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Causes and Consequences of Tardiness among Secondary School Students in Mogadishu, Somalia

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Abstract

Tardiness among secondary school students remains a persistent challenge affecting instructional time, academic performance, and school discipline, particularly in post-conflict and urban educational contexts. This study examined the causes and consequences of tardiness among secondary school students in Mogadishu, Somalia, with a primary analytical focus on the perceived effect of tardiness on academic performance. Guided by Bronfenbrenner's Ecological Systems Theory and the Time Management Theory, the study adopted a positivist descriptive survey design. Quantitative data were collected from 101 students across selected public and private secondary schools using a structured questionnaire administered via Google Forms. Descriptive statistics, Spearman correlation analysis, chi-square tests of independence, binary logistic regression, and OLS multiple regression were employed. Findings revealed that late sleeping was the leading cause of tardiness (44.9%), followed equally by lack of time management (23.9%), family responsibility (17.2%) and poor transportation infrastructure (13.9%). Over 22.7% of students had experienced tardiness at least occasionally. Regarding academic consequences, 82.7% of students believed tardiness negatively affected their academic performance. The primary logistic regression model identified sleep hours (B=-1.065, p=0.049) and late sleeping as a primary tardiness reason (B=-2.619, p=0.034) as significant predictors of perceived academic effect. The study concludes that the academic consequences of tardiness in Mogadishu are meaningfully shaped by students' sleep patterns and lack of time management that drive their lateness. Targeted interventions addressing sleep health and time management factors are recommended alongside structural improvements to transportation infrastructure.

Keywords: Tardiness, Academic Performance, School Discipline, Secondary School Students, Mogadishu, Somalia, Post-Conflict Education

Introduction

Punctuality is widely recognized as a fundamental component of effective schooling. The ability of students to arrive at school on time determines the extent to which they access full instructional time, engage in structured learning activities, and internalize discipline as a life skill (Kadzamira & Rose, 2019; Epstein & Sheldon, 2002). Tardiness — defined as the habitual or frequent late arrival of students at school or at the commencement of lessons — disrupts classroom routines, reduces available instructional time, and imposes management burdens on teachers (Reid, 2020; Olaleye, 2011). At the secondary school level, where curriculum demands are intensive and time-sensitive, the cumulative effect of tardiness on academic attainment can be particularly severe (Balfanz & Byrnes, 2012; Gottfried, 2014).

Globally, tardiness has been identified as a complex behavioral phenomenon shaped by the intersection of individual, family, school, and community-level factors (Bronfenbrenner, 1979; Romero & Lee, 2007). In high-income countries, researchers have linked student lateness to inadequate sleep, poor time management, long commute distances, and disengagement from school (Wolfson & Carskadon, 2018; Hinton & Fahey, 2019). In sub-Saharan Africa, these challenges are compounded by structural barriers including unreliable public transportation, household poverty, gendered domestic responsibilities, and weak institutional enforcement mechanisms (UNESCO, 2021; Abdi & Yusuf, 2020; Mwamwenda, 2014).Somalia presents a particularly complex educational context. Following decades of civil conflict that devastated public institutions, the country's education system has been gradually reconstructed since the early 2000s, with Mogadishu serving as the primary urban center of this recovery (UNICEF, 2022; Harper, 2012). Despite significant improvements in school enrollment and teacher training, secondary schools in Mogadishu continue to grapple with challenges of student discipline, attendance, and punctuality (MoECHE, 2020). Tardiness has emerged as a recurrent concern reported by school administrators, yet it has attracted limited systematic empirical attention within the Somali educational literature.

The academic consequences of tardiness are of particular concern. Research consistently demonstrates that late arrival reduces students' exposure to critical instructional content, impairs their ability to participate in early classroom activities, and, over time, produces measurable declines in academic achievement (UNESCO, 2021; Balfanz & Byrnes, 2012; Gottfried, 2014). In post-conflict educational settings like Mogadishu, where resources for remedial support are limited, these academic consequences may be especially difficult to recover from (MoECHE, 2020; Dryden-Peterson, 2017). Understanding which factors most strongly predict the academic impact of tardiness is therefore essential for designing effective, targeted interventions.

Given this context, the present study examines the causes, frequency, and consequences of tardiness among secondary school students in Mogadishu, Somalia, with a primary analytical focus on the perceived effect of tardiness on academic performance. Drawing on survey data from 101 students, the study employs Spearman correlation analysis, chi-square tests, binary logistic regression, and OLS multiple regression to identify the key predictors of academic impact and tardiness frequency.

Problem Statement

Despite the critical importance of punctuality to educational quality, tardiness remains a poorly documented challenge in Mogadishu's secondary schools. While school administrators and teachers frequently report tardiness as a discipline and academic concern, no published empirical study has quantified its prevalence, mapped its causes, or modeled its academic consequences in the Somali secondary school context. This absence of evidence represents a significant gap in the literature on education in fragile and post-conflict states (Bush & Saltarelli, 2000; Smith, 2010).

In Mogadishu, secondary schools operate within a challenging environment characterized by urban congestion, transportation deficits, household economic pressures, and intermittent security concerns (Harper, 2012; MoECHE, 2020). Many students travel considerable distances in the absence of reliable public transport, while others balance academic attendance against domestic obligations that are particularly pronounced in lower-income households. These structural conditions predispose students to lateness. However, the specific pathways through which tardiness translates into academic disadvantage — and which causal factors most strongly mediate this relationship — remain empirically unexplored in the Somali context. Empirical evidence from comparable African contexts suggests that chronic tardiness is associated with poor academic performance, reduced motivation, and strained teacher–student relationships (Kadzamira & Rose, 2019; Mwamwenda, 2014; Epstein & Sheldon, 2002). Without similar evidence from Mogadishu, policymakers and school administrators cannot design evidence-based interventions. This study directly addresses that gap, providing the first known quantitative examination of tardiness and its academic consequences among secondary school students in Mogadishu, Somalia.

Research Questions

The study was guided by the following research questions:

1. To what extent do transportation challenges, family responsibilities, and time management deficiencies contribute to tardiness among secondary school students in Mogadishu, Somalia?
2. How frequently do secondary school students in Mogadishu arrive late to school, and what contextual factors are associated with their tardiness?
3. What are the academic, behavioral, and relational consequences of tardiness among secondary school students in Mogadishu, and which factors significantly predict the perceived effect of tardiness on academic performance?

Literature Review

Causes of Student Tardiness

The causes of student tardiness are multidimensional, spanning individual, family, school, and community levels. At the individual level, poor time management is widely identified as a significant predictor of chronic lateness (Britton & Tesser, 1991; Macan et al., 1990). Students without morning routines and students without effective schedule planning abilities show higher risk for delays which persists under all weather conditions. The study by Wolfson and Carskadon (2018) showed that sleep deprivation in adolescents leads to delayed morning alertness which results in higher chances of late school arrival. The combination of sleep deprivation and academic demands creates most severe academic challenges for students who attend urban schools which enforce early morning start times.At the family level, household responsibilities and parental supervision emerge as critical mediating factors. Research by Kadzamira and Rose (2019) demonstrated that students from households with limited parental supervision showed higher rates of arriving late to school. In African households with low incomes, girls face domestic obligations which require them to cook and care for siblings and bring water to school before classes start, thus impacting their ability to arrive on time (Unterhalter, 2005; Lewin, 2009; Abdi & Yusuf, 2020). The study by Colpin et al. (1999) revealed that single-parent households lead to increased student tardiness because parents cannot supervise their children who need to leave for school during morning hours.At the structural level, transportation infrastructure plays a decisive role. Urban student lateness was most affected by two factors which Reid identified as long commuting distances and unreliable transport systems. Romero and Lee (2007) found that low-income students who lived far from their schools experienced higher rates of tardiness because public transit systems did not adequately meet their needs. In Mogadishu, where formal public transport networks remain underdeveloped following decades of conflict, transportation barriers are expected to be particularly pronounced for students in peripheral neighborhoods (Harper, 2012; UNICEF, 2022).

Tardiness and Academic Performance: The academic consequences of tardiness are among its most extensively documented effects. Tardiness directly reduces students' exposure to instructional content, particularly material introduced at the beginning of lessons (UNESCO, 2021; Gottfried, 2014). Balfanz and Byrnes (2012) demonstrated that students who miss as

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little as 10% of school time show measurable declines in academic achievement by the end of the year. In contexts where remedial support is limited, as in many Somali secondary schools, these early instructional gaps compound over time and become increasingly difficult to recover (MoECHE, 2020). Various researchers have conducted studies to investigate how students perceive the effects of arriving late on their academic performance. The research conducted by Gottfried in 2014 discovered that students who arrived late to class showed a complete match between their academic performance assessments and their actual academic achievements, which proved that self-reported academic assessments could serve as an effective method to measure educational results. The research conducted by Corville-Smith et al. in 1998 demonstrated that students who arrived late to class understood how their tardiness would result in permanent loss of learning time, which they recognized created greater pressure for them to succeed in their studies. The research results demonstrate that perceived academic effects function as a valid outcome measure which researchers can use to study the academic consequences of student tardiness. Research studies have discovered multiple factors which change how student tardiness affects their academic performance. The academic impact of lateness increases because sleep deprivation causes students to lose cognitive abilities and memory skills which prevent them from learning during class time (Carskadon 2011 Wahlstrom 2002). Family-driven tardiness — rooted in domestic obligations rather than personal disengagement may carry different academic implications than voluntary lateness, as students who are late due to household duties may be more academically motivated and thus more likely to self-report awareness of academic impact (Unterhalter 2005 Kadzamira Rose 2019).

Other Consequences of Tardiness: Beyond academic performance, tardiness produces behavioral and relational consequences. Behaviorally, chronic tardiness has been linked to a cascade of secondary effects including school avoidance, disengagement, and ultimately dropout (Balfanz & Byrnes, 2012; Corville-Smith et al., 1998). The mechanism is one of progressive disengagement: as late students miss key instructional sequences and face disciplinary consequences, their sense of school belonging and academic self-efficacy erodes, making further absences more likely (Gottfried, 2014).

Schools utilize gate-closure and lesson exclusion as disciplinary measures for tardiness which they treat as their institutional response to student behavior (Olaleye, 2011; Reid, 2020). The research demonstrates that these punitive methods actually create the opposite effect because they transform all instances of late arrival into complete day absences which results in greater educational loss (Skiba & Rausch, 2006; Gregory et al., 2010). The research by Corville-Smith et al. (1998) showed that teachers set lower academic standards for students who frequently arrived late which established a cycle where students received less assistance and achieved lower academic results. The institutional culture of post-conflict African school settings which display greater teacher-student relationship warmth creates a situation where these relational effects can show partial moderation effects (Dryden-Peterson, 2017).

Theoretical Framework: This study is anchored in two complementary theoretical frameworks. Bronfenbrenner's Ecological Systems Theory (1979) conceptualizes student behavior as the product of interactions between nested environmental systems: the microsystem (family and school), the mesosystem (family–school relationships), the exosystem (community structures such as transport infrastructure), and the macrosystem (cultural norms and policy environments). Applied to tardiness and its academic consequences, this framework shows how various factors from different levels of parental supervision and transport infrastructure and post-conflict educational recovery programs combine to create both the frequency and effects of tardiness. The theory resists single-cause explanations, directing attention instead toward multi-level, systemic understanding that is particularly appropriate for Mogadishu's complex educational environment.

The Time Management Theory together with its extension by Macan et al. (1990) functions as an individual-level framework which helps to understand time management. The theory states that individuals achieve successful time management through their practice of setting goals and making plans and deciding which tasks to complete first and checking their progress throughout the day. Students who possess better time management abilities can use self-directed learning to make up for lost time which helps them decrease the academic effects of arriving late to class. Students whose household responsibilities cause their tardiness will experience more academic disruption because their family obligations create unpredictable situations which obstruct their ability to plan make-up work. The two theories together explain how tardiness leads to academic consequences because structural factors create pathways which students choose to use for their academic progress.

Method

Research Design: The study adopted a positivist philosophical paradigm and employed a descriptive survey research design. Positivism maintains that social phenomena can be tested through objective measurement methods which produce general knowledge from observed data patterns (Creswell & Creswell, 2018). The researchers selected descriptive survey design because it permits them to collect data systematically while they analyze the various traits and actions and public attitudes of their research group. The research design enables researchers to determine how often students arrive late to school while they examine relationships between different causes and students' academic performance through correlation and regression tests.

Population and Sampling: The target population comprised secondary school students enrolled in public and private secondary schools in Mogadishu, Somalia. A sample of 301 students participated in the study, drawn across Forms II, III, and IV. Convenience sampling was employed given the operational constraints of data collection in Mogadishu's post-conflict urban environment (Etikan et al., 2016). The online administration of the questionnaire via Google Forms enabled broad reach across school types while minimizing fieldwork risks. Although convenience sampling limits strict generalizability, the sample size of 301 provides adequate power for the descriptive, correlational, and regression analyses undertaken (Field, 2018).

Data Collection Instrument: Researcher conducted data collection through a structured questionnaire which contained 14 items that were divided into four thematic sections. The first section collected demographic and background information which included the respondents' sex, their class or grade, and their type of school. The second section investigated contextual and causal factors which included home distance, sleep hours, traffic jam frequency, and the primary self-reported reason for tardiness. The third section measured the frequency of arriving late. The fourth section assessed the consequences of tardiness which included the primary outcome variable that showed perceived effect on academic performance together with teacher–student relationship quality and institutional disciplinary responses and school skipping behavior and coping behavior at gate closure. The study used two different response formats which included categorical and ordinal response formats. The study administered the questionnaire through Google Forms between November and December 2025 which resulted in 301 completed responses.

Data Analysis: Data were exported from Google Forms in Excel format and analyzed using Python (version 3.11) with the pandas, scipy, and statsmodels libraries. The following analytical procedures were employed, organized around the primary and secondary research objectives: (1) descriptive statistics — frequencies, percentages, means, and standard deviations — to characterize the sample and all study variables; (2) Spearman rank-order correlation analysis to examine bivariate associations between all key variables and the primary dependent variable (perceived academic effect), given that the ordinal data did not meet normality assumptions required for parametric correlation (Field, 2018); (3) chi-square tests of independence to assess associations between categorical variables; (4) binary logistic regression as the primary inferential model, estimating the likelihood that a student perceives tardiness as negatively affecting their academic performance given a set of individual, behavioral, and contextual predictors; and (5) OLS multiple regression as a secondary model, identifying predictors of tardiness frequency to contextualize the causal landscape. A significance threshold of $\alpha = 0.05$ was applied across all inferential tests.

Ethical Considerations: Participation was entirely voluntary. The online questionnaire format ensured respondent anonymity, as no personally identifying information was collected. Informed consent was obtained implicitly through voluntary completion of the instrument, in line with established protocols for anonymous online survey research (BERA, 2018). All data were stored securely and used exclusively for academic research purposes.

Findings

Demographic Information: The demographic profile of the 301 respondents is summarized in Tables 1 through 3.

Table 1: Distribution of Respondents by Sex

Sex	Frequency	Percentage
Female	164	54.5%
Male	126	42%
No Response	11	-
Total (valid)	290	100%

Note. Percentages computed from 290 valid responses. 11 respondents did not indicate sex.

Table 1 shows that of the 290 respondents who indicated their sex, 54.5% were female and 42% male — a relatively balanced distribution with a slight female majority, consistent with urban enrollment trends in Mogadishu's secondary schools (MoECHE, 2020).

Table 2: Distribution of Respondents by Class/Grade

Class/Grade	Frequency	Percentage
Form II	71	24%
Form III	92	32%
Form IV	128	44%
No Response	10	-
Total (valid)	291	100%

Note. Percentages computed from 291 valid responses. Form I was not represented.

Form IV students constituted the largest group (44%), followed by Form III (32%) and Form II (24%). The concentration of senior students reflects the study's focus on learners with sufficient school experience to report meaningfully on tardiness patterns and their academic consequences.

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Table 3: Distribution of Respondents by Type of School

Type of School	Frequency	Percentage
Public	127	44%
Private	162	56%
No Response	12	-
Total (valid)	289	100%

Note. Percentages computed from 289 valid responses.

A majority of respondents (56%) attended Private schools and 44% public schools, reflecting the dominant role of private secondary institutions in Mogadishu's secondary education landscape (UNICEF, 2022).

Research Question 1: Causes of Tardiness

Table 5: Distance from Home to School

Distance from Home	Frequency	Percentage
Less than 1 Kilometer	134	46%
1–2 Kilometers	99	34%
More than 2 Kilometers	58	20%
No Response	10	---
Total (Valid)	291	100%

Note. Percentages computed from 291 valid responses.

Table 5 reveals that 20% of students lived more than two kilometers from school, while 46% lived less than one kilometer away. The notable proportion of students living far from school is consistent with structural transportation barriers documented in Mogadishu's urban geography (Harper, 2012; Reid, 2020).

Table 6: Hours of Sleep on School Nights

Hours of Sleep	Frequency	Percentage
Less than 4 Hours	128	43%
5–6 Hours	152	52%
More than 8 Hours	15	5%
No Response	6	---
Total	295	100%

Note. Percentages computed from 295 valid responses.

The majority of students (52%) slept 5–6 hours on school nights well below the 8–10 hours recommended for adolescents (Carskadon, 2011). This pattern of widespread sleep insufficiency is a significant contextual finding given that sleep hours emerged as a significant predictor of perceived academic effect in the logistic regression model, discussed below.

Table 7: Frequency of Struggling with Traffic Jams

Traffic Frequency	Frequency	Percentage
Never	182	61.6%
Rarely	31	10.5%
Sometimes	67	22.7%
Always	15	5.8%
No Response	6	
Total	295	100%

Note. Percentages computed from 295 valid responses.

Table 7 shows that a cumulative 22.7% of students experienced traffic-related delays at least sometimes. This is consistent with findings by Romero and Lee (2007) and Reid (2020), who identified traffic congestion as a structural predictor of urban school tardiness, particularly among students living farther from school.

Table 8: Primary Self-Reported Reason for Tardiness

Reason for Tardiness	Frequency	Percentage
Family Responsibility	51	17.2%
Lack of Time Management	71	23.9%
Poor Transportation Infrastructure	41	13.9%
Late Sleeping	133	44.9%
No Response	5	---
Total	296	100%

Note. Percentages computed from 296 valid responses.

Table 8 presents the primary self-reported reasons for tardiness. Late sleeping was the most frequently cited cause (44.9%), followed by lack of time management (23.9%) and family responsibility (17.2%) poor transportation infrastructure (13.9%). Critically, Late sleeping — the leading cause — also emerged as the only significant correlate of perceived academic effect in the Spearman analysis (r=-0.229, p=0.030) and a significant predictor in the logistic regression (B=-2.619, p=0.034), making it a variable of particular analytical importance in this study.

Research Question 2: Frequency of Tardiness

Table 9: Frequency of Arriving Late to School

Frequency of Lateness	Frequency	Percentage
Never	70	23.6%
Rarely	60	20.2%
Sometimes	138	46.6%
Always	28	9.5%
No Response	5	---
Total	296	100%

Note. Percentages computed from 296 valid responses.

Table 9 reveals that 73.7% of respondents had experienced tardiness at least occasionally, with 23.6% reported never arriving late, and 9.5% always. Only 20.2% reported rarely arriving late.

Research Question 3: Consequences of Tardiness

The following tables present findings on the academic, relational, behavioral, and institutional consequences of tardiness, beginning with the primary outcome variable — perceived academic effect.

Table 10: Perceived Effect of Tardiness on Academic Performance

Response	Frequency	Percentage
Yes	245	82.7%
No	51	17.2%
No Response	5	----
Total	296	100%

Note. Percentages computed from 296 valid responses. This variable served as the primary dependent variable in the logistic regression analysis.

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A substantial majority (82.7%) of students believed tardiness negatively affected their academic performance. This high rate of self-reported academic impact is consistent with objective evidence linking lateness to instructional loss and achievement decline (UNESCO, 2021; Balfanz & Byrnes, 2012). Gottfried (2014) validated self-reported academic impact as a meaningful proxy measure, supporting its use as the primary outcome variable in this study's inferential analyses.

Table 11: Perceived Teacher–Student Relationship Due to Tardiness

Relationship Perception	Frequency	Percentage
Very Positive	142	47.9%
Positive	89	30%
Neutral	28	9.4%
Negative	25	8.4%
Very Negative	12	4%
No Response	5	---
Total	296	100%

Note. Percentages computed from 296 valid responses.

Table 11 shows that 47.9% of students perceived their teacher–student relationship as positive or very positive despite tardiness, while 12.4% perceived it as negative or very negative. The predominantly positive perceptions may reflect the community-oriented culture of Somali schools and teacher tendencies toward contextual leniency (Dryden-Peterson, 2017). The teacher–student relationship variable was included in the logistic regression model but did not reach significance (p=0.775), suggesting that relational factors are not primary drivers of perceived academic impact.

Table 12: School Skipping Due to Being Late

Ever Skipped School Due to Lateness	Frequency	Percentage
No	191	64.5%
Yes	105	35.4%
No Response	5	---
Total	296	100%

Note. Percentages computed from 296 valid responses.

Table 12 reveals that 35.4% of students had skipped school entirely due to being late. This tardiness-to-absenteeism cascade is a key mechanism through which lateness escalates into full-day instructional loss (Balfanz & Byrnes, 2012). Skipped school was included in the primary logistic regression but did not reach significance (p=0.409), indicating that the act of skipping school, while behaviorally consequential, does not independently predict whether students perceive an academic effect from their tardiness.

Table 13: Institutional Consequences Faced When Arriving Late

Consequence Faced	Frequency	Percentage
Denied Entry to School Gate	35	11.8%
Missing Certain Lessons (Periods)	182	61.4%
Assigned All-Day Homework	79	26.6%
No Response	5	-----
Total	296	100%

Note. Percentages computed from 296 valid responses.

The most common institutional consequence was being missing lesson periods (61.4%), followed by assigning all-day homework (26.6%). The predominance of exclusionary responses confirms that schools in Mogadishu rely primarily on punitive missing certain lessons (periods) mechanisms to manage tardiness — a practice that, as the following table shows, typically produces full-day absenteeism rather than behavioral change (Skiba & Rausch, 2006; Reid, 2020).

Table 14: Behavior When School Gate Is Closed

Action Taken	Frequency	Percentage
Return Home	107	36.1%
Use Mobile for Social Media	189	63.8%
No Response	5	-----
Total	92	100%

Note. Percentages computed from 296 valid responses.

Table 14 confirms that 63.8% of students who found the gate closed use their mobiles for social media until the time of returned home. This finding has a direct policy implication: the gate-closure disciplinary strategy, widely employed in Mogadishu's secondary schools, systematically converts late arrival into complete school absence for the vast majority of affected students, greatly amplifying the academic consequences of tardiness beyond what the act of lateness alone would produce (Gregory et al., 2010; Olaleye, 2011).

Statistical Analysis

Correlation Analysis

Table 15 presents the Spearman rank-order correlation matrix for all key study variables, with perceived academic effect (the primary dependent variable) positioned first. Spearman's rho was selected over Pearson's r given the ordinal nature of the data and the non-normality assumptions required by parametric correlation (Field, 2018). N=83 for the complete-case listwise analysis.

Table 15: Spearman Correlation Matrix — Key Variables with Academic Effect as Primary Outcome

Variable	1	2	3	4	5	6
1. Academic Effect (DV)	1.000					
2. Lateness Frequency	-0.110	1.000				
3. Traffic Frequency	0.060	0.051	1.000			
4. Distance from Home	0.115	0.131	0.296**	1.000		
5. Sleep Hours	-0.229*	0.389***	-0.182	0.037	-0.139	1.000
6. Family Responsibility	-0.104	0.029	-0.007	0.148	1.000	
7. Skipped School	-0.125	0.182	0.251*	0.267*	0.201	-0.108

*Note. N=83–90 (pairwise). 1=Academic Effect (DV); 2=Lateness Frequency; 3=Traffic Frequency; 4=Distance from Home; 5=Sleep Hours; 6=Family Responsibility; 7=Skipped School. *p<.05, **p<.01, ***p<.001. Cells show Spearman's rho.*

The correlation analysis reveals that Sleep hours as the primary reason for tardiness was the only variable to show a statistically significant correlation with the primary dependent variable, perceived academic effect (r=-0.229, p=0.030). The negative direction of this relationship indicates that students who attributed their tardiness to family obligations were somewhat less likely to report a perceived negative academic impact — a counterintuitive but theoretically interpretable finding discussed below. Lateness frequency itself was not significantly correlated with academic effect (r=-0.110, p=0.304), nor were traffic frequency, distance, family responsibility, or school skipping behavior. Of the inter-predictor correlations, several noteworthy patterns emerge: lateness frequency correlated significantly and positively with sleep hours (r=0.389, p<0.001), confirming that sleep-driven tardiness is associated with more frequent lateness; traffic frequency correlated with distance from home (r=0.296, p=0.006) and with poor transportation as a reason (not shown in table), confirming the structural clustering of these variables; and skipped school correlated significantly with both traffic frequency (r=0.251, p=0.021) and distance from home (r=0.267, p=0.014), suggesting that structurally driven tardiness is more likely to result in full-day absence.

Primary Analysis: Binary Logistic Regression — Predictors of Perceived Academic Effect

To identify significant predictors of the primary outcome variable, a binary logistic regression model was estimated with perceived academic effect (1=Yes, negatively affected; 0=No) as the dependent variable. Predictors included lateness frequency, distance from home, sleep hours, skipped school (binary), and dummy variables for

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the primary reason for tardiness (late sleeping, family responsibility, poor transportation, and time management with as the reference category). Teacher–student relationship was also included as a relational control variable. Results are presented in Table 16.

Table 16: Primary Analysis — Binary Logistic Regression: Predictors of Perceived Academic Effect

Predictor	B	SE	Z	p	Exp(B)
Lateness Frequency	-0.079	0.304	-0.259	0.796	0.924
Distance from Home	0.522	0.390	1.339	0.181	1.685
Sleep Hours	-2.619	1.238	-2.115	0.034*	0.073
Skipped School	-0.503	0.609	-0.826	0.409	0.605
Family Responsibility	-1.065	0.541	-1.969	0.049*	0.345
Poor Transportation	-1.392	1.289	-1.080	0.280	0.249
Time Management	-1.864	1.252	-1.489	0.137	0.155
Teacher Relationship	-0.088	0.306	-0.286	0.775	0.916
Constant	4.859	2.127	2.284	0.022	—

*Note. N=83. Dependent variable: Perceived academic effect of tardiness (1=Yes, 0=No). Model LLR $\chi^2(8)=13.338$, $p=0.100$. Nagelkerke $R^2=0.215$. Correctly classified: 44.9%. Reference category for reason dummies: Late Sleeping. *p<.05.*

The logistic regression model correctly classified 44.9% of cases and explained approximately 21.5% of variance in perceived academic effect (Nagelkerke $R^2=0.215$). Two predictors reached statistical significance. Sleep hours was a significant negative predictor of perceived academic effect (B=-1.065, SE=0.541, z=-1.969, p=0.049, Exp(B)=0.345). This finding indicates that, controlling for other variables, students who slept more hours per school night were significantly less likely to report that tardiness negatively affected their academic performance. Each unit increase in sleep hours (e.g., moving from the <4 hours category to the 5–6 hours category) was associated with a 65.5% reduction in the odds of perceiving an academic impact (Exp(B)=0.345). This is consistent with Carskadon (2011) and Wolfson and Carskadon (2018), who demonstrated that adequate sleep supports cognitive functioning, attention, and academic resilience — buffering students against the academic costs of occasional lateness.Late sleeping as the primary reason for tardiness was also a significant negative predictor of perceived academic effect (B=-2.619, SE=1.238, z=-2.115, p=0.034, Exp(B)=0.073). Students who attributed their tardiness primarily to late sleeping had 92.7% lower odds of reporting a perceived negative academic impact compared to students whose tardiness was driven by family responsibility (the reference category). This finding is theoretically interpretable within the framework of Kadzamira and Rose (2019) and Unterhalter (2005): students whose lateness is driven by household duties may be more academically motivated and engaged — motivated to attend school despite domestic pressures — and may therefore perceive themselves as academically resilient relative to students whose lateness reflects personal disengagement (late sleeping). This interpretation suggests that the cause of tardiness, not merely its frequency, is a critical moderator of its academic consequences.None of the remaining predictors — lateness frequency, distance from home, skipped school, poor transportation as a reason, time management as a reason, or teacher–student relationship — reached significance in the model, suggesting that these variables do not independently predict perceived academic impact after controlling for the other included variables. The overall model approached but did not reach conventional significance (LLR p=0.100), reflecting the complexity of the academic consequences of tardiness and the likelihood that additional psychometric measures — such as academic self-efficacy, subject-specific engagement, and prior performance — would improve model fit in future research.

Secondary Analysis: OLS Regression — Predictors of Lateness Frequency

As a secondary analytical model contextualizing the causal landscape of tardiness, an OLS multiple regression was estimated with lateness frequency as the dependent variable and traffic frequency, distance from home, sleep hours, and reason-for-tardiness dummies as predictors. This model provides evidence on Research Questions 1 and 2 and contextualizes the pathways through which structural and behavioral factors shape tardiness frequency — the precondition for the academic consequences modeled above. Results are presented in Table 17.

Table 17: Secondary Analysis — OLS Regression: Predictors of Lateness Frequency

Predictor	B	SE	t	P
Traffic Frequency	0.234	0.101	2.317	0.023*
Distance from Home	0.111	0.116	0.960	0.340
Sleep Hours	+0.576	0.344	1.674	0.098
Family Responsibility	0.195	0.165	1.184	0.240
Poor Transportation	-0.755	0.350	-2.156	0.034*
Time Management	0.043	0.355	0.122	0.903
Constant	1.214	0.580	2.094	0.039

*Note. N=86. Dependent variable: Lateness frequency (1=Never to 4=Always). $R^2=0.248$, Adjusted $R^2=0.191$, $F(6,79)=4.351$, $p=0.001$. Reference category for reason dummies: Late Sleeping. *p<.05.*

The OLS model was statistically significant ($F(6,79)=4.351$, p=0.001) and accounted for 24.8% of the variance in lateness frequency ($R^2=0.248$, Adjusted $R^2=0.191$). Traffic frequency was a significant positive predictor of lateness (B=0.234, SE=0.101, t=2.317, p=0.023), indicating that students who more frequently encountered traffic congestion arrived late more often — confirming the structural role of transportation barriers in shaping tardiness behavior. Poor transportation infrastructure as the primary reason for tardiness was a significant negative predictor of lateness frequency (B=-0.755, SE=0.350, t=-2.156, p=0.034), suggesting that students who identified transport as their main tardiness cause reported lower average frequency of lateness than the late-sleeping reference group. This counterintuitive finding likely reflects the episodic nature of infrastructure-related delays compared to the habitual nature of sleep-related lateness. Family responsibility approached significance (B=0.576, p=0.098), consistently pointing to its role in driving higher lateness frequency. Distance, sleep hours, and time management did not reach significance individually, though the significant overall model confirms their collective contribution.

Chi-Square Analysis

Chi-square tests of independence were conducted to assess associations between categorical variables. Table 18 presents results for all key associations, prioritizing those involving the primary dependent variable (perceived academic effect).

Table 18: Chi-Square Tests of Independence

Association Tested	χ^2	Df	p	Decision
Lateness Frequency vs. Academic Effect	2.712	3	0.438	Not Significant
Skipped School vs. Academic Effect	0.875	1	0.350	Not Significant
Reason for Tardiness vs. Academic Effect	5.480	3	0.140	Not Significant
School Type vs. Academic Effect	0.355	1	0.551	Not Significant
Sex vs. Academic Effect	0.350	1	0.554	Not Significant
Distance from Home vs. Lateness Frequency	13.500	6	0.036	Significant*

*Note. Significance threshold α=.05. *p<.05.*

None of the chi-square tests involving perceived academic effect as an outcome variable reached statistical significance, indicating that the demographic and categorical variables measured in this study (lateness frequency, skipped school, reason for tardiness, school type, sex) do not independently predict whether students perceive an academic impact from tardiness at the categorical level. This is consistent with the logistic regression findings, which identified sleep hours and family responsibility — rather than the frequency or categorical context of tardiness — as the significant predictors. The one significant chi-square result, distance from home versus lateness frequency ($\chi^2=13.500$, df=6, p=0.036), is a supporting finding confirming that structural geography shapes tardiness frequency — itself a precondition for academic consequences — but this relationship operates upstream of the primary outcome variable.

Discussion

Predictors of Perceived Academic Effect: Sleep and Family Responsibility: The primary finding of this study is that sleep hours and lack of time management as the primary reason for tardiness are the two significant predictors of whether students perceive tardiness as negatively affecting their academic performance. The

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significant negative effect of sleep hours (B=-1.065, p=0.049) indicates that students who sleep more are less likely to perceive an academic impact from tardiness, each additional sleep category reducing the odds of perceived academic harm by 65.5%. This finding is highly consistent with the neurological and educational evidence on adolescent sleep: adequate sleep supports memory consolidation, attentional regulation, and learning efficiency (Carskadon, 2011; Wolfson & Carskadon, 2018; Wahlstrom, 2002). Students who are well-rested may be better able to absorb and retain instruction during the portions of school time they attend, partially compensating for the instructional time lost to tardiness. Conversely, sleep-deprived students — the majority in this sample, with 72.2% sleeping below recommended thresholds — face compounded disadvantage: they lose time to tardiness and are simultaneously less able to learn effectively when present.

The significant negative effect of family responsibility as a tardiness cause (B=-2.619, p=0.034) is theoretically nuanced. Students whose tardiness is driven by household obligations had 92.7% lower odds of perceiving an academic impact compared to those whose tardiness stemmed from late sleeping. Rather than suggesting that family-driven tardiness is academically harmless, this finding likely reflects a motivational difference: students who arrive late due to family duties — an external, involuntary constraint — may maintain stronger academic motivation and self-efficacy than those who are late because of personal behavioral patterns such as late sleeping (Unterhalter, 2005; Kadzamira & Rose, 2019). Highly motivated students may be more likely to seek catch-up strategies, engage teachers for missed content, and maintain academic performance despite lateness. This interpretation is supported by the correlation analysis, which shows that family responsibility is negatively correlated with perceived academic effect (r=-0.229, p=0.030) yet positively correlated with lateness frequency (r=0.389, p<0.001) — meaning family-driven students arrive late more often but are less likely to perceive academic harm, suggesting stronger compensatory academic behavior.

Causes and Frequency of Tardiness: Structural and Behavioral Pathways

The secondary OLS regression model (R^2=0.248, F=4.351, p=0.001) confirms that traffic frequency (B=0.234, p=0.023) is a significant structural predictor of how often students arrive late. The significant chi-square association between distance from home and lateness frequency (χ^2=13.500, p=0.036) further corroborates that residential geography shapes tardiness patterns, with students living more than two kilometers from school disproportionately represented in the 'sometimes late' category. These findings align with Reid (2020) and Romero and Lee (2007), who identified transportation infrastructure and commute distance as primary structural contributors to urban student tardiness in resource-constrained settings.

Family responsibility — the leading self-reported cause of tardiness (34.4%) — approached significance as a predictor of lateness frequency in the OLS model (p=0.098) and showed a strong significant bivariate correlation (r=0.389, p<0.001), confirming its behavioral relevance even where it falls short of regression significance. This is consistent with Abdi and Yusuf (2020) and Unterhalter (2005), who identified domestic obligations as a dominant driver of tardiness in urban African schools. The widespread sleep insufficiency documented in this sample (72.2% sleeping below recommended thresholds) constitutes a systemic risk factor that, while not reaching significance as a predictor of tardiness frequency in the OLS model, emerged as the most statistically significant predictor of academic impact in the primary logistic regression — underscoring its dual role as both a behavioral driver of lateness and a moderator of its academic consequences.

Institutional Consequences and the Absenteeism Cascade

The behavioral consequences of tardiness documented in this study are alarming in their scope. The finding that 35.2% of students had skipped school as a direct result of being late, combined with the finding that 63.8% of students denied gate entry Use Mobile for Social Media, reveals a systematic absenteeism cascade produced by Mogadishu's schools' own disciplinary policies. Rather than deterring tardiness, gate-closure enforcement converts late arrival into full-day absence for the vast majority of affected students, compounding the instructional losses that motivated the disciplinary response in the first place. This pattern is well-documented in the literature on punitive school discipline (Skiba & Rausch, 2006; Gregory et al., 2010) and represents a critical area for evidence-based policy reform. Reid (2020) and Olaleye (2011) both argue that late-entry systems with structured registration and counseling produce significantly better outcomes for tardy students than exclusionary gate policies.

The predominantly positive teacher–student relationship perceptions (67.8% positive or very positive) despite tardiness suggest a degree of relational resilience in Mogadishu's school culture, consistent with Dryden-Peterson (2017). However, the non-significance of teacher–student relationship in the logistic regression model (p=0.775) confirms that relational factors, while contextually important, do not independently predict the academic consequences of tardiness — which are more strongly shaped by sleep patterns and the nature of the causal drivers of lateness.

Conclusion

This study examined the causes, frequency, and consequences of tardiness among 301 secondary school students in Mogadishu, Somalia, with a primary analytical focus on the perceived effect of tardiness on academic performance. The findings confirm that tardiness is widespread (46.6%) of students affected at least occasionally and multidimensional caused, with Late sleeping (44.9%), lack of time management (23.9%), family responsibility (17.2%), and poor transportation infrastructure (26.7%) as the leading drivers.

The primary binary logistic regression model identified sleep hours (B=-1.065, p=0.049) and family responsibility as the main tardiness cause (B=-2.619, p=0.034) as significant predictors of perceived academic effect. These findings indicate that the academic consequences of tardiness are not simply a function of how often students are late, but are critically shaped by their sleep health and the motivational context of their lateness — with sleep-deprived students and those whose lateness reflects personal behavioral patterns (late sleeping) most at risk of experiencing academic harm. A secondary OLS model (R^2=0.248, p=0.001) confirmed traffic frequency and structural transportation barriers as significant predictors of tardiness frequency, while the chi-square analysis identified a significant association between distance from home and lateness frequency (χ^2=13.500, p=0.036).

These findings make an original empirical contribution to the underrepresented literature on tardiness in post-conflict African educational contexts and provide actionable evidence for school administrators, families, and education authorities in Mogadishu.

Recommendations

Based on the study findings, the following evidence-based recommendations are offered:

1. Schools should implement sleep health awareness programs targeting students and parents, given that inadequate sleep was the strongest significant predictor of perceived academic impact (p=0.049). Information on recommended adolescent sleep durations, evening screen use, and the academic consequences of sleep deprivation should be integrated into school pastoral care programs.
2. Schools should urgently reform gate-closure policies. Given that 66.8% of gate-denied students Use Mobile for Social Media, while 36.1% return home. This mechanism consistently produces full-day absenteeism. Late-entry registration systems, structured catch-up sessions, and counseling-based interventions would better preserve students' access to instructional time while maintaining punctuality expectations.
3. Parent–school partnerships should be strengthened to address family-driven tardiness, which was both the leading cause of lateness (34.4%) and significantly associated with perceived academic effect (p=0.034). Community dialogues, flexible parental engagement programs, and awareness campaigns on balancing domestic obligations with students' right to full instructional access are recommended.
4. Education authorities should invest in transportation infrastructure improvements and explore subsidized shuttle schemes for students living more than two kilometers from school. The significant chi-square association (p=0.036) and OLS regression finding (traffic frequency B=0.234, p=0.023) both point to structural transportation as a leverage point for reducing tardiness frequency.
5. Future research should employ longitudinal designs incorporating objective academic performance data, psychometric measures of academic self-efficacy and school belonging, and teacher perspectives. A larger, representative sample across all Mogadishu districts would improve generalizability and support stronger causal inference about the academic consequences of tardiness.

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