Prevalence and Correlates of Frequent and Infrequent Bullying Victimization Among School Adolescents from Five Southeast Asian Countries

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Prevalence and Correlates of Frequent and Infrequent Bullying Victimization Among School Adolescents from Five Southeast Asian Countries

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Abstract

Background: Little is known about the frequency of bullying victimization (BV) among adolescents in Association of Southeast Asian Nations (ASEAN) member states. This study aims to assess the prevalence and correlates of frequent and infrequent BV among school-going adolescents in five ASEAN member states.

Methods: The cross-sectional sample of the Global School-based Student Health Survey (GSHS) of 2015 comprised 33,184 school adolescents (14.6 years mean age) from five ASEAN countries. Students completed a paper-based, self-administered questionnaire on BV in their own languages during classroom periods. Multinomial logistic regression was used to predict frequent and infrequent BV, with no BV as the reference category.

Results: Results indicate that 30.6% of participants reported any past-month BV, 33.9% in boys and 27.5 in girls, ranging from 11.8% in Laos to 48.7% in the Philippines. In the adjusted multinomial logistic regression analysis of students from the Philippines and Thailand, experience of hunger, sedentary behavior, attendance at physical education classes, being underweight, overweight, or obese, ever amphetamine use, physical assault, school truancy, participation in a physical fight, injury, low peer support, and psychological distress were all associated with BV.

Conclusions: Approximately one in three adolescents was bullied. Several associated variables were identified which can assist in targeting strategies of intervention.

Keywords: adolescents, Asia, bullying

INTRODUCTION

Bullying refers to aggressive behavior that is repetitive and intentional in which a power differential exists between the victim and the bully. The negative effects of bullying on an individual’s mental and physical health can be substantial and in line with other major forms of child maltreatment.1 Bullying victimization (BV) can be better prevented if the epidemiology and determinants are known in a given population.1

Globally, there is a high proportion of BV among adolescents in Asian countries (about 30% past month),2 ranging from past month levels of 50.9% in Nepal,3 45.0% in 2011 in the Philippines,4 41.3% in Pakistan,5 and 44.6% in China6 to a low of 27.8% in Thailand.7 There is limited recent information on the prevalence and correlates of the frequency of BV among adolescents in ASEAN countries.8 In order to better design anti-bullying programs among adolescents in ASEAN countries, it is important to assess the prevalence and specific determinants of the frequency of BV.

Sociodemographics along with externalizing and internalizing factors have been identified as correlates of BV. Sociodemographic correlates of BV include younger age groups, boys, and lower socioeconomic status.6,7,9 Externalizing symptoms increasing the odds of BV may include substance abuse, violence, injury, and truancy.6,7,9 Internalizing symptoms increasing the odds may include mental distress, lack of close friends, and sedentary behavior.6,7,9 In contrast, parental and peer support have been identified as protective against BV.6,10,11

METHODS

Participants and procedures

The study aimed to estimate the prevalence and correlates of BV among in-school adolescents in five ASEAN countries. It used secondary cross-sectional data from the 2015 ASEAN Global School-based Student Health Survey (GSHS). The GSHS data are in the public domain.12

Using a two-stage cluster sampling strategy, nationally representative samples of middle school students were produced that year in Indonesia, Laos, the Philippines,
Thailand, and Timor-Leste. At the first stage, schools were chosen with probability proportional to size sampling, and at the second stage, classrooms with students aged 13–15 years were randomly selected in each school. Under the supervision of trained survey administrators, students completed a self-administered questionnaire in their language during classroom periods. All students in the selected classrooms, regardless of their ages, were eligible to participate. The questionnaire was translated into the local language of each participating country.

This study complies with the STROBE guidelines. The study proposal was approved by the Ministry of Education or Health and a national ethics committee in each country, and verbal or written consent was obtained from the participating schools, parents, and students before the survey was administered.

Measures

The GSHS study measure used is shown in Table 1. BV was assessed with the question, During the past 30 days, on how many days were you bullied? Infrequent BV was defined as 1–2 days/month and frequent BV as 3–30 days/month. The psychological distress items (no close friends, loneliness, anxiety, suicidal ideation, and suicide attempts) were totaled, and grouped into 0=0, 1=1 single and 2–5=2 multiple. Cronbach alpha for the psychological distress measure was 0.7 in this study. Underweight was defined as less than –2SD from the median for BMI by age and sex, and overweight or obesity was classified as more than +1 standard deviation (SD) from the median body mass index by age and sex. The four items on parental or guardian support were totaled and classified into three groups: 0–1 low, 2 medium, and 3–4 high support. Cronbach alpha for the parental support measure was 0.7 in this study. Sedentary behavior was defined as spending three or more hours per day sitting.

| TABLE 1. Description of questions |
|----------------------------------|
| **Variables** | **Items** | **Responses (coding)** |
| Age | How old are you? | 11 years old or younger to 18 years old or older |
| Gender | What is your sex? | Male, Female |
| Economic status | During the past 30 days, how often did you go hungry because there was not enough food in your home? | 1=never to 5=always (coded 1–3=0 and 4–5=1) |
| Bullying victimization | [Bullying occurs when a student or a group of students say or do bad and unpleasant things to another student. It is also bullying when a student is teased a lot in an unpleasant way or forced to withdraw from certain activities on purpose. It is not bullying when two students of about the same strength or power argue or fight or when teasing is done in a friendly and humorous way.] During the past 30 days, on how many days were you bullied? | 1=0 days to 7=All 30 days (coded 1=1, 2=2 and 3–7=3) |
| Sedentary behavior | How much time do you spend during a typical day sitting and watching television, playing computer games, talking with friends, or doing other sitting activities, such as country examples? | 1=less than 1 hour per day; 2=1–2 hrs/day; 3=3–4 hrs/day; 4=5–6 hrs/day; 5=7–8 hrs/day and 6=8 or more hours per day |
| Physical education (≥3 days/week) | During this school year, on how many days did you go to physical education (PE) class each week? | 1=0 days to 6=5 or more days (coded 1–3=0 and 4–6=1) |
| Height | How tall are you without your shoes on? | |
| Weight | How much do you weigh without your shoes on? | |
| Current tobacco use | During the past 30 days, on how many days did you smoke cigarettes/use any tobacco products other than cigarettes, such as country examples? | 1=0 days to 7=All 30 days (coded 1=0 and 2–7=1) |
| Amphetamine use | During your life, how many times have you used amphetamines or methamphetamines? | 1=0 times to 5=20 or more times (coded 1=0 and 2–5=1) |
| Truancy | During the past 30 days, on how many days did you miss classes or school without permission? | 1=0 days to 5=10 or more days (coded 1=0 and 2–5=1) |
| Physical assault | During the past 12 months, how many times were you physically attacked? | 1=0 times to 8=12 or more times |
Table 1. continues

| Variables                        | Items                                                                 | Responses (coding)          |
|----------------------------------|----------------------------------------------------------------------|-----------------------------|
| Injury                           | During the past 12 months, how many times were you seriously injured? | 1=0 times to 8=12 or more times (coded 1=0 and 2-8=1) |
| Psychological distress           |                                                                      |                             |
| No close friends                 | How many close friends do you have?                                  | 1=0 to 4=3 or more (coded 1+=0, 0=1) |
| Lonely                           | During the past 12 months, how often have you felt lonely?            | 1=never to 5=always (coded 1-3=0 and 4-5=1) |
| Worry                            | During the past 12 months, how often have you been so worried about something that you could not sleep at night? | 1=never to 5=always (coded 1-3=0 and 4-5=1) |
| Suicidal ideation                | During the past 12 months, did you ever seriously consider attempting suicide? | Yes, No |
| Suicide attempt                  | During the past 12 months, how many times did you actually attempt suicide? | 1=0 times to 5=6 or more times (coded 1=0 and 2-5=1) |
| Peer support                     |                                                                      |                             |
| Parental supervision             | During the past 30 days, how often did your parents or guardians check to see if your homework was done? | 1=never to 5=always (coded 1-3=0 and 4-5=1) |
| Parental connectedness           | During the past 30 days, how often did your parents or guardians understand your problems and worries? | 1=never to 5=always (coded 1-3=0 and 4-5=1) |
| Parental bonding                 | During the past 30 days, how often did your parents or guardians really know what you were doing with your free time? | 1=never to 5=always (coded 1-3=0 and 4-5=1) |
| Parental respect for privacy     | During the past 30 days, how often did your parents or guardians go through your things without your approval? | 1=never to 5=always (coded 1-3=0 and 4-5=1) |

RESULTS

Sample characteristics
The overall sample comprised 33,184 school adolescents with a mean age of 14.6 years (SD=1.7) from Indonesia (overall response rate=94%), Laos (72%), Philippines (79%), Thailand (89%) and Timor-Leste (response rate=79%). Almost one in three participants (30.6%) reported any BV in the past 30 days (33.9% in boys and 27.5 in girls). The prevalence of past month BV ranged from 11.8% in Laos to 48.7% in the Philippines. Almost one in five students (18.6%) reported BV on one to two days in the past month and 12.0% on three to 30 days in the past month (Table 2).

Associations with bullying victimization
For students from the Philippines and Thailand in the adjusted multinominal logistic regression analysis, experience of hunger, sedentary behavior, attending physical education classes, being overweight or obese, ever amphetamine use, school truancy, physically attacked, injury, involvement in physical fighting, and psychological distress were positively associated with infrequent and/or frequent BV. Being from Laos and Timor-Leste and peer support decreased the odds of infrequent and/or frequent BV (Table 3).

DISCUSSION
The 2015 investigation assessed the prevalence and correlates of BV among school adolescents in five ASEAN countries. The overall prevalence of BV (30.6%) was similar to the global prevalence (30%), but lower than in Nepal (50.9%), and Pakistan (41.3%). The prevalence of past-month BV (29.3%) in Thailand was similar to the 2008 Thailand GSHS (27.8%), the 48.7% in the Philippines was higher than the 2003 to 2011 GSHS (34.7%-45.0%), and of 20.6% in Indonesia was much lower than in the 2007 GSHS (50.0%) there. It is possible that school-based anti-bullying interventions in Indonesia have been effective in reducing BV. Among the five ASEAN study countries, Laos had the lowest prevalence of BV (11.8%). These figures may compare with the prevalence of any physical violence victimization among adolescents (13–17 years) (8.2% in boys and 6.6% in girls) in the past 12 months in the 2014 Violence against Children Survey in Laos. The lower prevalence of BV among adolescents in Laos may be attributed to specific cultural norms and practices in that country, while the relatively high prevalence in Timor-Leste may be attributed due to the effects of a long history of conflict.

Consistent with some previous research, this study found that the experience of hunger (or lower socioeconomic status) was associated with BV. This could mean that the provision of school food programs may help in reducing BV. Unlike some prior studies, this study did not find significant sex and age differences in the prevalence of BV. This could imply that bullying prevention in schools may be equally targeting boys and girls and adolescents of different age groups. Further research is needed to explore the nonsignificant age and sex differences.
| Variables                                      | Sample Percentage (%) | Infrequent BV Percentage (%) | Frequent BV Percentage (%) |
|------------------------------------------------|-----------------------|-------------------------------|-----------------------------|
| **Sociodemographic indicators**                |                       |                               |                             |
| All                                            | 100                   | 18.6                          | 12.0                        |
| Country                                        |                       |                               |                             |
| Indonesia                                      | 33.6                  | 13.9                          | 6.7                         |
| Laos                                           | 11.1                  | 9.3                           | 2.5                         |
| Philippines                                    | 26.4                  | 28.2                          | 20.5                        |
| Thailand                                       | 17.8                  | 15.6                          | 13.7                        |
| Timor-Leste                                     | 11.2                  | 21.5                          | 7.1                         |
| Age (years)                                     |                       |                               |                             |
| ≤13                                            | 29.1                  | 18.3                          | 12.2                        |
| 14                                             | 20.7                  | 19.7                          | 12.5                        |
| 15                                             | 19.4                  | 20.6                          | 12.8                        |
| ≥16                                            | 30.9                  | 16.7                          | 10.5                        |
| Gender                                         |                       |                               |                             |
| Female                                         | 51.1                  | 17.6                          | 9.6                         |
| Male                                           | 48.9                  | 19.8                          | 14.1                        |
| Hunger                                         |                       |                               |                             |
| Never                                          | 40.4                  | 13.8                          | 8.7                         |
| Rarely                                         | 20.0                  | 20.8                          | 14.0                        |
| Sometimes/mostly/always                        | 39.6                  | 22.6                          | 14.3                        |
| **Risk behavior**                              |                       |                               |                             |
| Sitting 3 or more hours (during leisure-time)  | 32.6                  | 17.4                          | 15.1                        |
| Attending physical education classes           | 22.8                  | 24.7                          | 17.3                        |
| Body Mass Index                                |                       |                               |                             |
| Normal                                         | 77.3                  | 17.7                          | 10.8                        |
| Underweight                                    | 8.7                   | 20.0                          | 13.0                        |
| Overweight or obese                            | 14.0                  | 15.9                          | 15.9                        |
| Current tobacco use                             | 13.9                  | 26.3                          | 22.4                        |
| Current alcohol use                             | 2.5                   | 26.9                          | 22.6                        |
| Ever amphetamine use                            | 3.0                   | 34.6                          | 39.7                        |
| School truancy                                  | 25.3                  | 25.4                          | 18.8                        |
| Physically attacked                             | 33.1                  | 28.0                          | 21.4                        |
| In physical fight                               | 28.0                  | 30.4                          | 23.4                        |
| Sustained injury                                | 36.9                  | 27.9                          | 21.5                        |
| Psychological distress                          |                       |                               |                             |
| 0                                              | 76.8                  | 16.0                          | 7.6                         |
| 1                                              | 14.6                  | 25.8                          | 19.1                        |
| 2–3                                            | 8.6                   | 27.9                          | 30.6                        |
| **Social-familial protective indicators**       |                       |                               |                             |
| High peer support                               | 36.8                  | 15.2                          | 9.8                         |
| Parental support                                |                       |                               |                             |
| 0–1                                            | 51.6                  | 21.0                          | 13.8                        |
| 2                                              | 27.0                  | 17.7                          | 10.0                        |
| 3–4                                            | 21.4                  | 14.8                          | 9.1                         |
TABLE 3. Associations with bullying victimization (BV) frequency

| Variable                        | Infrequent BV | Frequent BV | Infrequent BV | Frequent BV |
|---------------------------------|---------------|-------------|---------------|-------------|
|                                 | URRR (95% CI) | URRR (95% CI) | ARR (95% CI) | ARR (95% CI) |
| **Sociodemographic indicators** |               |             |               |             |
| Country                         |               |             |               |             |
| Indonesia                       | 1 (Reference) | 1 (Reference) | 1 (Reference) | 1 (Reference) |
| Laos                            | 0.60 (0.22, 0.52)** | 0.34 (0.22, 0.52)** | 0.69 (0.54, 0.88)** | 0.54 (0.35, 0.85)** |
| Philippines                     | 3.14 (2.68, 3.66)** | 4.72 (2.97, 5.61)** | 2.28 (1.93, 2.68)** | 3.48 (2.80, 4.34)** |
| Thailand                        | 1.26 (1.05, 1.51)* | 2.30 (1.78, 2.96)** | 1.17 (0.99, 1.38) | 1.64 (1.32, 2.03)** |
| Timor-Leste                     | 1.72 (1.44, 2.04)** | 1.19 (0.91, 1.55) | 1.09 (0.88, 1.34) | 0.69 (0.52, 0.92)* |
| **Age (years)**                 |               |             |               |             |
| ≤13                             | 1 (Reference) | 1 (Reference) | ---           | ---         |
| 14                              | 1.10 (0.97, 1.26) | 1.05 (0.89, 1.24) |             |             |
| 15                              | 1.17 (0.96, 1.43) | 1.10 (0.91, 1.32) |             |             |
| ≥16                             | 0.87 (0.72, 1.05) | 0.83 (0.66, 1.04) |             |             |
| **Gender**                      |               |             |               |             |
| Female                          | 1 (Reference) | 1 (Reference) | 0.95 (0.86, 1.06) | 1.16 (0.96, 1.41) |
| Male                            | 1.23 (1.11, 1.36)** | 1.55 (1.32, 1.82)** |               |             |
| **Experience of hunger**        |               |             |               |             |
| Never                           | 1 (Reference) | 1 (Reference) | 1 (Reference) | 1 (Reference) |
| Rarely                          | 1.80 (1.62, 2.01)** | 1.91 (1.62, 2.25)** | 1.22 (1.08, 1.39)** | 1.16 (0.99, 1.36) |
| Sometimes/mostly/always         | 2.02 (1.85, 2.21)** | 2.02 (1.77, 2.30)** | 1.61 (1.44, 1.80)** | 1.50 (1.30, 1.73)** |
| **Risk behavior**               |               |             |               |             |
| Sitting 3 or more hours (during leisure-time) | 0.94 (0.85, 1.05) | 1.52 (1.33, 1.73)** | 0.91 (0.80, 1.03) | 1.40 (1.21, 1.61)** |
| Attending physical education classes | 1.83 (1.64, 2.03)** | 2.10 (1.85, 2.37)** | 1.26 (1.11, 1.44)** | 1.29 (1.07, 1.55)** |
| **Body mass index**             |               |             |               |             |
| Normal                          | 1 (Reference) | 1 (Reference) | 1 (Reference) | 1 (Reference) |
| Underweight                     | 1.21 (1.05, 1.39)* | 1.29 (1.10, 1.50)** | 1.22 (1.00, 1.48)* | 1.24 (1.04, 1.47)* |
| Overweight or obese             | 0.89 (0.78, 1.01) | 1.09 (0.81, 1.31) | 0.98 (0.83, 1.17) | 1.30 (1.08, 1.57)** |
| Current tobacco use             | 2.13 (1.69, 2.68)** | 3.04 (2.39, 3.88)** | 1.17 (0.95, 1.41) | 1.04 (0.82, 1.32) |
| Current alcohol use             | 2.23 (1.87, 2.65)** | 3.19 (2.53, 4.01)** | 1.07 (0.89, 1.28) | 0.86 (0.71, 1.05) |
| Ever amphetamine use            | 5.30 (3.41, 8.23)** | 10.03 (7.08, 14.24)** | 1.79 (1.08, 2.96)* | 1.96 (1.11, 3.46)* |
| School truancy                  | 2.04 (1.79, 2.33)** | 2.56 (2.18, 3.00)** | 1.18 (1.04, 1.33)** | 1.14 (0.97, 1.35) |
| Physically attacked             | 3.08 (2.77, 3.43)** | 4.44 (3.94, 5.01)** | 1.93 (1.72, 2.17)** | 2.39 (2.06, 2.76)** |
| In physical fight               | 3.61 (3.22, 4.06)** | 5.19 (4.51, 5.98) | 1.77 (1.54, 2.03)** | 2.03 (1.70, 2.43)** |
| Sustained injury                | 3.53 (3.14, 3.97)** | 5.52 (4.71, 6.48)** | 1.99 (1.77, 2.24)** | 2.33 (2.03, 2.67)** |
| Psychological distress          |               |             |               |             |
| 0                               | 1 (Reference) | 1 (Reference) | 1 (Reference) | 1 (Reference) |
| 1                               | 2.24 (1.95, 2.57)** | 3.49 (2.99, 4.07)** | 1.57 (1.35, 1.84)** | 2.16 (1.85, 2.51)** |
| 2–3                             | 3.20 (2.74, 3.75)** | 7.41 (6.29, 8.71)** | 1.74 (1.46, 2.08)** | 3.47 (2.87, 4.19)** |
| **Social-familial indicators**  |               |             |               |             |
| High peer support               | 0.64 (0.57, 0.72)** | 0.66 (0.58, 0.74)** | 0.79 (0.70, 0.89)** | 0.87 (0.74, 1.02) |
| Parental support                |               |             |               |             |
| 0–1                             | 1 (Reference) | 1 (Reference) | 1 (Reference) | 1 (Reference) |
| 2                               | 0.76 (0.67, 0.87)** | 0.65 (0.57, 0.75)** | 1.00 (0.89, 1.13) | 0.94 (0.80, 1.11) |
| 3–4                             | 0.61 (0.53, 0.70)** | 0.56 (0.48, 0.66)** | 0.92 (0.81, 1.06) | 0.94 (0.79, 1.12) |

**URRR**=Unadjusted Relative Risk Ratio; **ARRR**=Adjusted Relative Risk Ratio; CI=Confidence Interval; ***p<.001; **p<.01; *p<.05

Consistent with previous findings,7,21,23–25 the study found an association between externalizing symptoms (ever amphetamine use, school truancy, physically attacked, in a physical fight, and injury), internalizing symptoms (psychological distress and sedentary behavior) and BV. Steenberg, Palic, and Elklit26 note that victims of bullying generally lack in the use of adaptive coping strategies, making students with high externalizing and internalizing...
symptoms more vulnerable to BV. On the other hand, adolescents who are being bullied may consequently develop more externalizing and internalizing symptoms.\textsuperscript{22,24} Findings underline the importance of coping and social skills training in reducing BV.\textsuperscript{27}

Some previous studies among adolescents\textsuperscript{10,11} found parental support protective against BV. While this was found in bivariate analysis in this study, it was no longer significant in the multivariable model. Peer support was protective against infrequent BV. This finding is consistent with a prior review where positive peer interaction was the strongest protective factor against being a bully/victim.\textsuperscript{28} In this study, the attendance of physical education increased the odds for BV, while in another study BV was associated with fewer days in physical education.\textsuperscript{29} It is possible that in our study attending physical education classes increased the risk of BV. Consistent with a large previous study,\textsuperscript{30} this survey showed that both underweight and overweight/obesity were associated with BV. Previous research showed that weight stigmatization translates into pervasive victimization, teasing, and bullying.\textsuperscript{31} Anti-bullying programs may want to include peer and parental support strategies in general, and strategies that support students who attend physical education and/or are underweight or overweight/obese, in particular.

Study strengths included the large, nationally representative adolescent school samples and the uniform GSHS methodology applied in the five study countries. Study limitations include self-reported data, the cross-sectional design, and the focus on school adolescents. Due to the cross-sectional design, we are unable to draw causative conclusions. For example, we do not have information on the validity of the GSHS questionnaire, though the GSHS is similar to the \textit{CDC Youth Risk Behavior Survey} for which test and retest reliability has been established.\textsuperscript{32}

CONCLUSIONS

The study found that approximately one in three school-going adolescents across five ASEAN countries was bullied in the past month. Several risk factors for BV were identified, including hunger or food insecurity, sedentary behavior, attending physical education classes, being underweight, overweight or obese, ever amphetamine use, being physically attacked, physical fighting, injury, truancy, psychological distress, and low peer support, which can assist in designing intervention strategies in this adolescent school population.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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