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THE EFFECT OF PARENTS' ROLE AND SCHOOL CLIMATE ON ACADEMIC STRESS OF MADRASAH ALIYAH'S STUDENTS IN RURAL AND URBAN AREA

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Abstract

Adolescence is a period of transition from childhood to adulthood, marked by a "storm-and-stress" phase due to heightened susceptibility to conflicts and mood swings, making adolescents particularly vulnerable to stress. One prevalent form of stress among adolescents is academic stress, influenced by various factors. This study aims to analyze the impact of adolescent characteristics, family dynamics, parental roles, and school climate on the academic stress experienced by Madrasah Aliyah students in both rural and urban areas. The research was conducted across five schools, each representing a different sub-district, namely MA Mathlaul Anwar Barengkok, MA Mathlaul Anwar Cidokom, MA Al-Mukhlisin Ciseeng, MAN 1 Kota Bogor, and MAN 2 Kota Bogor. A purposive sampling approach was used to select 180 students, comprising 86 from rural and 94 from urban settings. Data were analyzed using correlation tests, regression analysis, and independent t-tests. The findings indicated that adolescent girls experience higher levels of academic stress than boys. Additionally, the dimensions of support and pressure showed a significant positive correlation with academic stress, while dimensions related to frequency and school climate did not demonstrate any influence in this study. This research offers important implications for educators and policymakers in developing targeted interventions aimed at alleviating academic stress, particularly through enhancing support systems and managing academic pressures for adolescents in diverse environments.

Keywords: academic stress, parent's role, pressure, school climate, support

PENGARUH PERAN ORANG TUA DAN IKLIM SEKOLAH TERHADAP STRES AKADEMIK SISWA MADRASAH ALIYAH (MA) DI PERDESAAN DAN PERKOTAAN

Abstrak

Masa remaja merupakan fase transisi dari kanak-kanak menuju dewasa yang sering diidentifikasi sebagai periode "badai dan tekanan" karena tingginya kerentanan terhadap konflik serta perubahan emosi yang drastis. Kondisi ini membuat remaja lebih rentan terhadap stres, terutama stres yang berkaitan dengan tuntutan akademik. Penelitian ini bertujuan untuk menganalisis pengaruh karakteristik remaja, karakteristik keluarga, peran orang tua, dan iklim sekolah terhadap tingkat stres akademik pada siswa Madrasah Aliyah yang berada di wilayah pedesaan dan perkotaan. Penelitian dilakukan di lima sekolah yang mewakili tiap kecamatan, yaitu MA Mathlaul Anwar Barengkok, MA Mathlaul Anwar Cidokom, MA Al-Mukhlisin Ciseeng, MAN 1 Kota Bogor, dan MAN 2 Kota Bogor. Sebanyak 180 siswa dipilih secara purposive, yang terdiri dari 86 siswa dari wilayah pedesaan dan 94 siswa dari wilayah perkotaan. Analisis data meliputi uji korelasi, uji regresi, dan uji-t independen. Hasil penelitian menunjukkan bahwa siswi perempuan memiliki tingkat stres akademik yang lebih tinggi dibandingkan siswa laki-laki. Selain itu, dimensi dukungan dan tekanan menunjukkan pengaruh positif yang signifikan terhadap tingkat stres akademik. Namun, dimensi frekuensi serta iklim sekolah tidak ditemukan memiliki pengaruh yang signifikan terhadap stres akademik dalam penelitian ini. Penelitian ini memberikan implikasi penting bagi para pendidik dan pembuat kebijakan untuk merumuskan intervensi yang terarah dalam mengurangi stres akademik, terutama melalui penguatan sistem dukungan dan pengelolaan tekanan akademik yang sesuai bagi remaja dalam lingkungan yang beragam.

Kata kunci : dukungan, iklim sekolah, peran orang tua, stress akademik, tekanan

INTRODUCTION

Adolescence represents a pivotal transitional phase from childhood to adulthood (Hurlock, 1991). This period is marked by intense developmental changes as adolescents actively explore their identity, seek emotional independence, and adapt to evolving social roles and expectations. According to Hurlock (1991), these transformations are essential to personal development; however, they can also lead to increased vulnerability to stress due to the pressure to meet both personal and social expectations. Hall's concept of "storm-and-stress," as cited in Santrock (2012), captures this vulnerability by describing adolescence as a turbulent stage of life characterized by frequent conflicts, emotional instability, and mood fluctuations. This "storm-and-stress" framework suggests that such instability can make adolescents highly susceptible to both internal and external stressors.

Stress itself can be defined as a response that arises when there is a discrepancy between desired outcomes and an individual's biological, psychological, or social resources (Garniwa, 2007). Stress responses vary widely in their impact, as they can either positively or negatively influence a person's well-being and performance (Gaol, 2016). Positive stress, or "eustress," fosters motivation and supports physical and mental health by encouraging individuals to confront challenges constructively (Greenberg, 2006). On the contrary, negative stress, or "distress," arises when demands exceed a person's coping abilities, leading to adverse emotional and physical effects (Gaol, 2016). Among adolescents, one particularly common form of distress is academic stress, which involves pressures related to educational demands. Academic stress stems from the need to meet various academic responsibilities and adjust to learning environments, and it is exacerbated by stressors specific to educational settings, such as exams, assignments, and peer competition (Bernstein et al., 2008). Given that schools are primary settings for these academic demands, they play a central role in shaping students' experiences of academic stress.

The school environment, also known as school climate, is a multifaceted social system encompassing the organizational, physical, and psychological components that structure students' daily lives (Siskandar et al., 2021). In an optimal school climate, the environment promotes norms, values, and expectations that ensure social, emotional, and physical security, which fosters constructive interactions among students, teachers, and other staff members (Cohen et al., 2009). Key dimensions of school climate include relationships between teachers and students, peer relationships, academic achievement orientations, and the consistent application of discipline (Brand et al., 2003). A positive, supportive school climate enhances curriculum delivery and promotes effective learning outcomes (Deviany, 2015). Moreover, it is crucial for maintaining student motivation and mitigating stress by creating an atmosphere that supports student engagement and minimizes discomfort (Desmita, 2017). However, studies by Pane, Mahidin, and Ok (2023) reveal that when the school climate is unconducive—such as when facilities are insufficient—students may experience heightened academic stress, indicating the critical role of a well-resourced, supportive environment.

In Indonesia, Madrasah Aliyah (MA) and Senior High Schools (SMA) differ significantly in terms of curriculum structure, subjects, school schedules, and instructional hours. According to the 2014 Ministry of Religious Affairs Decree (No. 207), the Madrasah curriculum combines both the 2006 Education Unit Level Curriculum (KTSP) and the 2013 Curriculum, which integrates Islamic studies and Arabic language instruction in addition to general subjects. Unlike high schools, which adhere to the five-day school week mandated by the Ministry of Education and Culture Regulation (No. 23) of 2017, Madrasah students often attend school six days a week. This extended schedule results in longer instructional hours, which may contribute to elevated academic stress among Madrasah students. Research by Barseli, Ifdil, and Nikmarijal (2017) identifies intensified workloads as an external factor that frequently increases students' academic stress, suggesting that extended class hours may add to the pressure faced by Madrasah students.

Parental roles further influence adolescents' academic experiences by providing either support or pressure (Westbrook, 2010). Parental support refers to the encouragement and assistance provided to adolescents, fostering a positive impact on both academic and personal development. In contrast, parental pressure often arises from high expectations for academic excellence and involvement in extracurricular activities. Research has shown that high levels of parental support are associated with reduced academic stress, as parental encouragement can foster resilience and enhance coping strategies (Majrika, 2018; Chen, 2018). Conversely, studies such as Deb, Strodl, and Sun (2015) have identified parental pressure as a significant source of academic stress for adolescents, particularly when parents impose their own aspirations or expectations for academic success on their children. The study found that approximately 66% of high school students cited parental expectations as a primary stressor. Similarly, Sangma et al. (2018) report that 86.5% of students felt the highest academic pressure from their parents, followed by pressure from teachers and peers, indicating that parental expectations are a key factor in shaping adolescent stress.

Significant disparities in educational resources between urban and rural schools in Indonesia further impact the academic experience and stress levels of students. According to Vito, Krisnani, and Resnawaty (2016), urban schools generally have better facilities, more qualified teachers, and greater accessibility to resources and information. In contrast, rural schools frequently face challenges such as insufficient infrastructure, limited teaching staff, and restricted access to information. Such disparities can exacerbate academic stress among rural students, who may face additional obstacles in meeting educational standards. Aryani (2016) notes that factors including school atmosphere, teaching methods, complex subject matter, and workload intensity are critical contributors to academic stress. These variations underscore the need for targeted interventions that address the specific stressors faced by students in different school environments.

Based on these insights, this study seeks to investigate the influence of parental roles and school climate on the academic stress of Madrasah Aliyah students in both rural and urban settings. By examining how factors such as parental support and pressure, as well as school climate, contribute to students' academic stress, this research aims to provide a comprehensive understanding of the unique challenges faced by Madrasah students and to identify potential strategies for mitigating stress in these educational settings.

METHODS

This study was an umbrella research project titled "Factors Affecting Adolescent Academic Stress." The research employed a cross-sectional study design and was conducted at Madrasah Aliyah schools in Bogor Regency and City. The selection of schools as research locations was purposive, utilizing data from the Department of Religion in Bogor Regency and City. Rumpin and Ciseeng sub-districts were chosen because both had lower average years of schooling than the Bogor Regency average of 7.94 years, with Rumpin at 7.76 years and Ciseeng at 7.73 years (Bappedalitbang, 2018). Meanwhile, West Bogor and East Bogor sub-districts were selected because they had the highest number of Madrasah Aliyah students compared to other sub-districts in Bogor City, with 1,458 and 1,294 students, respectively (BPS, 2018).

High schools and Madrasah Aliyah differ in curriculum, subjects, school days, and class hours. Madrasah Aliyah has more subjects, particularly in Islamic Religious Education (PAI), resulting in longer class hours, which may contribute to academic stress. This study was conducted at five schools, each representing a different sub-district: MA Mathlaul Anwar Barengkok, MA Mathlaul Anwar Cidokom, MA Al-Mukhlisin Ciseeng, MAN 1 Kota Bogor, and MAN 2 Kota Bogor. The study population comprised 11th-grade students, with 10th-grade students included in two schools in Rumpin. A purposive sample of 180 students (86 rural and 94 urban) was selected. Data collection took place from February to April 2019.

The data types collected in this study included both primary and secondary data. Primary data were gathered through self-reported questionnaires completed by the sample and guided by the researchers. The primary data collected through the questionnaires included sample characteristics (gender and birth order), family characteristics (parental education level and employment status), parental roles, school climate, and academic stress. Secondary data were obtained from documents and archives at the research locations, such as student profiles in each school.

The parental role variable in this study was measured using the Inventory of Parental Influence (IPI) instrument developed by Campbell (as cited in Westbrook, 2007), which consisted of three dimensions: support, pressure, and frequency. The questions were modified and grouped into two sections. The first section included questions on the dimensions of support and pressure, totaling 17 items, while the second section included 11 items on frequency. The response scale for the first section consisted of 4 options: 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree, with Cronbach's alpha values of 0.568 for support and 0.630 for pressure. The response scale for the frequency dimension consisted of 4 options: 1 = never, 2 = sometimes, 3 = often, and 4 = always, with a Cronbach's alpha value of 0.760.

This study measured the school climate variable using the Multicultural School Climate Inventory developed by Marx and Byrnes (2012). The school climate instrument consists of four dimensions: liking school, school success, educator-student relationship, and cultural relevancy, measured through 19 items. However, this study only utilized three dimensions, as the respondents' cultural backgrounds were not diverse, rendering the cultural relevancy dimension irrelevant. The excluded items were questions 15, 16, 17, 18, and 19. The response scale for this instrument consists of four levels: 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree, with a Cronbach's alpha value of 0.769.

The academic stress variable was measured using the Academic Stress Inventory developed by Lin & Chen (2009), modified by the researcher. It consists of 34 items on a Likert scale (1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree). The Cronbach's alpha value was 0.845.

Data processing and analysis were conducted using Microsoft Excel and the Statistical Package for Social Science (SPSS) for Windows. The data collected underwent editing, coding, entry, and scoring. The completeness of the responses in the collected questionnaires was verified. Respondent answers were entered and scored according to the response scale for each variable. Subsequently, the total scores for each variable were transformed into index scores. The data were analyzed using descriptive and inferential analyses. Descriptive analysis identified the characteristics of adolescents, family characteristics, parents' roles, school climate, and academic stress among adolescents in rural and urban areas. The data analysis for each variable was tailored to the research objectives, including correlation tests, regression tests, and difference tests. The Spearman correlation test determined the relationship between adolescent and family characteristics with parental roles, school climate, and academic stress. Regression analysis was employed to analyze the effects of adolescent characteristics, family characteristics, parental roles, and school climate on academic stress. The difference test, or t-test, identified differences in academic stress between rural and urban areas.

RESULT

Characteristics of Adolescents and Family

This study included 180 adolescents, comprising 94 from urban areas and 86 from rural areas. The adolescents' ages ranged from 15 to 20 years, with more than half (50.6%) being 17 years old, and the average age was 16.71 years. According to Desmita (2005), adolescence is divided into three stages based on age: early adolescence (12-15 years), middle adolescence (15-18 years), and late adolescence (18-21 years). Therefore, the participants in this study fell primarily within the middle adolescence stage. The findings showed no significant age difference between rural and urban adolescents, with the average age in both groups being approximately 16 years. Regarding gender, the study observed a higher number of female participants than male participants in both rural and urban settings.

In terms of birth order, participants were categorized as firstborn or non-firstborn. The non-firstborn category included adolescents who were the second child or beyond. The results indicated that the majority of participants in both rural (66.3%) and urban (56.4%) areas were non-firstborns, with firstborn adolescents constituting a higher proportion in urban areas (43.6%) compared to rural areas.

Parental age was classified according to Hurlock's (1980) stages of adulthood: early adulthood (18-40 years), middle adulthood (41-60 years), and late adulthood (over 60 years). Parental age varied slightly between rural and urban areas. In urban areas, the average age of fathers was 45.57 years, and that of mothers was 43.04 years. In rural areas, the average age of fathers was 45.70 years, and that of mothers was 40.49 years. Most fathers (74.5%) and mothers (51.1%) fell within the middle adulthood age range.

Parents' educational backgrounds ranged from no formal education to advanced degrees. The study found a notable difference in parental education levels between urban and rural areas, with parents in urban settings generally having higher levels of education. The highest percentage of both fathers and mothers in urban areas had completed high school, while in rural areas, the largest proportion of parents had completed elementary school.

Employment differences were observed between rural and urban areas, particularly among fathers. In rural areas, fathers primarily worked as laborers (48.8%), followed by entrepreneurs (34.9%), private employees (15.1%), and a small percentage as civil servants (1.2%). In contrast, fathers in urban areas had a more diverse range of occupations: 11.7% were laborers, 38.3% were entrepreneurs, 26.6% worked as private employees, 1.1% were police officers, and 20.2% were civil servants. Among mothers, the majority in both rural (72.1%) and urban (71.3%) areas were non-working, indicating that few were employed in formal sector jobs.

Parental Roles

In this study, the role of parents was comprehensively assessed through two main aspects: the attitudes displayed by parents and the frequency of parental behavior directed toward their children's academic and personal development. Parental attitudes were further explored through two specific dimensions: support and pressure. These dimensions reflect the degree of emotional and behavioral investment parents place on their children's education and well-being.

The analysis revealed that scores for parental attitudes ranged from 40 to 61, with an average index score of 66.82, indicating a generally supportive parental attitude across the sample. In contrast, the frequency of parental behavior ranged from 13 to 38, with an average index score of 34.65, suggesting variable levels of parental involvement. The data in Table 1 reveal a statistically significant difference in both support and frequency dimensions between rural and urban parents ($p < 0.05$). Specifically, urban parents demonstrate

higher levels of support than rural parents, likely reflecting differing values or resources available in urban versus rural settings. This significant difference in parental behavior frequency also suggests that urban parents tend to engage more consistently in their children's education, highlighting a potential disparity in parental concern for education across these demographic areas.

Moreover, the data show that more than half of the respondents, particularly 66.3% in rural areas and 53.2% in urban areas, experience moderate levels of parental support. This suggests that, while urban parents generally display higher engagement, both rural and urban families offer a foundational level of support. The pressure dimension, however, predominantly falls into the low category, with 88.4% of rural and 90.4% of urban respondents reporting minimal parental pressure. This low pressure indicates that parents in both settings generally prefer to provide encouragement rather than exerting high-pressure tactics.

The frequency dimension of parental behavior similarly falls into the low category, with 93% of rural and 93.6% of urban respondents reporting limited levels of parental interaction frequency. This low frequency of behavior may reflect a need for more regular and structured parental involvement, regardless of location, to enhance academic support and engagement for adolescents. Together, these findings underscore differences in parental roles between rural and urban environments while also pointing to areas where parental support might be strengthened to promote adolescent educational success and well-being (Table 1).

Table 1 Distribution, minimum value, maximum value, average, and standard deviation of parental roles dimensions by geographical location

Parental Roles	Rural Areas		Urban Areas		P-*Value*
	n	%	n	%	
Support					
Low (<60)	8	9.3	4	4.3	
Medium (60-<80)	57	66.3	50	53.2	
High (≥80)	21	24.4	40	42.6	
Min-Max	46-96		46-100		0.016**
Average+STD	75.0±10.024		78.86±10.258		
Pressure					
Low (<60)	80	93.0	86	91.5	
Medium (60-<80)	5	5.8	8	8.5	
High (≥80)	1	1.2	-	-	
Min-Max	11-89		4-74		0.189
Average+STD	43.41±12.788		40.86±13.131		
Frequency					
Low (<60)	80	93.0	88	93.6	
Medium (60-<80)	4	4.7	6	6.4	
High (≥80)	2	2.3	-	-	
Min-Max	6-82		6-67		0.071*
Average+STD	32.52±16.839		36±13.109		

Notes: * significant at $p<0.1$; ** significant at $p<0.05$; *** significant at $p<0.01$

School Climate

School climate is defined as the overall quality and character of the school environment, shaped by the experiences and interactions of all members of the school community. It reflects core values, interpersonal relationships, teaching and learning processes, and the organizational structure of the school. A positive school climate includes elements of social and emotional support, physical safety, and a nurturing atmosphere that fosters a sense of belonging. In this study, the school climate was assessed through three key dimensions: Liking School, School Success, and the Teacher-Student Relationship.

The school climate index scores ranged from 42 to 89, with an average score of 56.37, indicating a moderate overall climate within the sampled schools. Table 2 presents a notable difference in school climate between rural and urban areas, showing that the school environment in urban areas tends to be perceived as less favorable compared to rural areas. This distinction is particularly evident in the Teacher-Student Relationship dimension. Urban students reported lower satisfaction with this aspect, expressing that teachers seemed to have limited understanding of their individual needs and learning styles. This discrepancy suggests that the urban school climate may benefit from strategies focused on fostering more empathetic and individualized teacher-student connections.

Interestingly, among the three assessed dimensions, School Success did not show a significant difference between rural and urban areas, indicating a similar perception of academic achievement across both demographics. However, the differences in Liking School and Teacher-Student Relationships contribute to the overall perception of school climate disparity between rural and urban areas.

The data further indicate that the majority of respondents in both rural and urban settings experience a moderate level of school climate. Specifically, 56.4% of respondents in urban areas and 75.6% in rural areas fall within the moderate climate category. This suggests that while rural schools generally have a more positive school climate, both settings could potentially enhance certain aspects of their environment to foster a more supportive and engaging atmosphere for students. The findings highlight the importance of targeted interventions in urban schools to improve teacher-student relationships and support, creating a balanced and positive school climate conducive to student success.

Table 2 Distribution, minimum value, maximum value, average, and standard deviation of school climate dimensions by geographical location

School Climate	Rural Areas		Urban Areas		P-*Value*
	n	%	n	%	
Liking School					
Low (<60)	15	17.4	24	25.5	
Medium (60-<80)	58	67.4	62	66.0	
Good (≥80)	13	15.1	8	8.5	
Min-Max	46-94		44-94		0.020**
Average+STD	69.06±10.628		65.37±10.415		
School Success					
Low (<60)	13	15.1	17	18.1	
Medium (60-<80)	51	59.3	49	52.1	
Good (≥80)	22	25.6	28	25.8	
Min-Max	50-100		42-100		0.859
Average+STD	72.48±10.700		72.16±13.022		
Teacher-Student Relationship					
Low (<60)	17	19.8	51	54.3	
Medium (60-<80)	53	51.6	36	38.3	
Good (≥80)	16	18,6	7	7,4	0,000***
Min-Max	42-100		17-100		
Average+STD	70,45±11,899		61,08±14,531		

Notes: *significant at p<0,1; **significant at p<0,05; ***significant at p<0,01

Academic Stress

Academic stress is defined as an individual's reaction to demands perceived as harmful or challenging, leading to various physical, emotional, and behavioral responses (Lazarus & Folkman in Barseli, Ahmad, & Ifdil, 2018). In this study, academic stress among adolescents was measured, yielding stress scores ranging from 33 to 84, with an average academic stress index of 57.65. The academic stress construct was divided into seven causative dimensions: teacher factors, exam results, exam pressures, group study, peer influences, time management, and self-imposed pressure.

The findings indicate a significant difference in overall academic stress levels between rural and urban students. Table 3 highlights that four out of the seven dimensions—teacher factors, peer factors, time management, and self-pressure—demonstrate significant differences between these two settings, suggesting distinct sources of stress experienced by urban and rural students.

The teacher-related stress dimension reveals that urban students feel overwhelmed by the volume, complexity, and strict requirements of assignments. They report that the teaching material is often challenging to comprehend, likely due to high expectations and intense academic rigor in urban schools. The peer factor dimension similarly shows that urban students experience higher stress levels from competition among classmates and disruptions in class due to peer behavior, which can hinder effective learning. This high-intensity environment contributes to a sense of heightened competition and pressure among urban students, impacting their focus and classroom experience.

Exam-related stress is another prominent source for urban students. The distribution of responses indicates that urban students frequently feel anxiety surrounding exams, often staying up late the night before exams due to study pressure. Additionally, these students harbor a distinct fear of having to take remedial exams, which adds to their stress.

The time management dimension highlights further challenges for urban students. Balancing academic demands with extracurricular and organizational activities proves to be a source of stress, as urban students struggle to allocate sufficient time for academic work, social engagements, and extracurricular responsibilities. These competing demands make it difficult for them to manage their time effectively, contributing to a sense of being overwhelmed.

Finally, the self-pressure dimension sheds light on urban students' internalized stress. Many urban students report feeling significant pressure due to the sheer number of subjects they are required to study. Additionally, they rate more subjects as uninteresting or disengaging, leading to reduced motivation and increased stress as they strive to meet academic requirements despite a lack of interest.

These findings underline the need for tailored interventions in urban school environments to address these stress factors. Efforts to simplify assignments, improve classroom dynamics, and support students in balancing academic and personal responsibilities may be beneficial. Addressing the pressures of excessive subject loads and providing stress management resources could further support urban adolescents in navigating their academic challenges.

Table 3 Distribution, minimum value, maximum value, average, and standard deviation of academic stress dimensions by geographical location

Academic Stress	Rural Areas		Urban Areas		P-*Value*
	n	%	n	%	
Teacher Factors					
Low (<60)	67	77.9	53	56,4	
Medium (60-<80)	17	19.5	37	39,4	0.000***
High (≥80)	2	2.3	4	4,3	
Min-Max	26-85		22-89		
Average+STD	52.98±11.996		59.57±11.746		
Exam Results Factors					
Low (<60)	68	79.1	65	69,1	
Medium (60-<80)	15	17.4	27	28,7	0.187
High (≥80)	3	3.5	2	2,1	
Min-Max	20-107		20-93		
Average+STD	52.33±14.299		55.18±14.547		
Exam Factors					
Low (<60)	62	72.1	63	67,0	
Medium (60-<80)	19	22.1	20	21,3	0.320
High (≥80)	5	5.8	11	11,7	
Min-Max	0-100		17-100		
Average+STD	53.49±16.689		56.03±17.429		
Group Study Factors					
Low (<60)	45	52.3	72	76,6	
Medium (60-<80)	38	44.2	20	21,3	0.797
High (≥80)	3	3.5	2	2,1	
Min-Max	7-100		0-87		
Average+STD	55.50±17.125		54.82±18.216		
Peer Factors					
Low (<60)	30	34.9	22	23,4	
Medium (60-<80)	41	47.7	39	41,5	
High (≥80)	15	17.4	33	35,1	0.010**
Min-Max	33-100		33-100		
Average+STD	67.34±16.430		73.74±16.394		
Time Management Factors					
Low (<60)	60	69.8	49	52,1	
Medium (60-<80)	21	24.4	35	37,2	
High (≥80)	5	5.8	10	10,6	0.075*
Min-Max	33-100		11-100		
Average+STD	55.30±15.050		59.53±19.226		
Self-Pressure Factors					
Low (<60)	69	80.2	44	46,8	0.000***

Table 3 Distribution, minimum value, maximum value, average, and standard deviation of academic stress dimensions by geographical location (continue)

Academic Stress	Rural Areas		Urban Areas		P-*Value*
	n	%	n	%	
Medium (60-<80)	12	14.0	31	33,0	
High (≥80)	5	5.8	19	20,2	
Min-Max	17-92		0-100		
Average+STD	52.03±16.064		63.65±19.317		
Academic Stress (Total)					
Low (<60)	64	74.4	50	53,2	
Medium (60-<80)	20	23.3	41	43,6	
High (≥80)	2	2.3	3	3,2	0.001***
Min-Max	36-84		33-84		
Average+STD	55.15±10.280		60.11±10.263		

Notes: * significant at p<0,1; ** significant at p<0,05; *** significant at p<0,01

The Relationship Between Adolescent Characteristics, Family Characteristics, Parental Roles, School Climate, and Academic Stress

The results of the relationship test (Table 4) reveal that, overall, gender does not have a significant relationship with the parental role. However, gender shows a significant negative relationship with school climate ($r = -0.144$; $p < 0.1$), indicating that male students tend to perceive their school environment more positively than female students. Birth order also does not show a significant relationship with variables related to parental support, pressure, behavior frequency, school climate, or academic stress.

Among family characteristics, one significant relationship was observed with the mother's education level, which is positively associated with the frequency of parental behavior. This suggests that mothers with higher education levels interact more frequently with their children, potentially reflecting their awareness and commitment to being involved in their children's academic and personal lives.

A key finding of this study is the positive and significant relationship between gender and academic stress ($r = 0.248$; $p < 0.01$), indicating that female students are more likely to experience academic stress than male students. Additionally, the mother's education level is positively and significantly related to academic stress, suggesting that as mothers attain higher levels of education, there is an increase in pressure on their children to excel academically. This dynamic likely creates heightened expectations, as students may feel compelled to meet or exceed the educational achievements of their parents, contributing to their academic stress.

Further, specific dimensions within the parental role, such as support ($r = 0.174$; $p < 0.1$) and pressure ($r = 0.282$; $p < 0.01$), exhibit positive and significant relationships with academic stress. This indicates that increased parental support and pressure are both associated with higher levels of academic stress in students. While parental support is generally intended to encourage students, excessive support or overly high expectations may unintentionally add pressure, especially when combined with explicit parental pressure to succeed academically.

These findings emphasize the complex interplay between family characteristics, parental roles, and academic stress, highlighting areas where parental engagement might need balancing to mitigate unintended stress. Recognizing these factors can aid in developing strategies to support students' well-being, particularly for female students and those from families with high academic expectations.

Table 4 The correlation coefficients between adolescent characteristics, family characteristics, parental roles, school climate, and academic stress

Variable	Support	Pressure	Frequency	School Climate	Academic Stress
Geographical Location (0=rural; 1=urban)	0.189**	-0.112	0.159**	-0.310***	0.268***
Gender (0=male; 1=female)	-0.066	0.041	-0.030	-0.144*	0.248***
Birth Order (0=not first child; 1= first child)	0.030	-0.123	0.069	-0.131*	0.042
Mother's Education (year)	0.084	0.028	0.150**	-0.271***	0.287***

Table 4 The correlation coefficients between adolescent characteristics, family characteristics, parental roles, school climate, and academic stress (continue)

Variable	Support	Pressure	Frequency	School Climate	Academic Stress
Mother's Occupation (0=not working; 1=working)	-0.057	0.023	0.059	-0.015	-0.011
Support (indeks)	1	0.013	0.484***	0.***	0.174*
Pressure (indeks)	0.013	1	0.182**	0.155**	0.282***
Frequency (indeks)	0.484***	0.182**	1	0.396***	0.077
Iklim Sekolah (indeks)	0.345***	0.155**	0.396***	1	-0.157**

Notes: * significant at $p<0.1$; ** significant at $p<0.05$; *** significant at $p<0.01$

The Influence of Adolescent Characteristics, Family Characteristics, Parental Roles, and School Climate on Academic Stress

The model employed to assess the influence of adolescent characteristics (gender, birth order), family characteristics (mother's education level), parental roles, and school climate on academic stress among Madrasah Aliyah students in both rural and urban settings yields an adjusted R-squared (Adjusted R^2) value of 0.204 (Table 5). This result suggests that 20.4% of the variance in academic stress among these students can be explained by the variables included in this study, while the remaining 79.6% is attributed to other factors not examined here.

According to the regression analysis results (Table 5), gender is a significant predictor of academic stress, with female students experiencing higher levels of academic stress than male students. The support dimension of the parental role also has a significant positive effect on academic stress, indicating that an increase in perceived parental support correlates with heightened academic stress levels. This outcome suggests that while support from parents is generally intended as encouragement, it may inadvertently increase pressure on students to meet expectations. Similarly, the pressure dimension within the parental role exerts a significant positive impact on academic stress, showing that increased parental pressure directly correlates with higher academic stress levels among students.

Conversely, other adolescent characteristics, such as birth order, show no significant impact on academic stress. Additionally, family characteristics such as the mother's education level and employment status do not exhibit a significant relationship with academic stress. Furthermore, the frequency dimension of the parental role and the school climate variable also do not significantly influence academic stress levels.

Table 5 The regression test coefficients of adolescent characteristics, family characteristics, parental roles, and school climate on academic stress

Variable	Academic Stress		
	B	β	Sig
Constanta	35.974		0.000
Geographical Location (0=rural; 1=urban)	2.947	0.141	0.122
Gender (0=male; 1=female)	4.897	0.227	**0.001*** **
Birth Order (0=not first child; 1= first child)	1.062	0.050	0.480
Mother's Education (year)	0.321	0.126	0.170
Mother's Occupation (0=not working; 1=working)	-0.365	-0.016	0.815
Support (indeks)	0.206	0.170	**0.039** **
Pressure (indeks)	0.266	0.306	**0.000*** **
Frequency (indeks)	-0.059	-0.086	0.315
Iklim Sekolah (indeks)	-0.039	-0.036	0.667
Adj R^2		0.204	
F		6.108	
Sig		0.000	

Notes: * significant at $p<0.1$; ** significant at $p<0.05$; *** significant at $p<0.01$

DISCUSSION

In today's competitive world, adolescents face mounting life pressures, with academic stress representing a significant source of these challenges (Sonali, 2016a). School-related demands, such as numerous assignments, active participation requirements in classroom activities, and exams, are common stressors for high school students (Safiany & Maryatmi, 2018). Lin and Chen (2009) categorize academic stress into seven dimensions based on its sources: teacher influence, test results, exams, group study, peer dynamics, time management, and self-imposed pressure.

This study explores academic stress levels among Madrasah Aliyah students in rural and urban areas, revealing significant differences between the two. Specifically, stress dimensions related to teacher influence, peer dynamics, time management, and self-imposed pressure are notably higher among urban students. The teacher factor, for instance, ranks higher in urban areas, largely due to less favorable teacher-student relationships and teaching methods that are misaligned with students' learning styles. Analysis of response distributions indicates that urban students find tasks more challenging due to stringent assignment requirements, heavy workloads, and difficulty understanding materials, which aligns with Aryani's (2016) findings on how school atmosphere, teaching methods, and complex materials can lead to student stress.

The peer factor dimension in urban areas also scores higher, as urban Madrasah Aliyah students frequently report being disturbed by noisy classrooms and facing intense academic competition. This competition often leads to increased worry about meeting performance standards and keeping up with peers. In the time management dimension, urban students struggle to balance academics with organizational and social activities, with many acknowledging that these extracurricular commitments impact their study habits. Similarly, in the self-pressure dimension, urban students experience heightened stress from unmet academic expectations, lack of interest in certain subjects, and difficulty achieving desired academic outcomes upon entering Madrasah Aliyah. These findings are consistent with Huli's (2014) research, which identified family dynamics, peer pressure, academic difficulty, and time management as contributors to academic stress. Additionally, Khoirini and Mundzir (2023) noted that high parental expectations for academic achievement and participation in school organizations can lead to heightened academic anxiety.

Overall, more than half of the academic stress dimensions indicate that urban Madrasah Aliyah students experience higher academic stress levels than their rural counterparts. This observation is supported by Dey et al. (2014), who reported that urban adolescents face increased pressure from parental expectations, competitive school settings, and the drive to achieve high exam scores.

Gender is found to have a significant effect on academic stress, with female students experiencing higher stress levels than male students. This finding aligns with Shofiyah and Chamid (2022), who observed that female students are 3.364 times more likely to experience moderate to severe stress than males. Dey et al. (2014) similarly noted that female adolescents tend to report higher academic stress levels due to lower self-confidence, self-image issues, and a tendency to internalize emotions, leading to feelings of stress, anger, depression, and anxiety.

Additionally, maternal education level is positively correlated with academic stress, indicating that students with highly educated mothers may feel more pressure to achieve academically. This dynamic could stem from expectations to meet or exceed their parents' educational achievements, thus increasing academic stress. Although maternal employment status, included in the model, does not have a significant effect, the influence is negative, implying that students with non-working mothers might experience slightly higher stress levels. Sonali (2016b) supports this finding, stating that adolescents with lower socioeconomic backgrounds experience more academic stress than those from higher socioeconomic backgrounds.

Parental role, encompassing support, pressure, and behavior frequency, varies significantly between rural and urban areas. The support dimension is positively associated with urban settings, as urban parents often provide more support due to better access to quality educational resources like schools, libraries, and tutors. Aristo (2019) emphasizes that geographical barriers and infrastructure issues limit rural parents' ability to support their children's education effectively. Urban parents also tend to have higher incomes and a greater awareness of educational value, leading to more investment in their children's academic success. Manoppo and Bolung (2019) further explain that high-income parents can often afford various developmental opportunities and quality learning facilities for their children, optimizing their educational experiences.

Support from parents also correlates positively with school climate, suggesting that higher levels of parental support contribute to a better school climate. Ellis, Korlefura, and Nikma (2024) found that parents who actively participate in school activities create a more comfortable school environment that fosters student well-being.

The school climate, measured through liking school, school success, and teacher-student relationships, shows significant differences between rural and urban areas. In rural settings, the "liking school" and "teacher-student relationship" dimensions score higher, as rural students perceive their school environment more positively. This positive perception may stem from rural cultural values that emphasize a supportive learning environment and greater parental involvement in education (Munawir, 2019). School climate also relates significantly to gender, with male students reporting a more positive perception of the school environment. Additionally, a high level of parental involvement positively impacts school climate, creating a more conducive environment for learning.

The regression analysis results demonstrate that gender, parental support, and parental pressure significantly influence academic stress. Specifically, female students experience higher academic stress, while parental support and pressure also correlate positively with stress levels. These findings align with Deb et al. (2015), who found that parental pressure to achieve academically heightens students' stress.

In this study, school climate does not significantly impact academic stress, a result supported by Liu and Lu (2012), who argued that school climate's effect on stress depends largely on students' perceptions. This suggests that other variables, such as socioeconomic background (Palangda et al., 2022), residential environment (Marisa & Afriyeni, 2019), peer attachment (Aulya et al., 2022), and extracurricular involvement (Mundzir & Khoirini, 2023), may play a more prominent role in determining academic stress. Internal factors, including self-efficacy (Sagita et al., 2017), hardiness (Kamtsios & Karagiannopoulou, 2015), optimism, resilience (Mathur & Sharma, 2015), and achievement motivation (Mulya & Indrawati, 2016), also contribute to stress levels.

One limitation of this study is the shift in sampling method from probability sampling to non-probability sampling due to logistical issues and the availability of schools willing to participate. This study also faced limitations in its instruments; the measure of parental roles was insufficiently tailored to capture parental involvement specifically in the educational context, highlighting the need for future adjustments to better assess this variable.

CONCLUSION AND SUGGESTION

Adolescents in this study were in mid-adolescence. Generally, the age of the parents of adolescents in both rural and urban areas fell into the middle adulthood stage. The number of female students was higher than that of male students in rural and urban areas. The average length of parental education was higher in urban areas than rural areas. Parents in urban areas predominantly completed high school, while parents in rural areas mostly only completed elementary school. Academic stress differed significantly between rural and urban areas, with academic stress being higher in urban areas. The variable of parental role also showed significant differences between rural and urban areas, with parents in urban areas having a higher role than those in rural areas. School climate differed significantly between rural and urban areas, with the school climate being better in urban areas compared to rural areas.

The results of the relationship test showed that gender had a significant positive relationship with academic stress, with female adolescents experiencing higher levels of academic stress compared to males. Birth order did not have a significant relationship or influence on academic stress in this study. The study also found a significant positive relationship between the length of maternal education and academic stress. Gender had a significant positive influence on academic stress. The dimensions of parental support and pressure significantly positively influenced academic stress. In contrast, the dimensions of frequency and school climate variables did not show an influence on academic stress in this study.

This study found that the role of parents in rural areas was lower compared to urban areas. Besides improving academic achievement, a higher parental role can also reduce academic stress. Therefore, parents in rural areas need to enhance their role, especially in the academic field, by providing positive support to encourage their children to study harder, reducing pressure on their children, and increasing the frequency of interactions with them. School climate generally showed significant differences in almost all dimensions, indicating that improvements are needed in the school climate to better support students' success. One of the improvements could be in the relationship between teachers and students. Local government participation is expected in building schools and creating a conducive school climate to achieve better education. Future research is recommended to explore other variables that may influence academic stress in Madrasah Aliyah, such as students' internal factors like emotional and motivational factors. Future studies are also suggested to use probability sampling techniques and select schools with similar criteria between rural and urban areas.

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