk and safety issues will be duly considered in the choice of the venue and time for interviews. Only aggregated data will be reported. If you experienced any issue of feeling stressed regarding consuming the time for participating in an English test, questionnaire and interview, you can contact the researcher to discuss the issue. The researcher will plan for you to make immediate contact with a psychologist or counsellor at the counselling service or other health or community service in your local area.

#### **What are the potential benefits of the research project?**

This research may benefit you and/or the community in several ways:

1. English tests, questionnaires and interviews may be a fruitful reflection on your English learning progress and achievement.
2. You will experience English reading and listening tests which can be their practical or trial test before taking the actual national examination at the end of your study.
3. The test can also be a diagnostic test for the students, so they can know their strengths and weaknesses in English lessons.

#### **Can I withdraw from the project?**

Participation in this project is completely voluntary, if you disagree with participation, you can withdraw from the study at any time without prejudice or choose not to answer any questions. Participation or non-participation will not affect your grades at the affiliated schools.

#### **What will happen to my information?**

Your name will be de-identified and the related information will be coded in the data analysis and interpretation. All your information will be stored in the strictest confidentiality on the University of Adelaide database during the entire research project (3 years) and the report of the research findings and publication. The hard copy of the questionnaire and achievement test and the transcripts of the interview will be securely locked in the researcher's locker in the office. All information will be stored in a secure place, including in the researcher's password-protected computer or a secure locker in the researcher's office. Access to the data will be restricted only to the researcher and his supervisors.

The data collected from you will be used for academic purposes only, and the result will be reported in PhD thesis, journal articles, and conference proceedings. Only summary data will be published, and you may have access to the results of the study through journal articles and conference proceedings. Furthermore, the use of the data in future projects will only be done

upon approval from you. Therefore, the researcher is obliged to fully inform you of any future use of the data. If you refuse to permit the use of the data in any future project, your decision will not affect your academic grade at school. Your information will only be used as described in this participant information sheet and it will only be disclosed according to the consent provided, except as required by law.

**Whom do I contact if I have questions about the project?**

Shall you have questions or inquiries regarding the project, please do not hesitate to contact the researcher or the supervisory panel in the following details:

Name, Title,	Email
Dr I Gusti Ngurah Darmawan	<a href="mailto:lgusti.darmawan@adelaide.edu.au">lgusti.darmawan@adelaide.edu.au</a>
Dr Nina Maadad	<a href="mailto:nina.maadad@adelaide.edu.au">nina.maadad@adelaide.edu.au</a>
Mr Abu Nawas	<a href="mailto:abu.nawas@adelaide.edu.au">abu.nawas@adelaide.edu.au</a>

**What if I have a complaint or any concerns?**

The study has been approved by the Human Research Ethics Committee at the University of Adelaide (approval number H-2019-xxx). This research project will be conducted according to the NHMRC National Statement on Ethical Conduct in Human Research 2007 (Updated 2018). If you have questions or problems associated with the practical aspects of your participation in the project or wish to raise a concern or complaint about the project, then you should consult the Principal Investigator. If you wish to speak with an independent person regarding concerns or a complaint, the University's policy on research involving human participants, or your rights as a participant, please contact the Human Research Ethics Committee's Secretariat on:

Phone: +61 8 8313 6028

Email: [hrec@adelaide.edu.au](mailto:hrec@adelaide.edu.au)

Post: Level 4, Rundle Mall Plaza, 50 Rundle Mall, ADELAIDE SA 5000

Any complaint or concern will be treated in confidence and fully investigated. You will be informed of the outcome.

**If I want to participate, what do I do?**

If you would like to participate in this research, please the consent form which is attached via the letter or email of recruitment and return it to the researcher. You will be given a copy of the consent form and this information sheet for your documentation.

Yours sincerely,

**Principal Supervisor** : I Gusti Ngurah Darmawan  
**Co-supervisor** : Nina Maadad  
**Researcher** : Abu Nawas

## Appendix F

### Information Sheet for Parent



#### **PARTICIPANT INFORMATION SHEET FOR PARENT**

**PROJECT TITLE:** General vs *Madrasah*: Public School Systems and Achievement Differences in English Receptive Skills in South Sulawesi, Indonesia

**HUMAN RESEARCH ETHICS COMMITTEE APPROVAL NUMBER:**

**PRINCIPAL INVESTIGATOR:** Dr I Gusti Ngurah Darmawan

**STUDENT RESEARCHER:** Abu Nawas

**STUDENT'S DEGREE:** PhD in Education

Dear Participant,

Your child is invited to participate in the research project described below.

#### **What is the project about?**

This research project is generally about an investigation on what and how school systems in general and *Madrasah* schools affect their grade-12 students' English receptive skills in South Sulawesi, Indonesia. Specifically, by focusing on three-level factors, this research will address the gaps as well as the insufficient study on the influence of school culture, policy and resources (school factors), professional practice and attitudes (teacher factors), and learning attitudes and wellbeing (student factor) on students' English listening and reading performance. The findings will serve as an important basis for educational leaders in Indonesia to regulate relevant policies and systems to achieve quality and equity in education.

#### **Who is undertaking the project?**

This project is being conducted by Abu Nawas, a PhD student at the University of Adelaide in South Australia. This research will form the basis for the degree of Doctor of Philosophy under the supervision of Dr I Gusti Ngurah Darmawan (Principal supervisor) and Dr Nina Maadad (Co-supervisor).

#### **Why am I being invited to participate?**

Your child is being invited as you are a Grade-12 student in a selected secondary school in South Sulawesi, Indonesia.

#### **What am I being invited to do?**

Your child will be involved in an English test, a survey and an interview session.

- Your child is invited to undertake English reading and listening test which will be conducted in the classroom under the invigilation of your English teacher. The test covers Grade-12 English topics about the topic of dialogue and types of functional texts.
- After taking the test, your child is also invited to take a survey. The survey involves questions which are related to your child's general background/ demographic, learning attitudes and wellbeing. Upon completion, the survey will be collected by your teacher.
- After that, your child may be invited to participate in an audio-recorded semi-structured interview with the prior notice within the invitation letter/email and consent form. This interview consists of the open-ended question regarding your child's opinions and perceptions of your English learning attitude and your child's wellbeing in line with your

school system implementation. One agreeable student may be selected to participate in an interview. The location and time for the interview will depend upon the agreement.

- It is important to note that participation in this study is optional. In the case where your child chooses not to participate or chooses to discontinue, this will not affect your child's academic grades.

#### **How much time will my involvement in the project take?**

Students take English reading and listening tests for approximately 60 minutes. It takes about 20 minutes to complete the survey and 20 minutes for a semi-structured interview.

#### **Are there any risks associated with participating in this project?**

There are no foreseen risks in this study. Questionnaires and interviews will be confidential and anonymous to preserve your identity. Risk and safety issues will be duly considered in the choice of the venue and time for interviews. Only aggregated data will be reported. If your child experienced any issue of feeling stressed regarding consuming the time for participating in an English test, questionnaire and interview, your child can contact the researcher to discuss the issue. The researcher will plan for you to make immediate contact with a psychologist or counsellor at the counselling service or other health or community service in the local area.

#### **What are the potential benefits of the research project?**

This research may benefit your child and/or the community in several ways:

1. English tests, questionnaires and interviews may be a fruitful reflection on your child's English learning progress.
2. Your child will experience English reading and listening tests which can be their practical or trial test before taking the actual national examination at the end of their study.
3. The test can also be a diagnostic test for the students, so they can know their strengths and weaknesses in English lessons.

#### **Can I withdraw from the project?**

Participation in this project is completely voluntary, if your child disagrees with participation, your child can withdraw from the study at any time without prejudice or choose not to answer any questions. Participation or non-participation will not affect your child's grades at the affiliated schools.

#### **What will happen to my information?**

Your child's name will be de-identified, and the related information will be coded in the data analysis and interpretation. All your child's information will be stored in the strictest confidentiality on the University of Adelaide database during the entire research project (3 years) and during the report of the research findings and publication. The hard copy of the questionnaire and achievement test and the transcripts of the interview will be securely locked in the researcher's locker in the office. All information will be stored in a secure place, including in the researcher's password-protected computer or a secure locker in the researcher's office. Access to the data will be restricted only to the researcher and his supervisors

The data collected from you will be used for academic purposes only, and the result will be reported in PhD thesis, journal articles, and conference proceedings. Only summary data will be published, and you may have access to the results of the study through journal articles and

conference proceedings. Furthermore, the use of the data in future projects will only be done upon approval from you. Therefore, the researcher is obliged to fully inform you of any future use of the data. If you refuse to permit the use of the data in any future project, your decision will not affect your academic grade at school. Your information will only be used as described in this participant information sheet and it will only be disclosed according to the consent provided, except as required by law.

**Whom do I contact if I have questions about the project?**

Shall you have questions or inquiries regarding the project, please do not hesitate to contact the researcher or the supervisory panel in the following details:

Name, Title,	Email
Dr I Gusti Ngurah Darmawan	<a href="mailto:lgusti.darmawan@adelaide.edu.au">lgusti.darmawan@adelaide.edu.au</a>
Dr Nina Maadad	<a href="mailto:nina.maadad@adelaide.edu.au">nina.maadad@adelaide.edu.au</a>
Mr Abu Nawas	<a href="mailto:abu.nawas@adelaide.edu.au">abu.nawas@adelaide.edu.au</a>

**What if I have a complaint or any concerns?**

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Phone: +61 8 8313 6028

Email: [hrec@adelaide.edu.au](mailto:hrec@adelaide.edu.au)

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Yours sincerely,

**Principal Supervisor** : I Gusti Ngurah Darmawan

**Co-supervisor** : Nina Maadad

**Researcher** : Abu Nawas

## Appendix G

### Principal/School Questionnaire

#### PRINCIPAL/SCHOOL QUESTIONNAIRE

##### School Location

Q1 Which of the following best describes the community in which your school is located?

*(Please <tick> only one box.)*

- a) A <village, hamlet or rural area> (fewer than 3 000 people) <sub>0</sub>
- b) A <district> (3 000 to about 15 000 people) <sub>1</sub>
- c) A <city> (15 000 to about 100 000 people) <sub>2</sub>

##### School-based Type

Q2 Is your school a general/secular or an Islamic school?

*(Please <tick> only one box.)*

- a) General school <Senior High School> <sub>0</sub>
- b) Islamic school <Madrasah> <sub>1</sub>

##### School Service

Q3 Is your school a full-day or non-full-day school?

*(Please <tick> only one box.)*

- a) Non-full-day school <sub>0</sub>
- b) Full-day school <sub>1</sub>

##### School Sector

Q4 Is your school public or private?

- a) Public school <sub>0</sub>
- b) Private school <sub>1</sub>



### Teacher's Morale and Commitment

Q5 Think about the teachers in your school. How much do you agree or disagree with the following statements?

(Please <tick> only one box.)

	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
a) The morale of teachers in this school is high	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
b) Teachers work with enthusiasm	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
c) Teachers take pride in this school.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
d) Teachers value academic achievement	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
e) Teachers respect and embrace diversity	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
f) Teachers work well together	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
g) Freedom from favouritism and discrimination	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
h) The friendly attitude of fellow teachers	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

### Achievement Pressure

Q6 Think about the achievement pressure in your school. How much do you agree or disagree with the following statements?

(Please <tick> only one box on each row.)

	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
a) The teacher wants students to work hard	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
b) The teacher tells students that they can do better	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
c) Students have to read English books a lot	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
d) Teachers want students to memorize English words a lot	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

- e) Teachers provide homework. <sub>1</sub> <sub>2</sub> <sub>3</sub> <sub>4</sub>

### Disciplinary

Q7 Think about the discipline in your school. How much do you agree or disagree with the following statements?

*(Please select one response in each row.)*

- |   | <i>Strongly disagree</i>              | <i>Disagree</i>                       | <i>Agree</i>                          | <i>Strongly agree</i>                 |
|---|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| a) Students don't listen to what the teacher says.                                | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| b) Students don't start working for a long time after the lesson begins           | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| c) There is noise and disorder.   | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| d) At the start of class, more than five minutes are spent doing nothing.         | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| e) Teacher loses quite a lot of time because of students interrupting the lesson. | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |

### Teacher Support

Q8 How often do these things happen with each of the following statements about teachers at your school?

*<Please select one response in each row.>*

- |  | <i>Strongly disagree</i>              | <i>Disagree</i>                       | <i>Agree</i>                          | <i>Strongly agree</i>                 |
|--|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| a) Students get along well with most teachers.                         | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| b) Most teachers are interested in students' well-being.               | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| c) Most of the teachers listen to what I have to say.                  | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| d) If students need extra help, they will receive it from my teachers. | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| e) Most of my teachers treat me fairly.                                | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| f) The teacher shows an interest in every student's learning.          | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| g) The teacher gives extra help when students need help.               | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |



- |  |                                       |                                       |                                       |                                       |
|--|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| h) The teacher helps students with their learning.               | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| i) The teacher continues teaching until the students understand. | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |

### School Autonomy

Q9 In your school, who has the main responsibility for?

*(Please <tick> only one box.)*

- |  | <i>School<br/>Level</i>               | <i>Regional<br/>Level</i>             | <i>Central<br/>Level</i>              |
|--|---------------------------------------|---------------------------------------|---------------------------------------|
| a) Hiring/firing English teachers.                             | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> |
| b) Deciding yearly non-standardized English assessments.       | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> |
| c) Choosing which English textbooks are used.                  | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> |
| d) Determining English course content.                         | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> |
| e) Deciding which English skills are offered.                  | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> |
| f) Establishing student assessment policy in English subjects. | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> |

### The Availability of School Resources

Q10 Is your school's capacity to provide instruction hindered by any of the following issues?

*(Please <tick> one box on each row)*

- |  |                                       |                                       |                                       |                                       |
|--|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| a) The availability of qualified English teachers.   | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| b) The availability of assisting staff.  | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| c) The availability of teaching tools and media.   | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| d) The availability of qualified educational materials (e.g. English textbooks, IT equipment, etc.).       | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| e) The availability of physical infrastructures (e.g. building, grounds, heating/cooling, lighting, etc.). | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |

### The Quality of School Resources

Q11 Is your school's capacity to provide instruction hindered by any of the following issues?

*(Please <tick> one box on each row)*

- |   |                                       |                                       |                                       |                                       |
|---|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| a) The quality of educational materials (e.g. English textbooks, IT equipment, etc.).                 | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| b) The quality of qualified English teachers.   | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| c) The quality of qualified assisting staff.  | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| d) The quality of teaching tools and media.   | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| e) The quality of physical infrastructures (e.g. building, grounds, heating/cooling, lighting, etc.). | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |

## Appendix H

### Teacher Questionnaire

#### TEACHER QUESTIONNAIRE

##### Gender

Q1 Are you male or female?

*<Please tick only one box.>*

<sup>0</sup> Female

<sup>1</sup> Male

##### Age

Q2 How old are you

*<Please write a number>*

\_\_\_\_\_ years

##### Employment Status

Q3 What is your current employment status as a teacher?

*<Please consider your employment status for all of your current teaching jobs combined>, Please mark one choice!*

<sup>0</sup> Civil servant teacher/ Permanent teacher

<sup>1</sup> Non-civil-servant teacher/ Non-permanent teacher

##### Teaching Experience

Q4 How many years of work experience as an English teacher do you have?

*<Please round up to whole years>*

\_\_\_\_\_ years

##### Qualification Certification

Q5 What is the highest level of formal education you have completed?

*<Please mark one choice>*

<sup>1</sup> Diploma

<sup>2</sup> Bachelor in English education

<sup>3</sup> Master in English education

<sup>4</sup> Other \_\_\_\_\_

Q6 Did you complete a teacher certification?

<Please mark one choice>

- <sup>0</sup> No
- <sup>1</sup> Yes

### Professional Development

Q7 What proportion of your teacher education or training programme or other professional qualification was dedicated to each of the following areas?

<Note that the percentages must add up to 100.>

- a) **< English skills: >**: knowledge and skills related to <English proficiency> domain. \_\_\_\_\_%
- b) **Pedagogy of <English lesson>**: knowledge and methodology of <English lesson>, instructional skills (teaching reading, listening, writing and speaking comprehension strategies, structure of texts or literature). \_\_\_\_\_%
- c) **General pedagogical knowledge**: e.g. teacher-student interaction, classroom management, school evaluation, special education. \_\_\_\_\_%

### Teacher Collaboration

Q8 To what extent do you disagree or agree with the following statements about regular cooperation among your fellow <English> teachers and yourself?

<Please select one response in each row.>

	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly disagree</i>
a) We discuss the achievement requirements for <English> when setting tests.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
b) We discuss the criteria we use to grade written tests.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
c) We exchange tasks for lessons and homework that cover a range of different levels of difficulty.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
d) I prepare a selection of teaching units with my fellow teachers of <English lessons>.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
e) We discuss ways to teach learning strategies and techniques to our students.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
f) My fellow teachers of <English lessons> benefit from my specific skills and interests.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

- g) We discuss ways to better identify students' strengths and weaknesses. <sub>1</sub> <sub>2</sub> <sub>3</sub> <sub>4</sub>

### Team Teaching

Q9 On average, how often do you do the following in this school?

<Please select one response in each row.>

- |  | <i>Strongly disagree</i>              | <i>Disagree</i>                       | <i>Agree</i>                          | <i>Strongly disagree</i>              |
|--|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| a) I teach jointly as a team in the same class in this school.   | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| b) I observe other teachers' classes and provide feedback.   | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| c) I engage in joint activities across different classes and age groups (e.g. projects).                             | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| d) I exchange teaching materials with colleagues.  | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| e) I work with other teachers in my school to ensure common standards in evaluations for assessing student progress. | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| f) I engage in discussions about the learning development of specific students.                                      | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |

### Job Satisfaction

Q10 We would like to know how you generally feel about your job. How strongly do you agree or disagree with the following statements?

<Please select one response in each row.>

- |  | <i>Strongly disagree</i>              | <i>Disagree</i>                       | <i>Agree</i>                          | <i>Strongly Agree</i>                 |
|--|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| a) The advantages of being a teacher clearly outweigh the disadvantages. | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| b) I do not regret that I decided to become a teacher.                   | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| c) I enjoy working at this school.                                       | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| d) I would recommend my school as a good place to work.                  | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| e) All in all, I am satisfied with my job.                               | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |

## Self-efficacy

Q11 How much do you agree with the following statements?

<Please select one response in each row.>

	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
a) I am very confident in my capability to teach reading and listening comprehension strategies.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
b) I provide individual help when a student has difficulties understanding a topic or task.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
c) I tell students how they are performing in my course.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
d) I give students feedback on their strengths in my course.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
e) I tell students in which areas they can still improve.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
f) I tell students how they can improve their performance.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
g) I advise students on how to reach their learning goals.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

## English Listening Practice

Q12 How much do you agree the following things happen in your English listening lessons?

<Please select one response in each row.>

	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
a) I ask the students to identify the main ideas of the listening test.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
b) I ask the students to explain or support their understanding.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
c) I ask the students to draw inferences based on what they heard.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
d) I ask the students to describe the style or structure of the listening tasks.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
e) I ask the students to determine the purpose of listening text.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

### English Reading Practice

Q13 How much do you agree the following things happen in your English reading lessons?

<Please select one response in each row.>

	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
a) I ask the students to identify the main ideas of the reading test.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
b) I ask the students to explain or support their understanding in reading lessons.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
c) I ask the students to draw inferences based on what they read.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
d) I ask the students to describe the style or structure of the reading tasks.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
e) I ask the students to determine the author's perspectives.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

### ICT Use in English Lessons

Q14 How much do you agree with the following things that you used in your English reading and listening lessons?

<Please select one response in each row.>

	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
a) Emails	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
b) Chat on line> (e.g.<Whatsapp®>, <Messenger®>)	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
c) Reading and listening to online news.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
d) Searching information online to learn about a particular topic.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
e) Online group discussions or forums.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
f) Searching for practical information online (e.g. schedules, events, tips, recipes).	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

## Appendix I

### Student Questionnaire

#### STUDENT QUESTIONNAIRE

##### Gender

Q1 Are you male or female?

(Please <tick> only one box.)

- 0 Female  
 1 Female

##### Age

Q2 How old are you

(Please write a number)

\_\_\_\_\_ years

##### School Program

Q3 What is your school program?

(Please <tick> only one box.)

- 1 Science  
 2 Social  
 3 Language  
 4 Islamic study  
 5 Other.....

##### School-based Type

Q4 Are you studying in a general or an Islamic school?

(Please <tick> only one box.)

- 0 General school/ *Sekolah*  
 1 Islamic school/ *Madrasah*



## English Learning Motivation

Q5 Please respond to these statements about the importance of listening skills in English lessons!

(Please select one response in each row.)

	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly agree</i>
a) Listening activity is important in English lessons.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
b) The listening practice in this class helped to improve my English skills.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
c) I will be able to use my listening skill in conversations with the foreigner.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
d) Listening skill helps me think critically.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
e) I will be able to use listening skills when travelling overseas.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
f) I will be able to use listening skills in future jobs.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

Q6 Please respond to these statements about the importance of reading skills in English lessons!

(Please select one response in each row.)

	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly agree</i>
a) Reading activity is important in English lessons.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
b) The reading practice in this class helped to improve my English skills.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
c) I will be able to use my reading skill in reading English books.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
d) Reading skill helps me think critically.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
e) I will be able to use reading skills when travelling overseas.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
f) I will be able to use reading skills in future jobs.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

## English Learning Difficulties

Q7 How do you feel about these listening tasks?

(Please select one response in each row.)

	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly agree</i>
a) Long-spoken text interfered with my listening comprehension.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
b) I found difficulties in understanding unfamiliar listening topics.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
c) I lose my concentration when I think about the meaning of the words.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
d) I am unable to focus when I think of another question.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
e) I cannot understand speakers who say words less clearly.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
f) I cannot understand and answer questions promptly in noisy places.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
g) I cannot remember details of spoken directions or requests without having them repeated a short time later.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

Q8 How do you feel about these reading tasks?

(Please select one response in each row.)

	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly agree</i>
a) I found difficulties comprehending the passage when the topic is unfamiliar.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
b) There were many words I could not understand.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
c) Many texts were too difficult for me.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
d) I was lost when I had to navigate different pages.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
e) I have no enough time to complete reading tasks.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
f) I need to read the text repeatedly.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
g) I cannot understand and answer questions promptly in noisy places.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

## English Learning Anxiety

Q9 How do you feel about your listening tasks?

(Please select one response in each row.)

	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly agree</i>
a) I am nervous when I'm listening to English if I am not familiar with the topic.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
b) During English listening tests, I get nervous and confused when I don't understand every word.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
c) I get annoyed when I come across words that I don't understand while listening to English.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
d) I get nervous if a listening passage is read only once during listening tests.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
e) I feel uncomfortable in class when listening to English without the written text.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
f) It is hard to concentrate on what English speakers are saying unless I know them well.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
g) I get worried when I have little time to think about what I hear in English.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

Q9 How do you feel about your reading tasks?

(Please select one response in each row.)

	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly agree</i>
a) It is worrying to me when the ideas expressed in the text are culturally unclear.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
b) I get upset when I lack previous knowledge about the ideas expressed in the text.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
c) I worry when I cannot get the gist of the text although no new vocabulary items or grammatical points exist in the text.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
d) I am nervous when I cannot spot the main idea of a certain paragraph.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
e) I feel worried when the unknown word is difficult to pronounce.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
f) I am nervous when a certain sentence is long and has a complex structure.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
g) I feel upset when the tense of a certain sentence is unclear to me.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

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## Wellbeing

Q12 Please respond to these statements your life

(Please select one response in each row.)

### Happiness

	<i>Never</i>	<i>Seldom</i>	<i>Sometimes</i>	<i>Often</i>
a) I feel happy.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
b) I have a lot of fun.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
c) I love life.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
d) I am a cheerful person.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
e) I feel I am satisfied with my life.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
f) I find most things amusing.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

### Optimism

	<i>Never</i>	<i>Seldom</i>	<i>Sometimes</i>	<i>Often</i>
a) I am optimistic about my future.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
b) I think good things are going to happen to me.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
c) I believe that things will work out, no matter how difficult they seem.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
d) I have been feeling in good spirit.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
e) I am confident in my ability to solve problems.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
f) I feel able to take anything on.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

### Anxiety

	<i>Never</i>	<i>Seldom</i>	<i>Sometimes</i>	<i>Often</i>
a) I worry a lot about things at home.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
b) I worry a lot about things at school.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>
c) I worry a lot about the mistakes that I make.	<input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>	<input type="checkbox"/> <sub>4</sub>

- d) I worry about things. <sub>1</sub> <sub>2</sub> <sub>3</sub> <sub>4</sub>
- e) I sometimes feel panic about things. <sub>1</sub> <sub>2</sub> <sub>3</sub> <sub>4</sub>

**Peer belonging**

- |  | <i>Never</i>                          | <i>Seldom</i>                         | <i>Sometimes</i>                      | <i>Often</i>                          |
|--|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| a) I feel part of a group of friends that do things together.              | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| b) I feel that I usually fit in with other kids around me.                 | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| c) When I am with other kids my age, I feel I belong.                      | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| d) I feel that I have social support.                                      | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| e) I have fun with other people.   | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| f) I have peers in my life who would provide me with a sense of belonging. | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |

**Bullying**

This school year, how often have you been bullied by other students in the following ways?

*(Please select one response in each row.)*

- |   | <i>Never</i>                          | <i>Seldom</i>                         | <i>Sometimes</i>                      | <i>Often</i>                          |
|---|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| a) <u>Physical Bullying</u> (for example, someone hit, shoved, or kicked you, spat at you, beat you up, or damaged or took your things without permission). | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| b) <u>Verbal Bullying</u> (for example, someone called you names, teased, humiliated, threatened you, or made you do things you didn't want to do).         | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| c) <u>Social Bullying</u> (for example, someone left you out, excluded you, gossiped and spread rumours about you, or made you look foolish).               | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |
| d) <u>Cyberbullying</u> (for example, someone used the computer or text messages to exclude, threaten, humiliate you, or to hurt your feelings).            | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> |

## Appendix J

### *English Test*

#### ENGLISH TEST

##### LISTENING SECTION











In this section of the test, you will have the chance how well you understand spoken English. There are four parts to this section with special directions for each part.

##### Part I Questions 1 to 4

1. A. Regret  
B. Congratulation  
C. Sympathy  
D. Expectation  
E. Hope
2. A. Make themselves crazy  
B. Come late to school  
C. Call the teacher  
D. Hope and pray  
E. Miss the first lesson
3. A. Something wrong  
B. A terrible cough  
C. A problem to sleep  
D. How to stop smoking  
E. The effect of smoking
4. A. She has met her friend  
B. She has been on the news  
C. She has been accepted at the medical faculty  
D. She has become a doctor  
E. She deserves to study hard

**Part II**  
**Questions 5 to 6**

Directions: In this part of the test, you will hear some dialogues or monologues spoken in English. The dialogues or monologues will be spoken twice. They will not be printed in your test book, so you must listen carefully to understand what the speakers are saying. After you listen to the dialogue or monologue, look at the five pictures provided in your test book, and decide which one would be the most suitable to the dialogue or monologue you have heard

5. A.  C.  E. 
- B.  D. 
6. A.  B.  C. 
- D.  E. 

### Part III Questions 7 to 8

Directions: In this part of the test, you will hear some monologues. Each monologue will be spoken twice. They will not be printed in your test book, so you must listen carefully to understand what the speakers are saying. After you hear the monologue and the question about it, read the five possible answers and decide which one would be the best answer to the question you have heard.

Questions 7 and 8 are based on the following monologue.

7. A. West Nusa Tenggara (NTB)  
B. Hosting a festival in NTB  
C. Coral reefs  
D. The conservation destinations  
E. The environmental issues
8. A. More hotels and restaurants will be free  
B. More festivals will be conducted by tourists  
C. More income will be generated for the government and local people  
D. More islands will be explored for hotels and restaurants  
E. More trees will be removed from islands

Questions 9 and 10 are based on the following monologue.

9. A. A biography of General Soedirman  
B. The family of General Soedirman  
C. The death of General Soedirman  
D. A spirit of General Soedirman for the Indonesian Armed Forces  
E. The military forces commanded by General Soedirman
10. A. His uncle's name was also Soedirman  
B. January is the month of Maulud  
C. Soedirman was shot and died in the military war  
D. Soedirman died when he was relatively young  
E. Soedirman died on 1 March 1949

----- THIS IS THE END OF THE LISTENING SECTION -----



## READING SECTION

The following text is for questions 16 and 17.

Luis Lionel Andres Messi, born June 24, 1987, is an Argentina football player for F.C. Barcelona. He is not very tall, mainly, due to a growing problem he had when he was younger. His eyes are brown. He never has short hair.

Lionel Messi started playing football at a very early age in his hometown Newell's Old Boys. From the age of 11, he suffered from a hormone deficiency and as Lionel's parents were unable to pay for the treatment in Argentina, they decided to move to Barcelona, Spain.

In the 2003-2004 season, when he was still only 16 years old, Messi made his first team debut in a friendly with Porto marking the opening of the new Dragao stadium. The following championship-winning season, Messi made his first appearance in an official match on October 16, 2004, in Barcelona's derby win against the Olympic Stadium (0-1). And now, in 2010, 2011, and 2012 he is the best player in the world with collect 3 Ballon d'Or.

11. According to the text, Messi's parents moved to Barcelona ...
- A. Because they were very poor in Argentina
  - B. Because they wanted Messi to be successful in soccer
  - C. So that Messi could learn in the best soccer club
  - D. To get Messi's health problem cured
  - E. To find the best treatment to cure Messi's health problem
12. What is the main idea of the third paragraph?
- A. He hasn't really attractive face, but he's a very good football player.
  - B. Lionel Messi is a good player for FC. Barcelona.
  - C. His best characteristics are on the foot have competitiveness.
  - D. He appears to be a quite good and modest person.
  - E. He has long black hair and brown eyes.

The following text is for questions 18 and 19.

We are announcing today that we are bringing the Milestone and Ever Green brands even closer together. Effective as of 5th December 2013, our official name will be:

**GREEN MILES WEST**

The substitution of "West" in our name---replacing "Cianjur"---is the result of an agreement we reached with the Cianjur Gardening Association, following a protest over the original use of "Cianjur" in our name. We hope this does not create any confusion among our loyal consumers. While this represents a change from our initial name introduction, it does not change the quality of the products we offer to our consumers.

13. Who issues the announcement?
- A. Green Miles West Company.
  - B. Green Miles West Customers.
  - C. The co-worker of Green Miles West.
  - D. The partnership of Green Miles West.
  - E. The loyal customers of Green Miles.
14. "The **substitution** of "West" in our name ...". The word "substitution" has closest meaning to ...
- A. Merger
  - B. Insertion
  - C. Development
  - D. Replacement
  - E. Improvement

The following text is for questions 15 and 16

If someone is having a nosebleed, your priority is to control the bleeding and keep their airway open. Get them to sit down (not lie down) as keeping the nose above the heart will reduce bleeding. Get them to lean forward (not backwards), to make sure the blood drains out through their nose every ten minutes until the bleeding stops. Encourage them not to speak, swallow, cough, spit or sniff because this may break blood clots that may have started to form in the nose. If the bleeding is severe, or if it lasts more than 30 minutes, call for medical help.

15. What is the purpose of the text?
- A. To inform the readers of the methods to help nose bleeding patients.
  - B. To report the procedural steps in helping nose bleeding patients.
  - C. To illustrate the preventive methods of nose bleeding.
  - D. To provide instant help for nose bleeding patients.
  - E. To describe the control methods of nose bleeding.
16. In case of nose bleeding, if a person speaks, ...
- A. His/her blood drains out through his/her nose
  - B. He/she will suffer from severe bleeding
  - C. His/her throat will block the airway
  - D. His/her blood clot will not form
  - E. His/her nose bleeds again

The following text is for questions 31 to 34.

The Dangers of Typing SMS While Driving

The popularity of mobile devices has had some dangerous consequences. We know that mobile communications are linked to a significant increase in distracted driving which results in injury and loss of life. The National Highway Traffic Safety Administration reported that in 2010 driver distraction was the cause of 18 percent of all fatal crashes with 3,092 people killed and crashes resulting in an injury 416,000 people wounded. The Virginia Tech Transportation Institute found that text messaging creates a crash risk 23 times worse than driving while not distracted. Eleven per cent of drivers aged 18 to 20 who were involved in an automobile accident and survived admitted they were sending or receiving texts when they crashed. Distracted driving endangers life and property and the current levels of injury and loss are unacceptable.

17. What is the main idea of the passage?
- A. The warning about texting and driving.
  - B. The debatable issue of texting and driving.
  - C. The involvement of mobile devices while driving.
  - D. The risks of texting while driving.
  - E. The consequences of not paying attention to traffic.
18. What does the passage tell us about the writer's opinion on the issue at hand? A. Text messaging creates more risk than undistracted driving.
- B. Mobile communication doesn't have a relation with accidents.
  - C. Many people lost their lives because of injury.
  - D. Distracted driving is still safe for drivers.
  - E. Only adult drivers were involved in the accident.
19. From the text, we know that ...
- A. The mobile phone should be banned in the street.
  - B. Distracted driving makes accidents more rarely happen.
  - C. Most of the accidents are caused by the condition of the road.
  - D. 18 per cent of fatal crashes were caused by unnoticed street signs.
  - E. Drivers involved in car accidents admitted they were texting when they crashed.
20. Distracted driving endangers life ... it is not an acceptable action
- A. As
  - B. If
  - C. So
  - D. And
  - E. Yet

----- THIS IS THE END OF THE READING SECTION -----