



# Ethnicity- and Status-Based Stigma among Ethnic Minority High School Students in Chiang Rai, Thailand

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## Abstract

This school-based, cross-sectional analytical study aimed to investigate the prevalence and factors associated with stigma and discriminatory treatment based on ethnicity and status among ethnic minority senior high school students in Chiang Rai Province, Thailand. A validated questionnaire was administered to 360 ethnic minority senior high school students. Data were collected from March to July 2025. Descriptive statistics were used to estimate the prevalence of stigma and discriminatory treatment, and generalized estimating equations (GEE) were applied to identify associated factors. Statistical significance was considered at a  $p$ -value  $< 0.05$ . The results revealed that 360 participants were recruited for the study. Of these, 68.1% were female, with an average age of 16.7 years ( $SD=1.2$ ). By ethnicity, 40.8% identified as Akha, 26.9% as Lahu, and 7.5% were non-Thai. The overall prevalence of past-year stigma and discriminatory treatment linked to ethnicity and social status among ethnic minority senior high school students was 46.4%. In the multivariable GEE model, three variables remained independently associated with past-year stigma and discriminatory treatment. Compared with Akha students, Hmong students had higher odds of experiencing stigma ( $aOR = 2.31$ ; 95% CI: 1.15–4.65). Students in the foreign language track ( $aOR = 1.78$ ; 95% CI: 1.07–2.96) and those in the vocational/sports track ( $aOR = 2.06$ ; 95% CI: 1.42–2.98) also had higher odds compared with students in the science–mathematics track. A

higher resilience score was associated with lower odds of experiencing past-year stigma and discriminatory treatment (aOR = 0.97; 95% CI: 0.93–0.98). In conclusion, to decrease the occurrence of stigma and discriminatory treatment among ethnic minority senior high school students, schools should implement comprehensive intervention strategies that give special attention to higher-risk groups, particularly Hmong students identified in this study, focus on students in study programs associated with higher odds of stigma, and strengthen students' resilience.

**Keywords:** Stigma, Ethnic discrimination, Ethnic minority students, Resilience, Thailand

### What was Known

- Stigma and discriminatory treatment toward ethnic minority and socially marginalized students are associated with psychological distress, reduced school engagement, and poorer educational outcomes, leading to long-term health.
- Quantitative evidence among ethnic minority high school students in Thailand—particularly in northern border provinces—is limited.

### What's New and Next

- This study provides Thailand-specific quantitative evidence showing a high prevalence of ethnicity- and status-based stigma and discriminatory treatment among ethnic minority senior high school students in Chiang Rai Province.
- It identifies Hmong ethnicity and non-science-mathematics academic tracks (foreign languages and vocational/sports) as significant risk factors, while resilience emerges as a protective factor in the Thai school context.
- Further research on interventions focusing on strengthening and integrating anti-discrimination standards into school regulations is recommended.

## Introduction

Stigma and discriminatory treatment refer to experiences in which individuals or groups are negatively labeled, devalued, excluded from social norms, and marginalized as outsiders<sup>(1)</sup>. Stigmatization and discrimination can occur across diverse populations and in multiple environments. In this study, the focus is specifically on ethnic minority youth in school settings in Thailand. In general, previous research across global contexts, such as studies conducted with ethnic minorities in the United States<sup>(2)</sup>, Europe<sup>(3)</sup>, and South Korea<sup>(4)</sup>, has revealed that ethnic

minority youth are particularly vulnerable to stigma and discriminatory treatment due to various factors such as ethnicity, language, socioeconomic status, gender identity, and legal status. Particularly within school settings, which are ideally expected to function as safe spaces that support students' learning, social development, and psychosocial well-being, many ethnic minority youth experience stigma and discriminatory treatment, often from peers, teachers, or other educational personnel<sup>(5)</sup>. Such experiences may take multiple forms, including being devalued, excluded, denied rights, or subjected to negative stereotyping<sup>(6)</sup>. The result of these negative experiences may lead to chronic stress, psychological distress, withdrawal from school activities, and poorer academic performance among vulnerable youth<sup>(7-9)</sup>. Therefore, this issue is not merely an interpersonal problem within schools but a public health concern for youth at the population level<sup>(10)</sup>.

Among ethnic minority youth globally, those in Thailand face a particularly complex set of risks<sup>(11)</sup>. Thailand is home to numerous ethnic minority groups, especially in highland areas along the northern border, including Akha, Lahu, Hmong, Yao, Lisu, and Karen communities<sup>(12,13)</sup>. Young people from these groups often encounter multiple challenges that may heighten their vulnerability to stigma and discriminatory treatment<sup>(11)</sup>. These challenges include navigating ethnic identities that differ from mainstream Thai norms, speaking languages or accents that deviate from standard Thai, experiencing structural poverty, and confronting limited access to citizenship rights or insecure legal status<sup>(14-18)</sup>. As a result, ethnic minority youth in Thailand may have a tendency to experience stigma and discriminatory treatment<sup>(11,18)</sup>.

Despite the likelihood that ethnic minority youth in Thailand experience stigmatization and discrimination within school settings, there remain several significant research gaps on this issue. First, most existing studies in the country have been qualitative in nature and focused on descriptive accounts of experiences of discrimination<sup>(14-17)</sup>. There remains limited quantitative research focusing on the magnitude of the problem (e.g., the prevalence of stigma and discriminatory experiences within a defined period, such as the past 12 months) and the relationship between individual-level factors (e.g., psychological resilience) and structural-level factors (e.g., ethnicity, socioeconomic status, family legal status, or academic track) in relation to the likelihood of encountering stigma and unequal treatment in school settings. Second, in terms of research population, there is a dearth of studies focusing on high school students from ethnic minority groups in the northern border provinces of Thailand, particularly in Chiang Rai, where ethnic minority populations are highly concentrated. In Chiang Rai, many students from ethnic

minority backgrounds face socioeconomic and legal disadvantages, including coming from low-income families, being stateless, or having to live in dormitories or far from home to continue their studies<sup>(19)</sup>. These circumstances may heighten exposure to stigma and discrimination, undermine students' sense of belonging, and place them at risk of poorer academic performance and well-being<sup>(18)</sup>.

Given these gaps and the heightened vulnerabilities faced by ethnic minority youth in Chiang Rai, there is a critical need for empirical research that can quantify the scope of stigma and discriminatory experiences. By identifying the prevalence and associated factors at the school level, such research can inform the development of evidence-based policies and preventive measures to protect vulnerable students, reduce structural stigma, and promote equitable learning environments for ethnic minority youth in Thailand's border regions. Therefore, this study has two main objectives: (1) to estimate the prevalence of stigma and discrimination reported by ethnic minority high school students during the past 12 months; and (2) to analyze factors associated with such reported experiences, considering both identity-related factors (e.g., ethnicity and academic track) and psychosocial protective factors (e.g., students' level of psychological resilience).

## Materials and Methods

### *Study Design and Setting*

This school-based, cross-sectional analytical study was conducted to estimate the prevalence of stigma and discriminatory treatment based on ethnicity and status and to identify associated factors among ethnic minority senior high school students in Chiang Rai Province, Thailand. Data were collected from March to July 2025.

### *Study population*

The study population comprised ethnic minority senior high school students (Akha, Lahu, Hmong, Yao, Karen, and Lisu) enrolled in selected schools in Chiang Rai Province in the 2024 academic year. Eligible participants self-identified as belonging to one of these ethnic minority groups, were currently in upper secondary education (grades 10–12), were able to communicate in Thai, and (if aged <18 years) provided written parental/guardian consent.

Ethnic minority status was determined primarily through self-identification. Participants were asked to report their ethnic group from a list of locally recognized ethnic minority groups in northern Thailand. Due to the sensitive nature of ethnic identification and the absence of formal

school records, class teachers assisted in confirming students' reported ethnic background based on their knowledge of students' family and community background. All information was collected confidentially.

Students who were absent on the day of data collection or were severely ill and required hospitalization were excluded. Participation was voluntary and in accordance with institutional ethical guidelines for minors.

#### *Study sample and sample size calculation*

The required sample size was calculated using Cochran's formula for a single proportion<sup>(20)</sup>:  $n = [Z^2_{\alpha/2} * P * (1-P)] / e^2$ , where  $Z^2_{\alpha/2} = 1.96$ ,  $P = 0.25$ , based on the previously reported prevalence<sup>(21)</sup>, and  $e = 0.05$ . Since this is a school-based survey, a design effect (DEFF) of 1.136 is applied to account for clustering, and 10% is added for potential non-response. The final sample size was 360 participants for this study.

#### *Research Instrument*

A structured, validated, self-administered questionnaire was used for data collection. Part 1 collected demographic and school-related characteristics (sex, age, tribe, religion, nationality, parental living arrangement, study program, and school type).

Part 2 assessed psychological resilience using the 9-item Resilience Inventory (RI-9)<sup>(22,23)</sup>. The RI-9 consists of nine items rated on a 5-point Likert scale. The total score ranges from 9 to 45 points. Higher scores indicate greater resilience. It can be classified into three levels: low ( $\leq 25$ th percentile), average (26th–75th percentile), and high ( $> 75$ th percentile). In the present study, the item-objective congruence (IOC) index was 1.00, and the Cronbach alpha coefficient was 0.86.

Part 3 assessed stigma and discriminatory treatment using the Past-Year Identity-Related Stigma and Discrimination Checklist (IRSD-8), a researcher-developed instrument<sup>(11)</sup>. The IRSD-8 consists of eight dichotomous (yes/no) items that capture past-year experiences of stigma and discriminatory treatment attributable to social identity/status across the following domains: tribal/ethnic identity; language or accent; socioeconomic status or poverty; gender identity or sexual diversity; physical appearance or body shape; being stereotyped as involved with drugs; illness or disability perceived as stigmatizing; and statelessness or insecure legal status. Each domain was scored 1 ("yes") or 0 ("no"). Total scores range from 0 to 8, with higher scores indicating greater exposure. In the present study, the item-objective congruence (IOC) index was

1.00, and internal consistency for dichotomous items was acceptable (Kuder–Richardson Formula 20 [KR-20] = 0.74).

Content validity and reliability were evaluated. Content validity was assessed by three experts (a psychologist, a family medicine specialist, and a public health specialist) using the Item–Objective Congruence (IOC) method with a –1/0/+1 rating scheme. Items with IOC  $\geq 0.70$  were retained for the final form; items with IOC 0.50–0.69 were revised prior to inclusion, and items with IOC  $< 0.50$  were discarded. A pilot test ( $n = 30$ ) with participants of similar characteristics was conducted to examine reliability. Internal consistency was estimated using Cronbach’s alpha for Likert-type scales and Kuder–Richardson Formula 20 (KR-20) for dichotomous items; coefficients  $\geq 0.70$  were treated as adequate.

#### *Data collection*

Multi-stage cluster sampling was utilized in this study. First, we listed the districts with the highest proportion of ethnic-minority residents in Chiang Rai province; simple random sampling was then used to select four districts from six. Second, within each selected district, one high school was selected by simple random sampling. Third, within each school, students were stratified by grade (upper secondary level; grades 10–12). Fourth, students who met the inclusion criteria were randomly selected within each grade stratum.

#### *Data analysis*

Analyses were carried out in Stata/SE 17 (StataCorp LLC, College Station, TX, USA). Descriptive statistics were used to summarize sample characteristics and the prevalence of past-year stigma and discrimination. The primary outcome was any experience of stigma or discriminatory treatment in the past 12 months (coded “yes” if  $\geq 1$  domain was reported). Crude associations between each independent variable and the outcome were examined using univariable generalized estimating equations (GEE) with a logit link. A multivariable GEE model was then fitted to estimate adjusted associations. Students within the same school were treated as a correlated cluster, and an exchangeable working correlation structure with robust standard errors was applied. Variables that were both statistically ( $p < 0.20$  in univariable models) and conceptually relevant were included in the multivariable model. Adjusted odds ratios (aORs) and 95% confidence intervals (CIs) are reported; statistical significance was defined as  $p < 0.05$ .

## Result

A total of 360 participants were recruited. Of these, 68.1% were female, with a mean age of 16.7 years ( $SD = 1.2$ ). By ethnicity, 40.8% identified as Akha and 26.9% as Lahu. More than half (65.8%) were Buddhist, 7.5% were non-Thai, 34.2% had parents who were separated/divorced or living with other guardians, 43.6% were enrolled in a foreign-language track, 72.8% studied in a day school, and 27.5% had low resilience (Table 1).

The prevalence of past-year stigma and discriminatory treatment linked to ethnicity and social status among ethnic minority senior high school students in Chiang Rai Province, Thailand, was 46.4% (Table 2).

In the univariable GEE models revealed, four variables were found to be associated with past-year stigma and discriminatory treatment: ethnic group, religion, study program, and resilience (Table 3).

In the multivariable GEE model, three variables remained independently associated with past-year stigma and discriminatory treatment. Compared with Akha students, Hmong students had higher odds of experiencing stigma ( $aOR = 2.31$ ; 95% CI: 1.15–4.65). Students in the foreign language track ( $aOR = 1.78$ ; 95% CI: 1.07–2.96) and those in the vocational/sports track ( $aOR = 2.06$ ; 95% CI: 1.42–2.98) also had higher odds compared with students in the science–mathematics track. In addition, a higher resilience score (per 1-point increase) was associated with lower odds of experiencing past-year stigma and discriminatory treatment ( $aOR = 0.97$ ; 95% CI: 0.93–0.98) (Table 4).

**Table 1** Participant characteristics (n=360)

| Characteristic                         | n   | %    |
|----------------------------------------|-----|------|
| <b>Sex</b>                             |     |      |
| Male                                   | 115 | 31.9 |
| Female                                 | 245 | 68.1 |
| <b>Age (years)</b>                     |     |      |
| ≥18                                    | 95  | 26.4 |
| 17                                     | 118 | 32.8 |
| 16                                     | 89  | 24.7 |
| 15                                     | 58  | 16.1 |
| <i>Mean 16.7 (SD 1.2), range 15–21</i> |     |      |

**Table 1** Participant characteristics (n=360) (Cont.)

| Characteristic                                            | n   | %    |
|-----------------------------------------------------------|-----|------|
| <b>Ethnic group</b>                                       |     |      |
| Akha                                                      | 147 | 40.8 |
| Lahu                                                      | 97  | 26.9 |
| Hmong                                                     | 82  | 22.8 |
| Yao/Lisu/Karen                                            | 34  | 9.5  |
| <b>Religion</b>                                           |     |      |
| Buddhist                                                  | 237 | 65.8 |
| Christian                                                 | 114 | 31.7 |
| Islam/Ancestor worship                                    | 9   | 2.5  |
| <b>Nationality</b>                                        |     |      |
| Thai                                                      | 333 | 92.5 |
| Non-Thai                                                  | 27  | 7.5  |
| <b>Parental living arrangement</b>                        |     |      |
| Both parents living together                              | 237 | 65.8 |
| Parents separated/divorced or living with other guardians | 123 | 34.2 |
| <b>Study program</b>                                      |     |      |
| Science–Mathematics Track                                 | 85  | 23.6 |
| Foreign Languages Track                                   | 157 | 43.6 |
| Vocational/Sports Track                                   | 118 | 32.8 |
| <b>School type</b>                                        |     |      |
| Day school                                                | 270 | 75.0 |
| Boarding school                                           | 90  | 25.0 |
| <b>Resilience</b>                                         |     |      |
| High                                                      | 86  | 23.9 |
| Average                                                   | 175 | 48.6 |
| Low                                                       | 99  | 27.5 |
| <i>Median 34 (IQR 29–38); range 9–38</i>                  |     |      |

Note: Resilience score derived from the 9-item Resilience Inventory (RI-9); higher scores indicate greater resilience; percentages may not sum to 100.0% due to rounding.

**Table 2** Prevalence of past-year stigma and discriminatory treatment (n = 360)

| Domain (past 12 months) <sup>1</sup>                                                        | Yes<br>n (%)      | No<br>n (%)       |
|---------------------------------------------------------------------------------------------|-------------------|-------------------|
| <b>Any experience of stigma/discriminatory treatment<br/>(≥1 domain “Yes”) <sup>2</sup></b> | <b>167 (46.4)</b> | <b>193 (53.6)</b> |
| <b>Multi-domain exposure (≥2 different domains “Yes”)</b>                                   | <b>106 (29.4)</b> | <b>254 (70.6)</b> |
| Gender identity/sexual diversity                                                            | 119 (33.1)        | 241 (66.9)        |
| Language/accent                                                                             | 102 (28.3)        | 258 (71.7)        |
| Ethnicity / tribal identity                                                                 | 74 (20.6)         | 286 (79.4)        |
| Poverty/low financial status                                                                | 55 (15.3)         | 305 (84.7)        |
| Disability / illness / stigmatized health condition                                         | 21 (5.8)          | 339 (94.2)        |
| Statelessness / insecure legal status                                                       | 18 (5.0)          | 342 (95.0)        |
| Being stereotyped as drug-involved                                                          | 8 (2.2)           | 352 (97.8)        |
| Physical appearance / body shape / looks                                                    | 8 (2.2)           | 352 (97.8)        |

<sup>1</sup>Past-year experience = ≥1 episode in the previous 12 months attributed to that domain.

<sup>2</sup>Any experience = “yes” if ≥1 domain endorsed; multi-domain exposure = “yes” if ≥2 domains endorsed.

**Table 3** Univariable GEE analysis of factors associated with past-year stigma and discriminatory treatment among ethnic minority senior high school students (n=360)

| Factors            | Past-year<br>stigma/discriminatory<br>treatment |                    | Univariable GEE model |           |         |
|--------------------|-------------------------------------------------|--------------------|-----------------------|-----------|---------|
|                    | Yes                                             | No                 | cOR                   | 95% CI    | p-value |
|                    | n (%)<br>(n = 167)                              | n (%)<br>(n = 193) |                       |           |         |
| <b>Sex</b>         |                                                 |                    |                       |           |         |
| Male               | 56(48.7)                                        | 59(51.3)           | Reference             |           |         |
| Female             | 111(45.3)                                       | 134(54.7)          | 0.96                  | 0.63-1.44 | 0.300   |
| <b>Age (years)</b> |                                                 |                    |                       |           |         |
| ≥18                | 40(42.1)                                        | 55(57.9)           | Reference             |           |         |
| 17                 | 59(50.0)                                        | 59(50.0)           | 1.33                  | 0.77-2.32 | 0.306   |
| 16                 | 39(43.8)                                        | 50(56.2)           | 1.05                  | 0.67-1.62 | 0.843   |
| 15                 | 29(50.0)                                        | 29(50.0)           | 1.43                  | 0.77-2.66 | 0.262   |

**Table 3** Univariable GEE analysis of factors associated with past-year stigma and discriminatory treatment among ethnic minority senior high school students (n=360) (Cont.)

| Factors                                                   | Past-year<br>stigma/discriminatory<br>treatment |                    | Univariable GEE model |           |         |
|-----------------------------------------------------------|-------------------------------------------------|--------------------|-----------------------|-----------|---------|
|                                                           | Yes                                             | No                 | cOR                   | 95% CI    | p-value |
|                                                           | n (%)<br>(n = 167)                              | n (%)<br>(n = 193) |                       |           |         |
| <b>Ethnic group</b>                                       |                                                 |                    |                       |           |         |
| Akha                                                      | 70(47.6)                                        | 77(52.4)           | Reference             |           |         |
| Lahu                                                      | 36(37.1)                                        | 61(62.9)           | 0.76                  | 0.49-1.19 | 0.226   |
| Hmong                                                     | 49(59.8)                                        | 33(40.2)           | 1.50                  | 1.05-2.16 | 0.028*  |
| Yao/Lisu/Karen                                            | 12(35.3)                                        | 22(64.7)           | 0.64                  | 0.44-0.92 | 0.016*  |
| <b>Religion</b>                                           |                                                 |                    |                       |           |         |
| Buddhist                                                  | 97(40.9)                                        | 140(59.1)          | Reference             |           |         |
| Christian                                                 | 66(57.9)                                        | 48(42.1)           | 1.79                  | 1.27-2.52 | 0.001*  |
| Islam/Ancessor worship                                    | 4(44.4)                                         | 5(55.6)            | 1.13                  | 0.23-5.55 | 0.885   |
| <b>Nationality</b>                                        |                                                 |                    |                       |           |         |
| Thai                                                      | 153(45.9)                                       | 180(54.1)          | Reference             |           |         |
| Non-Thai                                                  | 14(51.9)                                        | 13(48.1)           | 1.15                  | 0.89-1.50 | 0.269   |
| <b>Parental living arrangement</b>                        |                                                 |                    |                       |           |         |
| Both parents living together                              | 117(49.4)                                       | 120(50.6)          | Reference             |           |         |
| Parents separated/divorced or living with other guardians | 50(40.7)                                        | 73(59.3)           | 0.71                  | 0.46-1.10 | 0.121   |
| <b>Study program</b>                                      |                                                 |                    |                       |           |         |
| Science-Mathematics Track                                 | 29(34.1)                                        | 56(65.9)           | Reference             |           |         |
| Foreign Languages Track                                   | 75(47.8)                                        | 82(52.2)           | 1.79                  | 1.08-2.96 | 0.023*  |
| Vocational/Sports Track                                   | 63(53.4)                                        | 55(46.6)           | 1.81                  | 1.19-2.75 | 0.006*  |
| <b>School type</b>                                        |                                                 |                    |                       |           |         |
| Day school                                                | 118(43.7)                                       | 152(56.3)          | Reference             |           |         |
| Boarding school                                           | 49(54.4)                                        | 41(45.6)           | 1.54                  | 0.89-2.65 | 0.120   |
| <b>Resilience score</b><br>(per 1-point increase)         | 32.29(7.5)                                      | 34.23(6.44)        | 0.97                  | 0.93-0.98 | 0.038*  |

\*Significant at p-value <0.05; For categorical variables, values are shown as n (%). For resilience, values are presented as mean (SD). cOR = crude odds ratio from univariable generalized estimating equation (GEE) models with a logit link; school was specified as the clustering unit, and robust standard errors were used.

**Table 4** Factors associated with past-year stigma and discriminatory treatment linked to ethnicity and social status in univariate and multivariate analysis

| Factors                                        | Univariable GEE model |           |         | Multivariable GEE model |           |         |
|------------------------------------------------|-----------------------|-----------|---------|-------------------------|-----------|---------|
|                                                | cOR                   | 95%CI     | p-value | aOR                     | 95%CI     | p-value |
| <b>Ethnic group</b>                            |                       |           |         |                         |           |         |
| Akha                                           | Reference             |           |         | Reference               |           |         |
| Lahu                                           | 0.76                  | 0.49–1.19 | 0.226   | 0.95                    | 0.52–1.74 | 0.876   |
| Hmong                                          | 1.50                  | 1.05–2.16 | 0.028*  | 2.31                    | 1.15–4.65 | 0.019*  |
| Yao/Lisu/Karen                                 | 0.64                  | 0.44–0.92 | 0.016*  | 0.93                    | 0.59–1.38 | 0.640   |
| <b>Study program</b>                           |                       |           |         |                         |           |         |
| Science–Mathematics Track                      | Reference             |           |         | Reference               |           |         |
| Foreign Languages Track                        | 1.79                  | 1.08–2.96 | 0.023*  | 1.78                    | 1.07–2.96 | 0.025*  |
| Vocational/Sports Track                        | 1.81                  | 1.19–2.75 | 0.006*  | 2.06                    | 1.42–2.98 | <0.001* |
| <b>Resilience score (per 1-point increase)</b> | 0.97                  | 0.93–0.98 | 0.038*  | 0.96                    | 0.94–0.98 | 0.006*  |

\*Significant at p-value <0.05; cOR = crude odds ratio from univariable generalized estimating equation (GEE) models with a logit link. aOR = adjusted odds ratio from the multivariable GEE model with a logit link; school was specified as the clustering unit, and robust standard errors were used. Resilience score was treated as a continuous predictor (per 1-point increase).

## Discussion

This study examined the prevalence and determinants of past-year stigma and discriminatory treatment linked to ethnicity and social status among ethnic minority senior high school students in Chiang Rai Province, Thailand. Nearly half of the participants (46.4%) reported experiencing at least one form of stigma or discriminatory treatment within the previous year, indicating a substantial public health concern. When compared with evidence from other regions, the prevalence observed in this study appears notably higher. For instance, national survey data from the United States show that approximately one-third (31.5%) of high school students report experiencing unfair treatment at school due to their race or ethnicity<sup>(2)</sup>. Similarly, a European study

found that 34.0% of people of African descent experienced racial discrimination in the past 12 months<sup>(3)</sup>, while research conducted in South Korea reported that 20.5% of Korean Chinese waged workers had encountered social stigma and discrimination<sup>(4)</sup>. In a similar fashion, in Thailand, the prevalence of bullying among adolescents has been reported at approximately 40% in national school-based surveys<sup>(24,25)</sup>, with even higher rates observed among vulnerable subgroups, reaching up to 69% in some studies<sup>(26)</sup>. These comparisons suggest that ethnic minority adolescents in northern Thailand may face a disproportionately high level of stigmatizing experiences relative to other international contexts. The high prevalence found in this study may be shaped by the unique sociocultural environment of border-area schools, where students differ markedly in languages, ethnic identity, and socioeconomic background. These differences align closely with the domains in which stigma was most commonly reported—sexual diversity, language/accent, and ethnic identity. For instance, many ethnic minority students speak their tribal language at home and acquire Thai as a second or third language, which may lead to accented Thai or limited fluency<sup>(27,28)</sup>. Such language differences are highly visible in classroom interactions and can become a basis for teasing or social exclusion<sup>(29)</sup>. Similarly, strong cultural markers associated with particular tribes—such as names, appearance, or traditional practices—may make some groups more vulnerable to ethnic-based stereotyping, as reflected in the higher odds of stigma reported among Hmong students in this study. Stigma related to sexual and gender diversity may also arise from common cultural expectations in schools. When students show gender expression or developing sexual identities that differ from the norm, their peers may pay extra attention to these differences, which can lead to teasing, negative comments, or exclusion<sup>(30)</sup>.

Beyond the overall prevalence patterns, several factors were associated with stigma and discriminatory treatment in this study. First, ethnicity remained a significant predictor in the multivariable model. Hmong students had more than twice the odds of experiencing stigma compared with Akha students, suggesting that ethnic minority groups do not experience discrimination uniformly. Historical marginalization, the visibility of cultural markers, language differences, and persistent stereotypes may place Hmong students at greater risk<sup>(31,32)</sup>. In contrast, Lahu and Yao/Lisu/Karen students did not show significantly higher adjusted odds, which may reflect comparatively smoother sociocultural integration or less pronounced societal stereotypes toward these groups. These findings highlight the complex ethnic hierarchies and intergroup perceptions within northern Thailand.

Second, academic track emerged as an important contextual factor. Students enrolled in foreign languages and vocational/sports tracks were more likely to report stigma than their counterparts in the science–mathematics track. This is supported by several studies in the Canada<sup>(33)</sup>, the United States<sup>(34)</sup>, and in China<sup>(35,36)</sup>. This pattern is consistent with the broader educational culture in Thailand, where other tracks—such as vocational programs<sup>(37)</sup>—are often viewed as less academically competitive than more prestigious academic tracks, which may place these students at a lower social standing in school and increase their risk of experiencing stigma. Thus, for ethnic minority students enrolled in foreign language or vocational/sports tracks, who may already face linguistic and cultural barriers, this track-related stigma may further compound their vulnerability<sup>(38)</sup>. Schools should therefore critically examine institutional practices that unintentionally reinforce hierarchical distinctions among tracks and take steps to ensure more equitable treatment across academic programs<sup>(39)</sup>.

Finally, resilience served as a significant protective factor. Each 1-point increase in resilience score was associated with lower odds of experiencing stigma or discriminatory treatment. This is supported by a study of a multiethnic school sample in the United States<sup>(40)</sup>, which found that psychological resilience acts as a protective factor that buffers against racial/ethnic discrimination. Similar to several studies in Brazil<sup>(41)</sup>, China<sup>(42,43)</sup>, these studies revealed that resilience mitigated the adverse impact of discrimination on stigma distress and well-being. This finding aligns with existing literature demonstrating that resilience acts as a psychological buffer, helping adolescents cope with interpersonal stressors such as exclusion or prejudice. Higher-resilience students may be better equipped to regulate their emotions, seek social support, and reinterpret negative interactions in less harmful ways. They may also possess stronger problem-solving skills and a greater sense of self-worth, which can reduce the impact of stigmatizing behaviors on their daily functioning<sup>(41,43)</sup>.

This study has several strengths, including the use of a GEE modeling approach that accounted for clustering at the school level and a comprehensive assessment of multiple stigma domains. However, certain limitations must be acknowledged. The cross-sectional design limits causal interpretations, and self-reported measures may be affected by recall or social desirability biases. Additionally, the sample was drawn from a single province, which may limit the generalizability of findings to other ethnic minority populations in Thailand. Lastly, although the IRSD-8 demonstrated acceptable internal consistency in this study, future research should

undertake external validation in more diverse populations to further establish its psychometric properties.

The findings of this study point to several implications at the policy and school levels that are directly relevant to public health. At the national policy level, the high prevalence of stigma and discriminatory treatment among ethnic minority adolescents highlights a need for policies that address inequities as determinants of health. Chronic exposure to stigma is associated with psychological distress, reduced help-seeking, and poorer educational outcomes, all of which have long-term health consequences. Strengthening national and provincial policies—such as integrating anti-discrimination standards into school regulations, enhancing teacher training on cultural competence, and ensuring fair access to academic tracks—can reduce structural drivers of stigma and thereby promote healthier developmental environments for minority youth. At the school and community level, interventions should aim to create safer, more supportive social environments, which are essential for adolescent mental health and well-being. Schools in border areas can reduce stigma-related risks by implementing peer-education programs that promote empathy, delivering whole-school campaigns on respect and cultural diversity, and reviewing tracking practices to minimize unintended social stratification. Strengthening partnerships with local communities and tribal leaders can further reduce harmful stereotypes and foster environments that protect youth from the psychosocial stress associated with discrimination. These school- and community-level strategies are important for preventing the adverse mental health outcomes that often accompany stigmatizing experiences.

## Conclusion

In conclusion, this study demonstrates a high prevalence of stigma and discriminatory treatment among ethnic minority adolescents in Chiang Rai, with ethnic group, academic track, and resilience as key determinants. These findings support the need for targeted school-based interventions, particularly for Hmong students and those in non-science tracks. Future research should employ longitudinal study designs to establish causality and conduct randomized trials of resilience-building programs.

## Ethical Approval Statement

All research protocols were approved by the Research Ethics Committee of the Mae Fah Luang University, Thailand (Protocol number EC 24187-18; approval date: 12 December 2024).

## Author Contributions

TR, PS, WC, TK, and FY conceptualized and designed the study. TR, WC, TK, and FY conducted the investigation. TR and WC curated the data. TR, DT, and PS performed the formal analysis. TR and FY managed the project. TR acquired funding. TR supervised the study. TR, PS, TK, and WC wrote the original draft. TR and PS reviewed and edited the manuscript. All authors have read and approved the final manuscript.

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## Conflicts of Interest

The authors declare that they have no competing interests.

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