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Role of School Climate on Types of Self-Regulated Learning (Growth Pathway and Well-being Pathway Types) among Students in Modern Islamic Boarding Schools

Zulfiah Sumirna Zega[1*], Tarmidi Dadeh[2], Meutia Nauly[3]
Universitas Sumatera Utara, Indonesia[1]
Universitas Sumatera Utara, Indonesia[2]
Universitas Sumatera Utara, Indonesia[3]
Corresponding Email: zulfiahsumirna@students.usu.ac.id*

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Abstract

This study explores school climate's role in self-regulated learning (SRL) among students at modern Islamic boarding schools (*pesantren*) in Medan City. As the number of subjects and study hours increases, students face the challenge of learning independently. The research sample consisted of 350 students from grades 8 and 9 across four modern *Islamic boarding schools.* Data were collected using a Likert scale measuring SRL and school climate. The SRL data used in this study differ from those in other SRL research, as this study analyzes SRL based on different types of self-regulated learning. This distinction is important because it can help students maximize their learning potential and assist educators in assigning appropriate tasks. The regression analysis results indicate that school climate has a significant effect on the growth pathway type of SRL, contributing 5.2%, as well as on the well-being pathway type, contributing 5.7%. These findings highlight the importance of fostering a positive school climate to support students' independent learning, enabling them to achieve their learning objectives more effectively. This study recommends that *Islamic boarding school* authorities pay greater attention to aspects of school climate to enhance students' learning, self-development and emotional well-being.

Keywords: School Climate, Self-regulated Learning, Growth-Pathway, Well-being Pathway, Modern Islamic Boarding School

Introduction

In general, schools only offer general and religious education. However, with the emergence of modern Islamic boarding schools, it has become possible to integrate both. Studying at a modern islamic boarding school provides students with broader knowledge, as they are exposed to a more diverse range of learning, encompassing both religious and general subjects. Nevertheless, it is undeniable that the increase in subjects and the extended learning

hours place greater academic burdens on students and present challenges in processing information. This is in line with the statement by Ambarwati (2016), who noted that islamic boarding school face several issues that can affect students' learning, such as a packed schedule, restrictive rules, distance from parents, peer conflicts, and inadequate facilities.

To cope with the numerous lessons and tight schedules, students must possess self-directed learning skills to achieve their learning targets. An interview conducted on December, 2023 with a teacher and caregiver at an Islamic boarding school in Medan revealed that self-regulated learning behavior among students is essential to achieving memorization and learning goals. An example of a islamic boarding school's daily schedule, taken from the official website of Raudhatul Jannah Subulussalam Islamic Boarding School, shows that activities begin at 4:30 AM and end at 10:00 PM, with a total of 29 academic subjects and 12 types of extracurricular activities (Islamic boarding school Raudhatul Jannah Subulussalam, 2021).

The researcher also interviewed with a student from a modern islamic boarding school, who stated that the lessons become increasingly difficult and numerous as students move to higher grades. Some students sometimes do not complete assignments and choose to accept punishment instead, which may reflect a low level of self-regulated learning (SRL). Despite the selection process for incoming students, some still struggle to manage their learning. This issue can lead to students dropping out of Islamic boarding schools, particularly among new seventh-grade students who must adapt to higher academic demands. The interview revealed that new students often experience difficulties in self-regulation, as they need to adjust to the required focus and discipline. Research shows that SRL can help overcome learning difficulties. Muna (2013) found that SRL techniques can reduce learning fatigue, which often results in negative behaviors such as truancy and loss of interest in learning. Furthermore, research by Hannani and Ajikusumo (2021) shows that students with high SRL levels tend to have better academic adjustment, as seen in their motivation and effective learning strategies, such as summarizing and managing study time efficiently. Rola (2023) pointed out that one of the learning challenges for children is their tendency to depend on parents or teachers rather than studying independently. Without supervision, children often avoid studying and prefer more enjoyable activities. Many children perceive studying as difficult and unenjoyable—a boring process of completing assignments, doing homework, memorizing, and taking exams. A child's ability to engage actively and independently in their learning process by monitoring, regulating, and controlling cognitive, motivational, and behavioral aspects to achieve learning goals is referred to as self-regulated learning (SRL).

According to Boekaerts (2011), the process of self-regulated learning among students is aimed at three goals: (1) developing skills and knowledge (top-down self-regulation); (2) preventing threats to oneself and loss of resources to maintain psychological well-being within reasonable limits (bottom-up self-regulation); and (3) maintaining commitment by shifting attention from the well-being track to the task-mastery track through active engagement. These three goals can be achieved through two pathways: the growth pathway and the well-being pathway. The growth pathway focuses on the development of skills and knowledge, allowing students to reach their full academic potential. On the other hand, the well-being pathway aims to maintain students' psychological well-being by reducing stress and enhancing overall happiness. These pathways determine the type of learning goals students pursue—improving knowledge of a subject (top-down self-regulation) or protecting their emotional well-being (bottom-up self-regulation). The third goal refers to a potential shift that can occur during the learning process when students face distressing situations, causing a transition from the growth pathway to the well-being pathway.

Role of School Climate on Types of Self-Regulated Learning (Growth Pathway and Well-being Pathway Types) among Students in Modern Islamic Boarding Schools

Based on field findings and conducted interviews, both pathways described by Boekaerts (2011) can be observed in the self-regulated learning process of students in modern islamic boarding school. Students who frequently fail to complete assignments, do not meet learning targets, and tend to avoid academic challenges are typically on the well-being pathway. They are often dominated by negative emotions such as disappointment, anger, and anxiety, leading them to focus on their emotional state and adopt maladaptive solutions such as opting for punishment instead of completing assignments. Their inability to manage these emotions results in inappropriate behavior and failure to achieve learning targets, thereby failing in the subject. Conversely, students on the growth pathway strive to meet institutional targets, delve into learning materials, and master them. The dominant type of self-regulated learning varies for each individual. Understanding these types of SRL among students can help them recognize their potential and obstacles in learning at the islamic boarding school and assist teachers in providing more comprehensible assignments (Boekaerts, 2011; Boekaerts & Corno, 2005).

There are several factors that may affect SRL, namely: (1) Individual Factors; (2) Behavioral Factors; (3) Environmental Factors ; (4) Social Factors (Nugroho et al., 2022; Schunk & Green, 2018). As mentioned, one influential factor in SRL is the school climate, which is especially critical in modern islamic boarding school, where students spend 24 hours within the same environment, interacting with the same individuals and under strict regulations. This environment impacts students' behavior and learning patterns.

In Indonesia, Islamic boarding schools are generally classified into traditional (salaf) and modern. The primary distinction between them lies in their teaching methods and curricula. Traditional Islamic boarding schools use classical texts such as *kitab kuning* and employ the *sorogan* and *bandongan* teaching methods (Prayoga et al., 2020; Kamal, 2020). In contrast, modern Islamic boarding schools integrate the madrasah system into their education while maintaining core religious values and a semester-based evaluation system. These institutions combine the national curriculum with their religious curriculum, providing tiered education from junior high school (MTs) to higher education levels (Anas, 2012; Sudarmo, 2021).

School climate is a multidimensional construct that reflects the quality and character of a school (Sudla et al., 2020). It can be defined as the patterns of experiences, interactions, relationships among school members, and structural features of the school environment (Wang & Degol, 2016). Dimensions of school climate include: (1) Academic: teaching and learning, leadership, and appreciation of professional development; (2) Community: relationship quality, connectedness, diversity, and cooperation; (3) Safety: social-emotional safety, physical safety, discipline, and order; (4) Institutional Environment: infrastructure adequacy, structural organization, resource availability; (5) Educational Orientation: the degree to which stakeholders prioritize testing in the education system; (6) Culture: relates to differences stemming from the unique principles and identity of Indonesian islamic boarding school (Wang & Degol, 2016; Dadeh, 2021).

Various studies have highlighted the role of school climate in SRL. For example, Ma'ruf et al. (2017) explained that a positive school climate positively influences SRL; the more positive the climate, the better the students' self-regulated learning. A comfortable and conducive school environment improves academic achievement and reduces disciplinary issues. Research by Basmi et al. (2022) also found that school-provided learning facilities, as part of the school climate, influence students' learning outcomes. Thus, school climate and SRL jointly contribute to graduate quality.

Nonetheless, studies examining SRL types among students are still limited. This is essential for helping islamic boarding school enhance students' SRL capabilities and improve the learning process. By identifying various SRL types, such as the growth and well-being pathways, islamic boarding schools can design more effective and tailored teaching strategies. This research is also expected to contribute to the academic literature on self-regulated learning, particularly in the context of islamic boarding school education. Moreover, its findings can serve as a reference for other educational institutions in developing programs that enhance students' self-regulation. Through a deeper understanding of SRL's growth and well-being pathways, islamic boarding school can create a more supportive learning environment that facilitates students' holistic academic and personal development.

This study aims to determine**:** (1) Whether there is a positive interaction between a positive school climate and the growth pathway type of self-regulated learning; (2) Whether there is a positive interaction between a positive school climate and the well-being pathway type of self-regulated learning.

Literature Review

Self-regulated Learning

Boekaerts (1995) stated that students with a high level of self-regulated learning (SRL) are those who possess the capacity (1) to manage various dimensions of the learning process, including the selection, combination, and coordination of cognitive strategies in a context-sensitive manner, and (2) to allocate resources to different aspects of the learning process without causing significant disruption to their well-being. Another prominent scholar who defined SRL is Pintrich, who described self-regulated learning as an active and constructive process in which learners set their learning goals and strive to monitor, regulate, and control their behavior, cognition, and motivation, guided and constrained by their goals and the contextual features of their environment (Pintrich, 2000).

Boekaerts (2011) identifies three primary objectives within the process of self-regulated learning among students: (1) the enhancement of skills and acquisition of knowledge, known as top-down self-regulation; (2) the safeguarding of personal well-being and conservation of resources to avoid psychological distress, referred to as bottom-up self-regulation; and (3) the maintenance of learning engagement by redirecting focus from well-being concerns back to mastery-oriented tasks. These objectives are pursued through two distinct pathways: (1) the growth pathway and (2) the well-being pathway. The growth pathway emphasizes academic development, supporting students in achieving their intellectual potential. In contrast, the well-being pathway prioritizes emotional health, seeking to alleviate stress and promote positive affect. A student's pathway influences their learning goals—whether oriented toward cognitive advancement (top-down) or emotional self-preservation (bottom-up). The third objective captures a dynamic shift that may occur when learners encounter emotional challenges, prompting a reorientation from the growth pathway toward the well-being pathway to restore psychological equilibrium.

Nugroho et al. (2022) identified several key factors influencing self-regulated learning (SRL), which can be categorized into four dimensions. First, **individual factors** pertain to

students' ability to manage their own learning processes. This includes goal awareness, a sense of responsibility, prior knowledge, cognitive processing outcomes, and emotional regulation. SRL is shaped by the interplay of cognitive, motivational, and affective components (Schunk & Greene, 2018). Second, **behavioral factors** involve implementing effective learning strategies to achieve academic objectives. These include organizing the study environment, note-taking, regular practice, and minimizing distractions. Students may also employ self-reward or self-discipline mechanisms during or after learning tasks (Nugroho et al., 2022; Schunk & Greene, 2018). Third, **environmental factors** encompass both micro and macro contexts, such as living conditions, socioeconomic background, and school climate. In early academic stages, learners often rely on external regulation; however, with guidance and instruction, they are expected to internalize academic standards. Explicit teaching can facilitate self-regulation by enabling students to monitor their progress relative to established benchmarks (Schunk & Greene, 2018). Finally, **social factors** refer to the influence of social and ecological contexts on students' capacity for self-regulation. Support from peers, family, and educators plays a critical role in helping students navigate challenges and sustain motivation (Schunk & Greene, 2018).

According to Boekaerts (2011), there are three dimensions of self-regulated learning (SRL), namely:

1. Cognition, refers to the process of activating prior knowledge, coordinating information sources, and employing strategies for elaborating information. This dimension involves the use of metacognition, which encompasses knowledge about how the cognitive system functions, as well as understanding when, where, and how specific cognitive strategies can be effectively applied.
2. Motivation, is the process of activating and sustaining cognition, behavior, and emotion in a goal-oriented manner. It involves meta-motivational functions, which enable individuals to understand when, where, and how specific self-regulation strategies can be effectively employed and discern which methods succeed or fail in fostering self-motivation. Motivation plays a critical role in helping students maintain their commitment to remain task-focused, thereby facilitating the formation of both short-term and long-term goals. With adequate motivation, students are more likely to enhance their interest in learning, organize tasks more effectively, and improve their self-efficacy. Motivation is generally categorized into two types: learning-focused motivation and personal motivation that is unrelated to learning. Both types of motivation serve as mechanisms through which individuals pursue their goals, whether those goals involve deepening their understanding of a subject matter or fulfilling personal objectives.
3. Emotion, refers to affective states, including mood, feelings, well-being, and affect-laden cognition. Emotions arise when individuals recognize that they are not making sufficient progress toward their intended goals. They serve as warning signals and prepare the body for action while functioning as evaluative processes. Emotions play a key role in shaping emotional experiences' nature and identifying the underlying reasons that trigger both positive and negative emotional responses. Negative emotions can include anxiety, irritation, disappointment, sadness, annoyance, boredom, shame, and even despair. These

emotions may lead students to lose interest in completing tasks, especially if they are perceived as monotonous or irrelevant to their goals. Negative emotions can also manifest as avoidance behaviors, rejection, giving up, and distraction from the task at hand. Conversely, positive emotions experienced by students may result in increased effort toward task completion, enhanced self-confidence, greater interest in the task, and a desire to develop their potential.

School Climate

The National School Climate Council (2021) defines school climate as "based on the patterns of experiences of students, parents, and school personnel in school life; school climate also reflects the norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures". Wang and Degol (2016) conceptualize school climate through four key dimensions: (1) Academic climate, which pertains to the overall quality of the academic environment, including the curriculum, instructional practices, teacher training, and professional development; (2) Community, which emphasizes the quality of interpersonal relationships within the school setting; (3) Safety, referring to the degree of physical and emotional security provided by the school, along with the implementation of effective, consistent, and fair disciplinary practices; and (4) Institutional environment, which reflects the structural and organizational characteristics of the school setting. These four dimensions collectively encompass nearly all aspects of the school environment that influence students' cognitive, behavioral, and psychological development. In addition to the dimensions identified by Wang and Degol (2016), Dadeh (2021) introduces additional aspects relevant to the Indonesian school context, both in religious-based and general education settings. These include educational orientation—which refers to the extent to which stakeholders prioritize standardized testing within the educational system—and culture, which highlights the cultural distinctions shaped by Islamic boarding schools (pondok pesantren) that operate according to unique principles and traditions specific to the Indonesian context.

Modern Islamic Boarding School

Modern Islamic boarding schools (*pesantren modern*) integrate the madrasah system into their educational structure while preserving the semester-based system's core values, principles, and evaluative components. These institutions adopt the national curriculum mandated by the government alongside the traditional pesantren curriculum, implementing both concurrently. This dual-curriculum approach enables *pesantren modern* to offer a tiered educational pathway comparable to that of formal schooling, encompassing levels such as Madrasah Tsanawiyah (Islamic junior secondary school), Madrasah Aliyah (Islamic senior secondary school), and even higher education institutions (Anas, 2012; Sudarmo, 2021).

Research Method

This study adopts a quantitative approach utilizing a regression analysis model. It investigates the relationship between two main variables: the dependent variables (i.e., the growth pathway type and the well-being pathway type of self-regulated learning) and the

independent variable (i.e., school climate). The research was conducted across several *pesantren modern* (modern Islamic boarding schools) in the greater Medan area.

The sample consisted of students (*santri*) from modern islamic boarding school who were enrolled in the 8th and 9th grades of Madrasah Tsanawiyah. Data were collected from four institutions: Pesantren Ulumul Qur'an, Pesantren Darul Mafaaza, Pesantren At-Tibyan, and Pesantren Darul Arafah, involving a total of 350 students.

A five-point Likert scale was used to measure the variables. The self-constructed self-regulated learning (SRL) scale comprises 9 items, divided into three domains: 4 items for cognition, 1 for motivation, and 4 for emotion. The instrument was validated using Confirmatory Factor Analysis (CFA), which produced acceptable model fit indices: $\chi^2 = 0.02$, RMSEA = 0.05, SRMR = 0.04, CFI = 0.95, and TLI = 0.92. To differentiate between the two types of self-regulated learning (SRL), the cognitive and motivational components were utilized to represent the growth-oriented pathway, whereas the emotional component was used to represent the well-being-oriented pathway.

The school climate scale was adapted from Husnaini et al. (2023) and consists of 18 items with a reported reliability coefficient of 0.90. The items are distributed across six subdimensions: safety (2 items), academic climate (4 items), community (4 items), institutional environment (4 items), educational orientation (2 items), and culture (2 items). Data analysis was conducted using JASP (Version 0.19.1) and IBM SPSS Statistics (Version 24).

Result

Based on the collected data, the study sample comprised a total of 350 students. The following table presents a demographic breakdown of the subjects according to gender:

Table I. Description of Subjects by Gender

Gender	Number	Percentage (%)
Male	245	70%
Female	105	30%
Total	**350**	**100%**

From the data above, it can be observed that there were 245 male students (70%) and 105 female students (30%). In addition, the distribution of participants based on grade level is shown in the following table:

Table II. Participant Distribution by Grade Level

Grade Level	Number of Students	Percentage (%)
8	187	53,43%
9	163	46,57%
Total	**350**	**100%**

Based on the data, it was identified that 187 students (53.43%) were enrolled in Grade 8, while 163 students (46.57%) were enrolled in Grade 9.

Furthermore, this study examined the underlying motivations for students' enrollment in modern Islamic boarding schools. The distribution of responses is presented in the following table:

Table III. Distribution of Research Participants Based on Enrollment Motivation

Motivation	Frequency	Percentage (%)
Self-initiated	192	54,85%
Joint decision (self and parents)	57	16,29%
Parental decision	101	28,86%
Total	**350**	**100%**

Based on the categorization of the reasons for enrolling in pesantren, it was found that the most frequently reported reason was personal choice, accounting for 192 students (54.85%). This was followed by parental encouragement with 101 students (28.86%), and a combination of personal and parental reasons with 57 students (16.29%).

Prior to conducting hypothesis testing, assumption testing was carried out. The tests included normality, linearity, autocorrelation, multicollinearity, and heteroscedasticity assessments. The normality tests were conducted using SPSS. The results are presented as follows:

The normality test for the dependent variable in the growth pathway model yielded a significance value of .20, while the well-being pathway model also produced a significance value of .20. These values suggest that the data for both variables were normally distributed ($p > .05$).

The autocorrelation test, as measured by the Durbin-Watson statistic, resulted in a value of 1.72 for the growth pathway and 2.05 for the well-being pathway, indicating that there was no significant autocorrelation in the residuals.

Furthermore, multicollinearity testing for both models produced a Variance Inflation Factor (VIF) of 1 and a tolerance value of 1, indicating no multicollinearity issues among the predictor variables. The heteroscedasticity test showed that the residuals were randomly scattered around the Y-axis at approximately zero, suggesting homoscedasticity in both models. In conclusion, all assumption tests confirmed that the data met the necessary criteria for conducting hypothesis testing.

Hypothesis 1

The first hypothesis test was conducted to examine the effect of school climate on the growth pathway type of self-regulated learning using simple regression analysis. The results of Hypothesis 1 are presented as follows:

Table IV. ANOVA Results for Hypothesis 1

ANOVA						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**p**
M_1	Regression	241,592	1	241,592	18,999	<,001
	Residual	4452,265	348	12,716		
	Total	4688,857	349			

Based on the results of the F-test, the obtained F statistic was F(1, 348) = 18.999, p < .001. This result indicates that the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted. Therefore, it can be concluded that the school climate variable has a statistically significant effect on the growth pathway type of self-regulated learning.

Table V. Model Summary for Hypothesis 1

Model Summary						
Model	R	R^2	Adjusted R^2	RMSEA	R_2 Change	p
M_0	0,000	0,000	0,000	3,657	0,000	
M_1	0,228	0,052	0,049	3,566	0,052	<0,001

As shown in the table above, the magnitude of the effective contribution of school climate to self-regulated learning, as indicated by the correlation coefficient (R), is 0.228 and positive. This suggests that there is a positive directional relationship between school climate and the growth pathway type of self-regulated learning. In other words, the more positive the school climate, the more likely students are to exhibit a growth pathway in their self-regulated learning. Furthermore, the R^2 value is 0.052, indicating that school climate accounts for 5.2% of the variance in the growth pathway type of self-regulated learning.

Hypothesis 2

The second hypothesis test examined the effect of school climate on the well-being pathway type in self-regulated learning using simple regression analysis. The results of Hypothesis 2 testing are presented below:

Table VI. ANOVA Results for Hypothesis 2

ANOVA						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**p**
M_1	Regression	88.952	1	88.952	20,868	<,001
	Residual	1483.405	348	4.263		
	Total	1572.357	349			

Based on the F-test results, the F statistic was F(1, 348) = 20.868, p < .001. This indicates that the null hypothesis (H_0) is rejected and the alternative hypothesis (H_2) is accepted. Therefore, it can be concluded that the school climate variable significantly affects the well-being pathway type in self-regulated learning.

Table VII. Determinant Coefficient Results for Hypothesis 2

Model Summary						
Model	RR	R R^2	Adjusted R^2	RMSEA	R^2 Change	p
M_0	0,000	0,000	0,000	2,123	0,000	
M_1	0,238	0,057	0,054	2,065	0,057	<.001

Based on the table above, the effective contribution of the school climate variable to self-regulated learning, as indicated by the correlation coefficient (R), is 0.238 and positive. This indicates a positive linear relationship between school climate and the well-being pathway type in self-regulated learning. In other words, the better the school climate, the higher the students' self-regulated learning autonomy. The R squared value (R^2) of 0.057 indicates that school climate accounts for 5.7% of the variance in the well-being pathway type in self-regulated learning.

Discussion

Based on the hypothesis test results, school climate was found to have a significant positive effect on the growth pathway type of self-regulated learning, as evidenced by a p-value less than .001. This finding suggests that the more positive the school climate, the more likely students are to exhibit characteristics of the growth pathway, thereby enhancing their mastery of tasks and learning materials. The contribution of school climate to the growth pathway was measured at 5.2%. This is attributable to the fact that school climate encompasses the provision of resources and facilities that enable students to deepen their knowledge and skills. This finding aligns with Syifa and Mulawarman (2018), who argue that school climate and self-regulated learning are interdependent: students' regulation of learning—including setting goals, time management, and reflecting on learning outcomes—can be strengthened through a supportive school environment that fosters safety, motivation, and initiative. Such an environment also has implications for students' overall well-being.

Motivation is one of the main factors driving students on the growth pathway to achieve their academic and personal development goals. A stable and even increasing level of motivation contributes positively to students' academic performance by encouraging active participation, focus, and commitment to goal attainment (Akhmad & Khuriyah, 2023). Maintaining student motivation, especially in the context of pesantren, requires support from the surrounding environment. Positive school climate is essential, as students' motivation to study in pesantren often stems from intrinsic drives and external influences. Habibi et al. (2020), in a study of students at Qur'an memorization boarding schools, identified that intrinsic motivation includes the desire to improve Qur'anic recitation, memorize the Qur'an, gain friendships, and balance religious and academic studies. Meanwhile, extrinsic motivation often derives from parental expectations. Many younger students, in particular, are significantly influenced by their parents' aspirations. The wish to "make their parents proud" often becomes a powerful source of academic motivation. Therefore, pesantren must provide continuous support to sustain students' motivation.

Research by Dincer (2021) and Bilgin et al. (2021) supports the idea that school climate significantly influences student motivation. The more positively students perceive their school climate, the more motivated they become. Consequently, enhanced academic motivation helps students persist on the growth pathway even when faced with challenges. This highlights the importance of a supportive school environment for fostering motivation and academic success.

Role of School Climate on Types of Self-Regulated Learning (Growth Pathway and Well-being Pathway Types) among Students in Modern Islamic Boarding Schools

School climate extends beyond physical infrastructure to include teaching quality, interpersonal relationships, and both physical and emotional safety (Wang & Degol, 2016). Habibi et al. (2020) emphasize the importance of support from pesantren stakeholders—teachers, mentors, and peers—in encouraging students' perseverance in the learning process, including Qur'an memorization. Because students live far from their families, they require others to help them stay focused, provide encouragement, and act as learning partners.

Additionally, positive interpersonal relationships play a crucial role in establishing a supportive school climate. Peer relationships significantly influence comfort and engagement in pesantren, where students live together and interact with the same peers 24 hours a day over several years. A peer environment that fosters academic growth greatly contributes to self-regulated learning. According to Martin et al. (2022), students supported by peer tutors show improvement in various aspects of self-regulated learning, including metacognitive regulation, beliefs about learning, time management, and learning strategies. Similarly, Lin et al. (2016) and Lim et al. (2020) found that peer support enhances students' self-regulated learning by creating opportunities for mutual help and reflection on learning strategies and progress, particularly for those who struggle with self-organization.

Regarding the well-being pathway, the analysis also revealed a significant positive relationship between school climate and this pathway, with a p-value of <.001 and a contribution of 5.7%. The well-being pathway pertains to students' efforts to protect their emotional health, in which emotional regulation is a central component. A positive school climate thus plays a pivotal role in providing emotional safety and support. This is consistent with findings by Newland et al. (2019), who assert that school climate improvement programs aimed at building positive relationships help students manage stress and overcome school-related challenges. Students who feel secure and supported by their school environment and community are more likely to report enhanced emotional experiences and overall well-being. When interpersonal and institutional support systems are present, students are better equipped to manage emotions and adopt adaptive coping strategies during difficult learning moments.

Individuals on the well-being pathway tend to resort to maladaptive coping mechanisms such as task avoidance and procrastination (Boekaerts & Corno, 2005). These behaviors reflect poor self-regulation skills and are associated with heightened negative emotions and reduced academic satisfaction, along with increased risks of anxiety and depression (Balkis & Duru, 2016). In this context, the role of teachers and mentors—key figures in shaping the school climate—is crucial in ensuring that students receive adequate support when encountering academic challenges. Positive teacher-student interactions are essential to build emotional engagement, provide emotional support, and minimize conflict, thereby fostering a safe and nurturing environment. This support is particularly important for female students, who often place a higher value on emotional support and benefit more in terms of academic outcomes (Pietarinen, 2014; Tennant et al., 2014).

Mander et al. (2015) observed that boarding school students, including those in pesantren, tend to experience greater emotional difficulties, such as anxiety, stress, and depression—especially during middle school years. The emotional distance from parents

presents a unique challenge that can affect their academic engagement. Therefore, pesantren must provide emotional support mechanisms to help students navigate these challenges. Strong peer relationships are essential, as dormitory life in pesantren makes peer interaction particularly influential. Li et al. (2023) state that positive peer relationships foster emotional bonding and support students' psychological well-being.

Conclusion

There is a significant relationship between school climate and both the growth pathway and well-being pathway types of self-regulated learning among students in Modern Islamic Boarding Schools (Pesantren Modern). A positive and conducive school climate facilitates optimising and regulating students' self-directed learning processes. The contribution of school climate to the growth pathway type is 5.2%, while its contribution to the well-being pathway type is 5.7%. A positive school climate supports students' cognitive development, motivation, and emotional well-being—all of which are essential for achieving academic goals.

It is recommended that schools place greater emphasis on fostering a positive school climate, including improvements in the physical environment, curriculum, quality of teaching, and interpersonal relationships among students. Such efforts can enhance students' learning experiences, making them more effective and enjoyable. Furthermore, analyzing both types of self-regulated learning is expected to assist teachers in better understanding students' independent learning processes, thereby enabling them to tailor instructional materials and assignments to better align with students' learning styles.

Declaration of conflicting interest

The authors declare that there is no conflict of interest in this work.

References

Akhmad, R. A., & Kuriyah. (2023). Hubungan Motivasi Belajar dan Iklim Pesantren dengan Prestasi Belajar Kemuhammadiyahan Santri di Pondok Pesantren Muhammadiyah. *Journal on Education, 6*, 9078-9085.

Ambarwati, N. A. (2016). Kejenuhan Belajar Dan Cara Mengatasinya (Studi Komparasi Pembelajaran Agama Islam pada Pondok Pesantren An-Nuur, Al Hikmah dan Al-Hadid di Kecamatan Karangmojo Kabupaten Gunungkidul, DIY). 10-16.

Anas, H. I. (2012). Kurikulum dan Metodologi Pembelajaran Pesantren. *Cendekia, 10*, 29-44. doi: : 10.21154/cendekia.v10i1.400

Balkis, M., & Duru, E. (2016). Procrastination, self-regulation failure, academic life satisfaction, and affective well-being:underregulation or misregulation form. *Eur J Psychol Educ, 31*, 439-459. doi: 10.1007/s10212-015-0266-5

Bilgin, O., Ince, M., & YEŞİLYURT, E. (2021). The Effects of University Students' School Climate on Their Motivation. *International Journal of Psychology and Educational Studies, 8*, 112-121.

Boekaerts, M. (1995). The interface between intelligence and personality as determinants of classroom learning. In D. H. Saklofske & M. Zeidner (Eds.), *International handbook of personality and intelligence* (pp. 161–182). Plenum Press.

Boekaerts, M. (2011). Emotions, Emotion Regulation, and Self-Regulation of Learning. In B. Zimmerman, & D. Schunk, *Handbook of Self-Regulation of Learning and Performance.* New York: Routledge.

Boekaerts, M., & Corno, L. (2005). Self-Regulation in the Classroom: A Perspective on Assessment and Intervention. *International Association for Applied Psychology, 2*, 199-231.

Dadeh, T. H. (2021). *Exploring School Climate And Indonesian Year 8 Students' Mathematics Learning Outcomes: A Mixed Method Study*. England: Bristol. Retrieved from https://research-information.bris.ac.uk/en/studentTheses/exploring-school-climate-and-indonesian-year-8-students-mathemati

Dincer, B. (2021). Investigating the School Climate Perceptions and School Motivations of Middle School Students. *International Journal of Educational Methodology, 2*(2), 361-372. doi:10.12973/ijem.7.2.361

Habibi, M. M., Syifa, N. N., & Sadita, A. A. (2020). Implementasi Self-regualted Learning (SRL) Santri Penghafal AL-Qur'an di Pondok Pesantren Al-Qur'an Nurul Ulum Kretek-Bantul. In *Eksistensi Pendidikan Islam Basis Nilai, Perspektif, dan Inovasi Pengembangannya* (pp. 19-27). Yogyakarta: Istana Publishing.

Hannani , A., & Ajikusumo, C. (2021). The Relationship of Self Regulated Learning with Academic Adjustment of Seventh Grade Santri of Pondok Pesantren. *TAZKIYA (Jurnal of Psychology), 2*, 108-121. doi: http://dx.doi.org/10.15408/tazkiya.v9i2.17196

Husaini, R., Dadeh , T., & Hasnida. (2023). The Effect of School Climate And Family Social Support on Subjective Well-Being of Middle School Students In Modern Islamic Boarding School. *Edukasi Islami: Jurnal Pendidikan Islam, 12*, 2337-2352.doi:10.30868/ei.v12i03.4607

Kamal, F. (2020). Model Pembelajaran Sorogan dan Bandongan dalam Tradisi Pondok Pesantren. *Jurnal Paramurobi, 3*, 15-26. doi: e-ISSN: 2657-2222

Mander, D. J., Lester, L., & Cross, D. (2015). The social and emotional well-being and mental health implications for adolescents transitioning to secondaryboarding school. *Int J Child Adolesc Health, 8*, 131-140.

Martin, F. F., Tirado, J., & Torres, M. (2022). The impact of a peer-tutoring program to improve self-regulated learning. *Annals of Psychology, 38*, 110-118. doi:https://doi.org/10.6018/analesps.483211

Muna, N. (2013). Efektifitas Teknik Self Regulation Learning Dalam Mereduksi Tingkat Kejenuhan Belajar Siswa Di Sma Insan Cendekia Sekarkemuning. *Holistik, 14*, 57-78. doi: 10.24235/holistik.v14i2.450

National School Climate Center. (2021). *National school climate standards*. https://schoolclimate.org/wp-content/uploads/2021/05/school-climate-standards.pdf

Newland, L. A., DeCino, D. A., Mourlam, D. J., & Strouse, G. A. (2019). School Climate, Emotions, and Relationships: Children's Experiences of Well-Being in the Midwestern U.S. *International Journal of Emotional Eduction, 11*, 67-83.

Nugroho, M., Asri, D. N., & Kadafi, A. (2022). Faktor yang mempengaruhi self-regulated learning pada siswa SMP. *Prosiding SNBK (Seminar Nasional Bimbingan dan Konseling)*, 6

Pesantren Raudhatul Jannah Subussalam. (2021). *Jadwal Harian Pondok*. Retrieved Februari 18, 2023, from Pesantren Raudhatul Jannah Subussalam: https://raudhatuljannah.ponpes.id/jadwal/

Pietarinen, J., Soini, T., & Pyhalto, K. (2014). Students' emotional and cognitive engagement as the determinants of well-being and achievement in school. *International Journal of Educational Research, 67*, 40-51. doi:http://dx.doi.org/10.1016/j.ijer.2014.05.001

Pintrich, P. R. (2000). The Role Of Goal Orientation In The Role Of Goal Orientation In. In M. Boekaerts, P. Pintrich, & M. Zeidner, *Handbook of Self-regulation.* USA: Elsevier.

Prayoga, A., Irawan, & Rusdiana, A. (2020). karakteristik Program Kurikulum Pondok Pesantren. *Al-Hikmah : Jurnal Pendidikan dan Pendidikan Agama Islam, 2*, 77-86.

Rola, F. (2023, Oktober 30). *Peran Guru Dalam Meningkatkan Regulasi Diri Dalam Belajar Siswa*. Februari 23, 2023, from Waspada.id: https://www.waspada.id/opini/peran-guru-dalam-meningkatkan-regulasi-diri-dalam-belajar-siswa/

Schunk, D. H., & Greene, J. (2018). *Handbook of Self-Regulation of Learning and Performance second edition.* New York: Rouledge.

Sudarmo, F. (2021). Historiografi Pesantren di Indonesia. *Historia Madania, 5*, 65-80.

Sudla, W., Wongwanich, S., & Sriklaub, K. (2020). Development of a School Climate Scale Based on School Members' Shared Experience. *The Journal of Behavioral Science, 15*(1), 52-57.

Syifa, P. A., Sugiharto, D., & Mulawarman, M. (2024). The Effects of Self-Regulated Learning and School Climate on Student Well-Being through Academic Hardiness. *Jurnal Bimbingan Konseling, 13*, 15-21.

Tennant, J. E., Demaray, M. K., Malecki, C. K., Terry, M. N., Clary, M., & Elzinga, N. (2015). Students' Ratings of Teacher Support and Academic and Social–Emotional Well-Being. *School Psychology Quarterly, 30*, 494-512. doi: http://dx.doi.org/10.1037/spq0000106

Wang , M.-T., & Degol, J. (2016). School Climate: a Review of the Construct, Measurement, and Impact on Student Outcomes. *Educ Psychol Rev, 28*, 315-352. doi: 10.1007/s10648-015-9319-1