

## General

# Psychological Distress Among High School Students in Bangkok Thailand

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### Introduction

This study investigated psychological distress among high school students in Thailand.

A sample of 8,345 students from thirty-five Bangkok schools voluntarily participated, responding to a questionnaire and undergoing stress assessments. Socio-demographic factors including grade level, school scale, hometown, parental marital status, presence of siblings, gender, health conditions, online classes, and family monthly income were analyzed.

### Results

Of the participants, 1,087 (13.02%) experienced psychological distress. Grade level, school scale, hometown, parental marital status, and siblings' presence showed no significant associations with distress. However, being female or transgender correlated with higher distress levels. Students with health issues and those in online classes also experienced elevated distress. Additionally, a family monthly income below 10,000 Thai Baht was associated with distress.

### Conclusion

This study sheds light on factors contributing to psychological distress in high school students. It highlights the need for tailored support for vulnerable groups within the student population, emphasizing the role of educators, policymakers, and mental health professionals in addressing these challenges.

## 1. INTRODUCTION

During the adolescent stage, teenagers encounter numerous challenges that have a significant impact on their mental well-being. These challenges encompass academic demands, social pressures, and self-exploration, each presenting distinctive stressors.<sup>1</sup> Prolonged stress during high school can have profound implications, potentially leading to the development or exacerbation of mental health disorders like anxiety and depression.<sup>2</sup> These conditions not only cause distress but also impair daily function-

ing, including concentration, learning abilities, and social engagement.<sup>3</sup> Failing to address mental health concerns during high school can have enduring consequences that extend into adulthood, significantly influencing an individual's overall well-being and quality of life.<sup>4</sup>

The impact of elevated stress levels on the academic performance of high school students should not be underestimated. Overwhelmed by stress, students may experience difficulties with focus, information retention, and overall academic success.<sup>5</sup> Consequently, motivation declines, grades suffer, and educational achievement becomes

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compromised. Mental stress can also contribute to increased absenteeism as students encounter physical symptoms or emotional challenges that impede regular school attendance.<sup>6</sup> Moreover, the adverse effects of mental stress on high school students extend beyond academic consequences and can affect their social and personal development. Excessive stress often manifests as social withdrawal, isolation, and strained relationships with peers and family members.<sup>7</sup> Prolonged stress can hinder the acquisition of crucial life skills, such as problem-solving, coping mechanisms, and resilience, all of which are vital for successfully navigating future challenges.<sup>8</sup>

The emergence of the COVID-19 pandemic has introduced additional disruptions and challenges for high school students worldwide. The abrupt disruptions in daily routines, remote learning setups, social isolation measures, and the pervasive uncertainties stemming from the ongoing pandemic have collectively intensified psychological distress.<sup>9,10</sup> These pandemic-related stressors, including fear of infection, academic disruptions, reduced social interactions, and concerns about the future, have compounded the existing stressors faced by high school students.<sup>11</sup>

Bangkok, known as a prominent educational hub, presents unique stressors for its high school students. These students may encounter heightened academic pressures, competition, and expectations compared to their peers in other regions. Additionally, the urban challenges associated with living in Bangkok, such as traffic congestion, long commuting times, and limited green spaces.<sup>12</sup> These environmental factors contribute to feelings of time pressure, fatigue, and a reduced opportunity for relaxation and leisure activities, potentially increasing overall stress levels.<sup>13</sup>

Given the impact of the COVID-19 pandemic, studying stress among high school students in Bangkok becomes even more crucial. The pandemic has disrupted daily routines, social interactions, and learning environments, introducing new stressors into students' lives.<sup>14,15</sup> By gaining an understanding of how these unique circumstances affect the stress levels of high school students in Bangkok, tailored support systems and interventions can be developed to address their specific needs.

## 2. MATERIALS AND METHODS

### 2.1. DESIGN AND SAMPLING PROCEDURE

In this cross-sectional study, our primary objective was to evaluate the prevalence of psychological distress among high school students in Bangkok, Thailand, and to explore the various factors associated with this student distress. To ensure the representativeness of our sample, we implemented a robust and comprehensive sampling strategy. Employing stratified random sampling, we methodically selected high school students from diverse districts across Bangkok. Our study encompassed participants aged 14 to 19 years, currently enrolled in grades 10 through 12. These students voluntarily participated and provided informed

consent to engage in the study, which involved completing questionnaires and a psychological distress assessment through a Google Form, all while being under the supervision of their classroom or guidance teachers.

Our extensive sample was comprised of a total of 8,345 high school students, carefully drawn from a diverse selection of thirty-five schools situated in Bangkok, Thailand. To bolster the credibility of our findings, the research was conducted with precision over an extended period, spanning from May to August 2022. The research protocol received ethical approval from the Human Research Ethics Committee of Mahidol University (MUPH 2022-005).

### 2.2. OUTCOME

Psychological distress was assessed applying the Suanprung Stress Test 20 (STSP-20) questionnaire developed by the Department of Mental Health. This questionnaire comprises 4 Likert-scale items. A score of 30 or higher on the questionnaire indicated significant stress. The questionnaire's validity was established with a validity index of 0.80, while its reliability was determined through a pilot test involving 30 high school students (not included in the study), resulting in a Cronbach's alpha coefficient of 0.85. Participants who had missing data (n=2) or obtained a score of 0 on the STSP-20 (n=80) were excluded from the analysis.

### 2.3. INDEPENDENT VARIABLES

In our research study, we investigated various sociodemographic characteristics as independent variables to better understand their potential influences on student distress. These independent variables encompassed participants' grade levels (grades 10, 11, and 12), gender (male, female, transgender), the presence of comorbidities, school scale (categorized by the number of students in the high school), participation in online classes, hometown (Bangkok or other regions in Thailand), family monthly income (grouped into four income brackets), parental marital status, and the presence of siblings.

### 2.4. DATA ANALYSIS

The collected data were analyzed utilizing the Statistical Package for Social Sciences (SPSS), version 18. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were computed to provide a summary of the data distribution. Additionally, binary and multiple logistic analyses were performed to investigate the factors associated with psychological distress.

## 3. RESULTS AND DISCUSSION

Overview of the study participants' demographic characteristics is provided in [Table 1](#). The sample consisted of 8,345 high school students from thirty-five schools in Bangkok, Thailand. The characteristics includes information on gender, grade level, comorbidities, school scale, participation in online classes, school location, family income, parental marital status, and the presence of siblings. Among the

**Table 1. General characteristics of the study participants**

	<i>n</i> = 8,345
Gender	
Male	2,887 (34.6)
Female	4,506 (54.0)
Transgender	952 (11.4)
Grade	
10	3,251 (39.0)
11	2,536 (30.3)
12	2,558 (30.7)
Comorbidities	
No	6,890 (82.6)
Yes	1,455 (17.4)
School scale (students)	
≥ 2,500	6,050 (72.5)
1,500–2,499	1,999 (24.0)
< 1,499	296 (3.5)
Online classes	
No	3,740 (44.8)
Yes	4,605 (55.2)
Hometown	
Bangkok	6,410 (76.8)
Others	1,935 (23.2)
Family monthly income (Thai Baht)	
≥ 60,000	1,101 (13.2)
30,000–59,999	2,369 (28.4)
10,000–29,999	4,285 (51.3)
< 10,000	590 (7.1)
Parent' marital status	
Married, living together	5,505 (66.0)
Married, living separately	820 (9.8)
Single (divorce or widowed)	2,020 (24.2)
Presence of siblings	
No	1,960 (23.5)
Yes	6,385 (76.5)

study participants, 54.00% were female, 34.60% were male, and 11.40% identified as transgender. The majority of the students were in grade 10 (39.00%), followed by grades 11 (30.30%) and 12 (30.70%). A total of 17.40% reported comorbidities. Regarding school-related factors, 72.50% attended schools with a scale of ≥ 2,500 students, while 27.50% attended schools with a scale of less than 1,499 students. The majority of students (55.20%) experienced online classes, and 76.80% lived in Bangkok. In terms of family income, 13.20% had a monthly income of ≥ 60,000 Thai Baht, while 7.1% had a monthly income of less than 10,000 Thai Baht. Most students reported having parents who were married and living together (66.00%). The presence of siblings was reported by 76.50% of the participants (Table 1).

According to Table 2, a total of 1,087 (13.02%) high school students in Thailand experienced psychological distress during the COVID-19 pandemic. Furthermore, Table 2 presents the factors associated with psychological distress among Thai high school students during the COVID-19 pandemic. Grade level, school scale, hometown, parental marital status, and the presence of siblings did not show significant associations with psychological distress. However, being female (AOR:1.77, 95% CI: 1.50–2.09) and identifying as transgender (AOR:3.55, 95% CI: 2.89–4.36) were significantly associated with higher levels of psychological distress. Having a health problem (AOR:1.75, 95% CI: 1.50–2.04) and participating in online classes (AOR:2.12, 95% CI: 1.83–2.45) were also associated with increased psychological distress. Additionally, having a family monthly income less than 10,000 Thai Baht (AOR:1.42, 95% CI:1.06–1.90) showed a significant association with psychological distress. These findings offer valuable insights into the factors contributing to psychological distress among high school students during the COVID-19 pandemic, underscoring the importance of addressing the specific needs and challenges faced by vulnerable groups.

The study revealed several factors linked to psychological distress among Thai high school students during the COVID-19 pandemic. Females and transgender students were identified as having a higher vulnerability to experiencing psychological distress. Additionally, students with health problems and those attending schools with online classes were found to have an elevated likelihood of psychological distress. Furthermore, having a family monthly income less than 10,000 Thai Baht was significantly associated with psychological distress.

The higher prevalence of psychological distress among females can be attributed to various factors. Females may experience greater exposure to stressors such as gender-based violence, societal expectations, and discrimination, which can contribute to mental health challenges.<sup>16</sup> Moreover, females often internalize emotions and engage in rumination, potentially amplifying distress levels.<sup>17</sup> Hormonal fluctuations during adolescence and reproductive phases may also influence mood regulation and contribute to higher rates of psychological distress among females.<sup>16</sup>

Transgender individuals face unique challenges related to their sexual orientation or gender identity, which can impact their mental health. Minority stress theory posits that stigma, prejudice, and discrimination experienced by transgender individuals can lead to chronic stress, ultimately increasing the risk of psychological distress.<sup>18</sup> Social exclusion, victimization, and internalized homophobia/transphobia can further contribute to heightened distress levels among transgender high school students.<sup>19</sup>

Individuals with health problems may experience heightened psychological distress due to concerns about their well-being, treatment outcomes, and potential disruptions in their daily lives. The COVID-19 pandemic has intensified these concerns, as individuals with pre-existing health conditions may face an increased risk of severe illness if infected with the virus. The fear of contracting COVID-19 and the impact of the pandemic on accessing

**Table 2. Factors associated with psychological distress among Thai high school students during the COVID-19 pandemic**

	Psychological distress*	Univariate			Adjusted†		
	n (%)	OR	(95% CI)	P value	OR	(95% CI)	P value
Gender							
Male	218 (7.6)	1.00	-	-	1.00	-	-
Female	625 (13.9)	1.97	(1.68–2.32)	< 0.001	1.77	(1.50–2.09)	< 0.001
Transgender	244 (25.6)	4.22	(3.45–5.16)	< 0.001	3.55	(2.89–4.36)	< 0.001
Grade							
10	416 (12.8)	1.00	-	-	1.00	-	-
11	331 (13.1)	1.02	(0.88–1.19)	0.773	1.02	(0.87–1.20)	0.781
12	340 (13.3)	1.04	(0.90–1.22)	0.577	1.01	(0.86–1.18)	0.947
Comorbidities							
No	806 (11.7)	1.00	-	-	1.00	-	-
Yes	281 (19.3)	1.81	(1.56–2.10)	< 0.001	1.75	(1.50–2.04)	< 0.001
School scale (students)							
≥ 2,500	745 (12.3)	1.00	-	-	1.00	-	-
1,500–2,499	288 (14.4)	1.20	(1.04–1.39)	0.015	1.22	(1.04–1.43)	0.014
< 1,499	54 (18.2)	1.59	(1.17–2.16)	0.003	1.47	(1.07–2.02)	0.019
Online classes							
No	298 (8.0)	1.00	-	-	1.00	-	-
Yes	789 (17.1)	2.39	(2.07–2.75)	< 0.001	2.12	(1.83–2.45)	< 0.001
Hometown							
Bangkok and boundaries	831 (13.0)	1.00	-	-	1.00	-	-
Others	256 (13.2)	1.02	(0.88–1.19)	0.761	1.05	(0.90–1.22)	0.556
Family monthly income (Thai Baht)							
≥ 60,000	137 (12.4)	1.00	-	-	1.00	-	-
30,000–59,999	266 (11.2)	0.89	(0.71–1.11)	0.299	0.88	(0.70–1.10)	0.532
10,000–29,999	577 (13.5)	1.10	(0.90–1.34)	0.372	1.01	(0.82–1.24)	0.960
< 10,000	107 (18.1)	1.56	(1.18–2.05)	0.001	1.42	(1.06–1.90)	0.019
Parent' marital status							
Married, living together	685 (12.4)	1.00	-	-	1.00	-	-
Married, living separately	121 (14.8)	1.22	(0.99–1.50)	0.064	1.12	(0.90–1.39)	0.314
Single (divorce or widowed)	281 (13.9)	1.14	(0.98–1.32)	0.092	1.05	(0.90–1.23)	0.532
Presence of siblings							
No	247 (12.6)	1.00	-	-	1.00	-	-
Yes	840 (13.2)	1.05	(0.90–1.22)	0.524	1.04	(0.89–1.22)	0.634

OR: odds ratio; CI: confidence interval

\* Defined as a score of ≥ 30 points on the Suanprung Stress Test 20.

† Adjusted for gender, grade, comorbidities, school scale, online classes, school location, family income, parent' marital status, and presence of siblings.

healthcare services may contribute to heightened distress among high school students with health problems.<sup>20</sup>

The sudden transition to online learning has introduced new challenges for students. The shift from in-person to virtual classrooms may disrupt established routines, reduce social interactions, and create technological barriers, potentially leading to feelings of isolation and disengagement.<sup>5,21</sup> The lack of face-to-face interaction with teachers and peers can limit social support systems and impede effective communication, potentially increasing stress and anxiety among students.<sup>22</sup>

Lower family monthly income can contribute to financial strain and limited access to resources, affecting various aspects of students' lives. Economic hardships can increase stress levels and create difficulties in meeting basic needs, including access to healthcare, educational resources, and

stable housing.<sup>23</sup> Financial constraints can limit opportunities for leisure activities, exacerbate feelings of inequality, and perpetuate a sense of marginalization, all of which can contribute to psychological distress among high school students from lower-income families.<sup>24</sup>

#### 4. CONCLUSION

In summary, this study has identified significant factors linked to psychological distress in Thai high school students during the COVID-19 pandemic. Females, transgender individuals, students with health problems, those in online learning environments, and those from low-income families are particularly vulnerable. To address their unique needs, tailored mental health resources and counseling services should be implemented. This proactive approach aims

to create more inclusive and supportive environments, not only during the pandemic but also for the overall well-being of high school students as they navigate the challenges of adolescence. Ultimately, this study highlights the importance of equitable support systems to promote the mental health and resilience of all high school students.

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#### CONFLICT OF INTEREST

The authors declare no conflict of interest.

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