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Article

Triggering factors affecting primary school children in Lebanon: A pilot cross-sectional study

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Abstract: Purpose: Academic pressures, the fear of failure, social expectations, and high expectations from parents or teachers can all contribute to performance-related stress or anxiety in children. This study aims to assess the triggers encountered by primary schoolchildren and examine the interrelatedness between them and the characteristics of the students. **Methods:** A pilot cross-sectional study targeted primary school children over two months. Two pharmacists and a psychologist collected data using a standardized survey. Students were asked to assess their social (10 statements), behavioral (10 statements), environmental (10 statements), and academic (16 statements) triggers. **Results:** Environmental triggers had the highest score (4.92 (1.92)), followed by behavioral triggers (4.21 (1.70)). Social triggers were the least reported (3.52 (1.59)). After adjusting for covariates, age, sex, and grade did not affect the academic triggers of the students ($p > 0.05$), while having divorced or separated parents significantly increased these triggers ($B = 0.22$; $p = 0.025$). The social triggers and stressors significantly decreased ($B = -0.28$; $p = 0.003$) per grade increase. In contrast, having divorced parents significantly increased these scores ($B = 0.21$; $p = 0.025$). Environmental triggers significantly decreased per increase of one year in age ($B = -0.23$; $p = 0.013$), with the same pattern observed for the overall trigger scores ($B = -0.28$; $p = 0.003$). **Conclusion:** Promoting open communication, creating an inclusive environment, establishing achievable academic goals, and regular follow-up with students can be effective strategies to reduce school triggers among those at high risk.

Keywords: triggers; schoolchildren; academic; behavioral; social; environmental

1. Introduction

Triggers refer to events, situations, or stimuli that can cause emotional distress, anxiety, or reactions in individuals of all ages who have experienced or witnessed traumatic events [1,2]. In particular, children of school age can be triggered by various factors at school that may affect their academic performance and well-being [3]. High expectations, academic challenges, and performance stress can trigger anxiety and stress among students [4]. Certain social situations, such as public speaking, group activities, or making new friends, can also impact some children, and those who have experienced traumatic events may be triggered by reminders or situations that bring back those memories [5,6]. Environmental factors such as sensory overload, specific phobias, large spaces, and loud noises can also affect school performance and students' quality of life [7]. Moreover, bullying or peer conflicts, conflicts at home, parental separation, or other family-related stressors can affect a child's emotional well-being and, as a result, their academic achievements [5].

Research associated students' mental health with academic engagement, whereas those with better mental well-being measures had higher academic achievements [8]. In Lebanon, schools faced distinct challenges during the recent few years. Differences between the private and public schools were reported, mainly related to the external control of the school and the internal authority patterns and relationships [9]. Private schools often benefit from better infrastructure, resources, and smaller class sizes, providing a more conducive learning environment. On the other hand, public schools, which cater to a larger portion of the population, struggle with limited funding, overcrowded classrooms, and a shortage of qualified teachers. Moreover, Lebanon has been witnessing intense political, economic, financial, monetary, and health crises [10]. Schools nationwide were closed for students, and teachers were adapting to the new mode of education [11]. The sudden shift to online education exposed disparities in access to technology and the internet, particularly affecting students with lower incomes. The diversity of the explanation techniques, such as the usage of educational videos, with no time or place concerns, were beneficial during this period, while the slow internet connection, the electricity outages, and students' lack of participation were the most reported limitations [12]. Subsequently, educational establishments implemented catch-up programs and remedial measures to address learning gaps [13]. Understanding the triggers experienced by primary schoolchildren is vital for gaining insights into their emotional responses and social interactions within the school environment. This study aims to explore the common triggers encountered by primary schoolchildren and examine the interrelatedness between different triggers and the characteristics of the students.

2. Methods

2.1. Study design

A pilot cross-sectional study was performed during April–May 2023, targeting children from a private school in Lebanon. Before data collection, the study protocol (NCT05870085) was registered in the clinicaltrials.gov registry.

2.2. Study sample

Students aged six to eleven and attending grades 1 to 5 were considered potential participants. They were excluded if they did not attend the same school in the previous academic year. The required sample size was calculated using a formula developed by [14] for pilot studies. Accordingly, 130 students were recruited, considering a 95% confidence interval, 80% power, a precision of 2.5%, and a 10% loss to follow-up.

2.3. Study tool and data collection

A two-page questionnaire was sent to each student's parent/legal gradient. The first page included the written study objectives and a consent form, while the second page contained questions regarding the students' general characteristics, such as their age and child's age, sex and grade, marital status, highest level of education, economic status, working and smoking status, and the total number of children. All students with signed informed consent were included in this study. The questionnaire was previously

developed by the do2learn platform, tackling children's stress triggers. The first part of the survey contained 54 statements, where children should rate their feelings toward that question based on five emotional faces shown on the first page of the paper (from 1 to 5, 1 being the happiest and five the angriest). The questionnaire was initially piloted on 20 students (not included in the analysis), and questions lacking clarity were adjusted and presented in child-friendly expressions in Arabic. These statements were afterward classified into academic, social, behavioral, and environmental triggers. A psychologist and two pharmacists performed data collection. Statements were read individually out and repeated when needed. Survey completion took around 40 minutes.

2.4. Statistical analysis

Statistical analyses were performed using Statistical Package for Social Sciences (SPSS Inc., Chicago, Illinois) Version 29. Continuous variables such as the student's age and the parents and the individual and total scores of the triggers are presented through means and standard deviations. Categorical variables (the participants' general characteristics) are presented through frequencies and percentages. To ensure good reliability of the score, acceptable internal consistency, and positive inter-item correlations, an additional analysis was performed, in which two items were removed from the social triggers (10 statements; Cronbach alpha of 0.615), four from the behavioral triggers (10 statements; Cronbach alpha of 0.623), and two from the environmental triggers (10 statements; Cronbach alpha of 0.670). All the statements were retained for the academic triggers (16 statements; Cronbach alpha of 0.697). An overall score of each trigger group (over 10) was calculated by adding the different scores for the social, environmental, and behavioral triggers. Regarding the academic triggers, the corresponding score was multiplied by 0.625. The sum of the scores of each trigger group was performed, leading to the total school trigger score with a maximum of 40 (Cronbach alpha of 0.840). One-way analysis of variance (ANOVA) was carried out to assess the relationship between the different school trigger scores and the participants' general characteristics. Multivariate analyses through linear regression models were conducted to evaluate the combined effect of predictors on the trigger dimensions. The confusion variables considered were those with a p-value < 0.150 in the ANOVA analysis. P-values less than 0.05 were considered statistically significant.

2.5. Ethical considerations

The study was reviewed and approved by the institutional review board of the Lebanese University faculty of pharmacy (reference: 3/23/D). Written approval was obtained from the school, with written consent from parents/legal guardians. The researchers had three meetings with the school director and teachers to ensure a higher participation rate. The school's direction allocated each student a code. The tests were performed in the presence of a psychologist and a school representative. Participation was voluntary, and students could withdraw at any point in the study. No financial incentives were provided to the school management or the team. Following the data collection, goody bags were distributed to all the students despite their participation.

Findings were only used for research purposes. They were also communicated to the school following data analysis.

3. Results

3.1. General characteristics of the study sample

Table 1 presents the distribution of baseline characteristics of the participants in the study, which included a total of 130 students. The average age of the students was 8.6 (1.5) years, while the mean age of their parents was 39.7 years (6.2). Most surveys were completed by mothers (82.6%), compared to only 17.4% of fathers. The study comprised more female students (60.5%) than males (39.5%). They were distributed across different grades, with grades 1, 3, and 4 having the highest number of participants at 21.5% each. Most parents (90.0%) were married, and the remaining 10% were divorced or widowed. Forty-five percent of parents held a university degree or higher, 41.7% completed high school, and 13.3% completed elementary school or less. Most families (75.5%) perceived having an average economic situation or more, and the rest considered themselves poor (20.2%) or so poor (3.4%). Around 31% of students had both parents working, 61.2% had one working parent, and 7.4% had neither. Most parents were non-smokers or ex-smokers (70.9%), and the remaining (29.1%) were active smokers. Most families had two (46.3%) or three children (31.4%). Only a small percentage of families had four children or more (9.1%) or just one child (13.2%).

Table 1. Distribution of the baseline characteristics of the participants.

		Total (*N* = 130)
General characteristics		**Frequency (%)**
Age of the student (years)	Mean (SD)	8.6 (1.5)
Age of the parents (years)	Mean (SD)	39.7 (6.2)
Relationship with the student	Mother	100 (82.6%)
	Father	21 (17.4%)
Sex	Male	51 (39.5%)
	Female	78 (60.5%)
Grade	Grade 1	28 (21.5%)
	Grade 2	19 (14.6%)
	Grade 3	28 (21.5%)
	Grade 4	29 (22.3%)
	Grade 5	26 (20.0%)
Marital status of the parents	Married	108 (90.0%)
	Divorced/Widowed	12 (10.0%)
Highest level of education	Elementary school or less	16 (13.3%)
	High school	50 (41.7%)
	University or more	54 (45.0%)

Table 1. (*Continued*).

		Total (*N* = 130)
General characteristics		**Frequency (%)**
Economic situation	So poor	4 (3.4%)
	Poor	24 (20.2%)
	Average or more	91 (75.5%)
Working status	Both parents work	38 (31.4%)
	One parent works	74 (61.2%)
	Both parents do not work	9 (7.4%)
Smoking status	Smoker	34 (29.1%)
	Non-smoker/Ex-smoker	83 (70.9%)
Total number of children	One child	16 (13.2%)
	Two children	56 (46.3%)
	Three children	38 (31.4%)
	Four children or more	11 (9.1%)

Results are given in frequency (%: percentage) or Mean (SD: Standard Deviation).

3.2. Assessment of the triggers among primary schoolchildren

Table 2 shows the scores of the students' different social triggers. Students were more triggered if they disagreed with a classmate (0.67 (0.35)). A moderate impact was noted for the following triggers: people talking near them (0.47 (0.39)), not having an interest in the spoken topic (0.46 (0.38)), not understanding a particular idea or concept (0.45 (0.35)), and when others touch them (i.e., handshake, pat on the back) (0.35 (0.38)). In contrast, students considered group work with classmates (0.08 (0.21)), when a classmate asks for help (0.10 (0.26)), and when others make suggestions on how to do something (0.27 (0.35)) as the lowest social stress triggers.

Table 2. Students' answers regarding the social school triggers.

	Total (*N* = 130)
Social triggers	**Mean (SD)**
When I don't understand what someone is saying to me.	0.39 (0.30)
When I disagree with a classmate	0.67 (0.35)
When a classmate asks for help	0.10 (0.26)
Group work with classmates	0.08 (0.21)
When others make suggestions on how to do something.	0.27 (0.35)
When someone starts "small talk" with me.	0.29 (0.34)
When others touch me (i.e., handshake, pat on the back).	0.35 (0.38)
When I don't understand a certain idea or concept	0.45 (0.35)
When someone talks to me about something that I am not interested	0.46 (0.38)
When other people are talking near me	0.47 (0.39)

Results are given in Mean (SD: Standard Deviation).

Table 3 presents the computed scores of the students' different academic triggers. Among others, higher scores were found for statements about getting lower grades on

tests or quizzes (0.71 (0.35)), not finishing tasks on time (0.58 (0.38)), deadlines, and time pressures (0.57 (0.39)), and if the student's ideas were not included in a particular project or activity (0.56 (0.36)). In contrast, students considered requests of a teacher to do something (0.12 (0.28)), math assignments (0.15 (0.31)), and corrections provided by teachers (0.16 (0.28)) as the lowest academic stress triggers.

Table 3. Students' answers regarding the Academic school triggers.

	Total (*N* = 130)
Academic triggers	**Mean (SD)**
A teacher gives me feedback/criticism.	0.31 (0.33)
A teacher tells me to correct a mistake.	0.16 (0.28)
Homework	0.31 (0.40)
When a teacher tells me to do something	0.12 (0.28)
When one of my ideas is not included in a project/activity	0.56 (0.36)
Getting a lower grade on a test, quiz, or paper.	0.71 (0.35)
When someone points out a mistake, I made.	0.50 (0.41)
Taking tests	0.37 (0.40)
Surprise quizzes (pop quizzes)	0.51 (0.41)
Math assignments	0.15 (0.31)
Big projects	0.28 (0.38)
When a teacher/authority figure tells me no Changing classes	0.45 (0.40) 0.31 (0.31)
When I don't finish something on time	0.58 (0.38)
Deadlines, time pressures	0.57 (0.39)
Reading assignments	0.32 (0.40)

Results are given in Mean (SD: Standard Deviation).

Children's behavioral trigger scores are presented in **Table 4**. Among others, higher trigger scores were found when other people talk near them (0.68 (0.29)) and when excluded from an activity or conversation (0.67 (0.37)). Children were less triggered when sitting for long periods (0.47 (0.41)), making mistakes (0.43 (0.34)), and when a change occurred in their daily routine (0.42 (0.42)). Greeting people (0.19 (0.34)), following specific instructions (0.27 (0.38)), and being asked to organize their things (0.29 (0.38)) were the least reported behavioral stress triggers, respectively.

Table 4. Students' answers regarding the behavioral school triggers.

	Total (*N* = 130)
Behavioral triggers	**Mean (SD)**
When Someone or something interrupts me while I am working.	0.68 (0.29)
When I am excluded from an activity or conversation.	0.67 (0.37)
Greeting people	0.19 (0.34)
When I make a mistake	0.43 (0.34)
When I have to wait for something	0.40 (0.40)
When my daily routine is changed	0.42 (0.42)

Table 4. (*Continued*).

	Total (*N* = 130)
Behavioral triggers	**Mean (SD)**
Sitting at a desk for an extended period	0.47 (0.41)
When I am confused about a task/activity	0.41 (0.32)
When I have to follow a specific instruction	0.27 (0.38)
When I have to organize my things	0.29 (0.38)

Results are given in Mean (SD: Standard Deviation).

Table 5 reports the different environmental trigger scores. Students had higher scores for particular triggers, including large crowds (0.66 (0.38)), loud places (0.63 (0.39)), and beeping sounds (0.56 (0.39)). Nevertheless, they were moderately triggered by bright lights (0.51 (0.38)), when getting wet (0.50 (0.39)), changes in noise level (0.50 (0.39)), and small spaces (0.46 (0.40)). The least reported environmental triggers were the exposure to certain textures such as paint, glue, or chalk (0.33 (0.36)), certain smells (0.36 (0.39)), and school bells or loudspeaker announcements (0.43 (0.40)).

Table 5. Students' answers regarding the environmental school triggers.

	Total (*N* = 130)
Environmental triggers	**Mean (SD)**
School bells or loudspeaker announcements	0.43 (0.40)
Large crowds	0.66 (0.38)
Loud places	0.63 (0.39)
Specific noises (beeping, humming)	0.56 (0.39)
Certain smells (perfumes, foods)	0.36 (0.39)
Bright lighting	0.51 (0.38)
Getting wet (hands, shoes)	0.50 (0.39)
Certain textures (in clothing, paint, glue, chalk)	0.33 (0.36)
Changes in noise level	0.50 (0.39)
Small spaces	0.46 (0.40)

Results are given in Mean (SD: Standard Deviation).

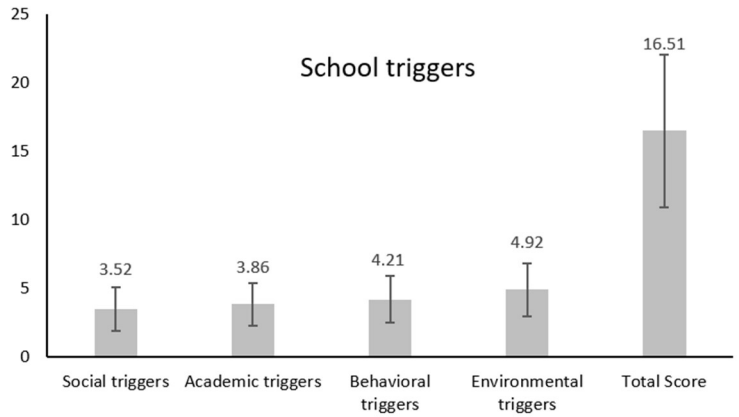

Figure 1. Total school triggers' scores per group and overall trigger score.

Association between school triggers and students' baseline characteristics.

Figure 1 displays the total school trigger score per group (over 10) and the overall trigger score (over 40). Environmental triggers had the highest mean score of 4.92 (1.92), followed by behavioral triggers with a mean score of 4.21 (1.70), academic triggers with a mean score of 3.86 (1.57), and social triggers with a mean score of 3.52 (1.59). As a result, the total score (sum of all the triggers) was 16.51 (5.56).

Table 6 presents the association between the mean score of each school trigger group and the students' baseline characteristics. Students' age impacted the social, behavioral, and total trigger scores, with younger students (6–8 years) having significantly higher scores than their older peers. They scored 3.88 (1.71) and 4.53 (1.79) in the social and behavioral triggers respectively compared to lower scores among students aged 8–11 (3.17 (1.38) and 3.91 (1.56); $p = 0.013$ and 0.046, respectively). No significant impact of students' sex was observed with comparable scores in the different groups ($p > 0.05$). Grade 1 and 3 students had the highest academic trigger scores (4.54 (1.22) and 4.21 (1.56), respectively) than other students ($p = 0.008$). This pattern was also observed for the behavioral triggers ($p < 0.001$), while grades 1 (4.62 (1.03)) and 4 (3.53 (1.43)) had statistically significantly higher social trigger scores than students attending the other grades ($p < 0.001$). Students with divorced or separated parents had significantly higher academic trigger scores (4.74 (1.38)) than those with married parents (3.69 (1.54); $p = 0.032$). This finding was also observed for the social triggers ($p = 0.039$). No statistically significant associations were found between parents' age, level of education, working status, economic situation, total number of children, and any school trigger scores ($p > 0.05$).

Table 6. Association between school triggers and students' baseline characteristics.

	Academic	**Social**	**Behavioral**	**Environmental**	**Total score**
General characteristics	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**
Age of the student (years)					
6–8	4.09 (1.55)	3.88 (1.71)	4.53 (1.79)	5.25 (1.98)	17.74 (5.70)
8–11	3.64 (1.57)	3.17 (1.38)	3.91 (1.56)	4.62 (1.81)	15.34 (5.19)
p-value	0.117	0.013	0.046	0.071	0.017
Age of the parents (years)					
≤40	3.78 (1.48)	3.69 (1.69)	4.24 (1.66)	4.93 (1.91)	16.65 (5.71)
>40	3.93 (1.65)	3.34 (1.45)	4.19 (1.76)	4.91 (1.95)	16.37 (5.44)
p-value	0.604	0.214	0.872	0.950	0.781
Sex					
Male	4.00 (1.76)	3.28 (1.72)	4.21 (1.82)	4.79 (2.10)	16.29 (6.29)
Female	3.73 (1.37)	3.72 (1.44)	4.21 (1.61)	5.03 (1.76)	16.69 (4.87)
p-value	0.341	0.127	0.993	0.510	0.696
Grade 1	4.54 (1.22)	4.62 (1.03)	4.88 (1.37)	5.18 (1.72)	19.22 (3.84)
Grade 2	3.25 (1.64)	3.43 (1.92)	3.24 (1.37)	4.75 (1.81)	14.67 (5.65)
Grade 3	4.21 (1.56)	3.38 (1.75)	5.24 (2.12)	5.59 (2.25)	18.41 (6.34)
Grade 4	3.87 (1.43)	3.53 (1.43)	4.03 (1.32)	4.93 (1.86)	16.36 (4.99)
Grade 5	3.15 (1.67)	2.54 (1.11)	3.33 (1.28)	4.02 (1.65)	13.04 (4.72)
p-value	0.008	<0.001	<0.001	0.064	<0.001

Table 6. (*Continued*).

	Academic	Social	Behavioral	Environmental	Total score
General characteristics	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**
Marital status of the parents Married	3.69 (1.54)	3.35 (1.55)	4.17 (1.77)	5.11 (1.86)	16.31 (5.70)
Divorced/Widowed	4.74 (1.38)	4.36 (1.34)	4.29 (1.10)	4.07 (2.50)	17.47 (4.99)
p-value	0.032	0.039	0.822	0.094	0.519
Highest level of education					
Elementary school or less	3.53 (1.94)	2.91 (1.34)	3.93 (1.64)	4.27 (1.63)	14.63 (5.67)
High school	3.79 (1.43)	3.45 (1.58)	4.30 (1.87)	5.10 (1.99)	16.64 (5.86)
University or more	3.87 (1.56)	3.62 (1.61)	4.14 (1.59)	5.11 (1.98)	16.74 (5.41)
p-value	0.773	0.330	0.754	0.325	0.444
Economic situation					
Less than average	4.01 (1.59)	3.42 (1.35)	4.29 (1.49)	5.44 (1.76)	17.18 (4.97)
Average or more	3.76 (1.53)	3.49 (1.65)	4.19 (1.79)	4.84 (2.00)	16.28 (5.86)
p-value	0.462	0.846	0.781	0.162	0.475
Working status					
Both parents work	4.12 (1.68)	3.72 (1.69)	4.39 (1.68)	5.43 (1.99)	17.66 (6.01)
One parent works	3.59 (1.41)	3.34 (1.51)	4.06 (1.72)	4.83 (1.96)	15.82 (5.37)
Both parents do not work	3.94 (1.81)	3.33 (1.42)	4.39 (1.81)	4.39 (1.28)	16.05 (5.37)
p-value	0.249	0.474	0.599	0.199	0.272
Total number of children					
One child	4.31 (1.46)	4.03 (1.54)	4.36 (1.62)	5.47 (1.99)	18.17 (4.76)
Two children	3.72 (1.74)	3.25 (1.58)	4.10 (1.66)	5.05 (1.92)	16.12 (5.82)
Three children	3.61 (1.42)	3.39 (1.63)	3.99 (1.78)	4.64 (2.09)	15.64 (5.93)
Four children or more	3.99 (0.97)	3.82 (1.19)	5.02 (1.71)	5.18 (1.43)	18.01 (4.33)
p-value	0.468	0.307	0.341	0.529	0.356

Results are given in Mean (SD: Standard Deviation). *p*-values < 0.05 are presented in bold and are statistically significant.

Table 7 presents the different linear regression models assessing the combined effect of the predictors affecting the school triggers' scores. After adjusting for covariates, age, sex, and grade did not influence the academic triggers of the students ($p > 0.05$), while having divorced or separated parents significantly increased these triggers ($B = 0.22$; $p = 0.025$). With every increase of one grade, the social triggers and stressors significantly decreased ($B = -0.28$; $p = 0.003$). In contrast, having divorced parents significantly increased these scores ($B = 0.21$; $p = 0.025$). Environmental triggers significantly decreased per increase of one year in age ($B = -0.23$; $p = 0.013$), with the same pattern observed for the overall trigger scores ($B = -0.28$; $p = 0.003$).

Table 7. Predictors of higher school trigger scores: multivariate analysis results (Linear regression model).

	Academic	**Social**	**Behavioral**	**Environmental**	**Total score**
General characteristics	B [95% CI]	B [95% CI]	B [95% CI]	B [95% CI]	B [95% CI]
Intercept	4.41 [1.73–7.10]	2.54 [0.86–4.23]	5.21 [3.94–6.47]	6.33 [4.64–8.01]	23.71 [16.84–30.58]
p-value	0.002	0.003	<0.001	<0.001	<0.001
Age (per increase of one year)	–0.23 [–0.72–0.25]			–0.23 [–0.44– –0.05]	–0.28 [–1.70– –0.35]
p-value	0.347			0.013	0.003
Sex		0.15 [–0.09–1.03]	–0.03 [–0.73–0.49]		
p-value		0.102	0.709		
Grade	0.04 [–0.49–0.58]	–0.28 [–0.52– –0.11]	–0.22 [–0.48– –0.05]		
p-value	0.871	0.003	0.017		
Marital status of the parents	0.22 [0.14–2.11]	0.21 [0.13–2.00]			0.08 [–1.98–4.88]
p-value	0.025	0.025			0.404
R square (%)	8%	15%	47%	51%	81%

Results are given in standardized beta with a 95% Confidence Interval (B [95%CI]). *p*-values <0.05 are presented in bold and are statistically significant.

4. Discussion

School triggers can have various consequences on the overall school environment and the well-being of the students. This study aimed to evaluate the triggers students face in schools and identify those at higher risk. The most reported triggers were environmental triggers, such as school bells or loudspeaker announcements, large crowds, and loud places. This may indicate that the physical environment within the school setting plays a crucial role in shaping students' emotional experiences. A recent review showed that noise and irrelevant sounds negatively affected children's cognitive function in schools [15]. Another study reported a strong association between the shortness of school infrastructure, overcrowded classrooms, and sensory stimuli in the school environment and students' emotional and academic responses [16]. Addressing environmental triggers by creating a calm and comfortable atmosphere and incorporating measures to reduce noise and distractions could lead to a more positive and focused learning environment for the students [17]. Behavioral triggers, including interruptions while working, being excluded from activities, and making mistakes, had the second-highest scores. These findings suggest that promoting positive social interactions, cultivating a supportive and inclusive classroom culture, and implementing effective behavior management strategies can help mitigate the negative effects of behavioral triggers and enhance students' emotional resilience. Previous research showed a positive relationship between school refusal behavior and social functioning, where school refusers with mixed reinforcements achieved lower scores in this variable and can be considered maladaptive and, therefore, require more attention [18]. Academic triggers, such as receiving feedback/criticism from teachers, doing homework, and taking tests,

obtained a slightly lower mean score than environmental and behavioral triggers. A recent systematic review showed that interventions targeting primary school children with or at risk of academic difficulties have a positive and statistically significant short-term and follow-up impact [19]. Since academic failure and behavioral difficulties at school were found to be early signs of psychological problems at an older age [20], addressing them by providing constructive feedback, offering academic support, and promoting a growth mindset can foster a positive attitude toward learning and overcoming academic challenges. While social factors play a crucial role in students' overall well-being, they were less reported by students in this study. A recently published cross-sectional study in Lebanon showed a significant relationship between having separated parents, psychological abuse, neglect, and physical abuse, and higher social anxiety [21]. The low percentage of students with these characteristics may explain such findings in the current study. The computed total trigger score can give a holistic view of the student's experiences in various aspects of their school life and can help develop targeted interventions to create a well-rounded and emotionally supportive learning environment.

The study's second objective was to assess the association between having school triggers and the baseline characteristics of the sample. School triggers in different domains significantly decreased per increase in students' age. This can be explained by the fact that older students were already exposed to several triggers at a younger age and developed coping strategies to conquer them. Considering that developmental stages enhance analyses of students' reactions to triggers by acknowledging their cognitive, emotional, social, and identity-related development. This approach recognizes that different age groups possess distinct cognitive abilities, emotional regulation skills, social dynamics, and identity formation processes. For instance, younger children may struggle with abstract concepts and emotional regulation, while adolescents navigate peer influences and identity exploration. Understanding these developmental nuances can help educators anticipate how triggers may affect students and tailor interventions accordingly. Moreover, it allows for a more comprehensive consideration of risk and resilience factors, trauma-informed support, and the creation of supportive learning environments conducive to positive outcomes across diverse developmental stages. Although no significant differences were reported among the sexes, previous studies showed higher stress levels among female college students [22]. Since most students had an average or more economic situation, societal expectations and cultural norms can influence how children are taught to express and cope with stress. The highest stress scores were reported among students attending grades 1 and 3, respectively. Research showed that punishment, a demotivating attitude of teachers, homework, a lack of an attractive environment, a home environment, and crowded classrooms can affect more students at a younger age [23]. Moreover, starting to have new academic expectations, such as writing and copying in grade 1 or using pens and memorizing the multiplication table in grade 3, may aggravate these symptoms. Parents' education level did not significantly affect any of the triggers, in contrast to research showing that fewer mental health problems and stressful life events were found among children with higher-educated parents [24]. The parent's age was also not affecting their children's emotional symptoms. This can be attributed to their resilience during the pandemic and psychological and physical

educational adjustment despite their previous disinvolvement [25]. Children from separated or divorced parents can experience stress at school due to the emotional challenges and changes associated with their family situation and, therefore, may exhibit behavioral issues as a response to the stress they are experiencing [5,26]. This can manifest as acting out, aggression, withdrawal, and missing school [21,27]. By acknowledging their emotions and offering support, schools can help children with the aforementioned characteristics navigate their challenges and create a positive learning environment for all students.

This study has limitations. Children's cognitive abilities, language skills, and attention span might vary depending on their age. The small sample size and the conduct of the pilot study in a private school may also affect the external validity and the extrapolation of the results to other schools. Selection bias could be present due to the single-center limitation, making it not representative of the broader population, possibly leading to skewed or inaccurate results. Response bias might also be induced since children may not always express themselves accurately or may provide socially desirable responses. The long duration of the survey completion might have increased survey fatigue bias, leading to careless or incomplete results and acquiescence bias, in which students might have developed a tendency to agree with the statements or answer positively as they progress, regardless of their true opinions or experiences. Time constraints due to their limited availability during school hours may affect their responses. Moreover, external influences, such as life events or family circumstances, could have impacted their behavior and responses during the study. Despite these limitations, this pilot study provides valuable insights into children's development, behavior, and well-being. Future research, including a more diverse sample from various school settings to enhance the generalizability of the results, is recommended.

5. Conclusion

In conclusion, this study highlighted the importance of understanding the different triggers (academic, behavioral, social, and environmental) experienced by primary schoolchildren and their impact on emotional responses and social interactions in the school environment. High expectations, academic challenges, and performance stress were identified as triggers for anxiety and stress among students. Environmental factors such as sensory overload, large spaces, and loud noises were found to influence school performance and students' quality of life. Addressing these triggers involves creating a supportive environment, educating students about anxiety, providing coping strategies, fostering healthy habits and positive relationships, establishing clear expectations, offering academic support, implementing relaxation techniques, promoting problem-solving skills, and collaborating with families.

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