Article

Patterns, Characteristics, and Correlates of Adolescent Bully-Victims in Urban Tanzania

Michael L. Wilson [1,2,*], Karen L. Celedonia [1] and Benjamin A. Kamala [1]**

[1] Centre for Injury Prevention and Community Safety (CIPCS), PeerCorps Trust Fund, 352/64 Makunganya Street, Co-Architecture Building, 4th Floor, P.O. Box 22499, Dar es Salaam, Tanzania; E-Mails: karen.celedonia@peercorpstrust.org (K.L.C.); benjamin.kamala@peercorpstrust.org (B.A.K.)

[2] Unit of Adolescent Psychiatry, Turku University Hospital, Department of Adolescent Psychiatry, University of Turku, Kaskenkatu 13 A 7 20700 Turku, Finland

* Author to whom correspondence should be addressed; E-Mail: michael.wilson@peercorpstrust.org; Tel.: +1-255-754-636-963.

Abstract: Bullying is an understudied issue of public health importance in low-income countries. In the present study, we aimed to explore social and demographic factors associated with bullying among adolescents in a low-income country urban setting. We divided a sample of 2,154 school-attending adolescents into two groups, those who had been bullied during a 30-day period and those who were not. We considered age, sex, mental health, parent-relationship, hunger and social deprivation and truancy in our comparison of these two groups using logistic regression. Multinomial regression was also used to determine if there was a dose response relationship between bullying frequency and the aforementioned selected variables. We found that bullied school-attending adolescents in Dar es Salaam were more likely to be truant, suffer from mental health problems and have experienced hunger. Adolescents who had parents which were more aware of their free time activities, were less likely to report being bullied. There were also significant differences in bullying frequency and certain variables, most notably with truancy, economic and social deprivation, and signs of depression. School settings in Dar es Salaam offer a potential for intervening in what are potentially harmful effects of bullying behavior among bully victims.

1. Introduction

Bullying is an important public health problem globally. While it occurs in all countries, considerable variations in prevalence have been observed. Within high-income country (HIC) settings, bullying prevalence ranges from a low of 5/6% (*males/females*) to 36/32% [1]. In low-income country (LIC) settings which have made population-based data available, differences range from 8/7% to 63/58% for students who reported being bullied at least once during a one month period [2]. Being bullied has been found to be associated with economic deprivation, poor mental health, one's level of social support, quality of the parent-child relationship, and truancy [1,3–7]. In a recent longitudinal study of U.S. high school students, Klomek and colleagues found that bullying frequency was strongly associated with depressive symptomatology and other risk behaviors [8].

As with other forms of interpersonal violence, the effects of bullying on the health and well-being of bullying victims can potentially be severe. Victims of bullying may develop serious mental health problems, problems in school, and may be at greater risk for suicidal behaviors [9,10]. With the possibility of such deleterious sequelae, it is crucial that effective bullying interventions are available in communities in every corner of the globe. In order for globally-available interventions to become a reality, however, adequate epidemiologic data is needed to inform the development of culturally-relevant programs, namely data discerning similarities and differences in risk and protective factors in various countries. A program developed for communities in high- or middle-income countries may not be easily translatable for implementation in LICs.

Despite the global public health significance of bullying and the need for intervention, it is one of the most understudied issues among adolescents in LIC settings [2]. Several lines of research [1,2,11], have identified associations between bullying and social inequalities, poor mental health and detrimental risk behaviors. These three areas have encompassed the majority of bullying research since the 1970's, when it began to be considered an important impediment to the healthy development of adolescents [12,13]. While this legacy has provided insight into the patterns of victimization among young people, the majority of current knowledge on the subject has been derived from investigations carried out in high-income country settings. This means that there may still exist important gaps in basic knowledge about risk and protective factors for bullying in LICs.

Compared with HIC settings, bullying has only relatively recently begun to be examined as a problem in African schools [14]. Of the few African countries that have school-based data on bullying [15–22], some context specific phenomena have emerged that have not been observed or widely studied elsewhere: HIV-status related bullying and an inverse relationship with having siblings [23]. These preliminary findings unique to African countries highlight the need for continued research on bullying patterns across the continent. Furthermore, they suggest that the current empirical knowledge of risk and protective factors for bullying victimization may not be entirely descriptive of bullying phenomenon in Africa.

There are additional factors which make bullying research from Sub-Saharan Africa (SSA) school settings scientifically relevant. These include the absence of very poor students in schools, who while potentially at even greater risk, are not present in data collection efforts [1,24]. There also exist considerable variations in school environments. For example, some schools mix older and younger students in classrooms. In some settings, this has been found to increase bullying risks for younger students [13,25]. While we do not focus on these issues in the present study, they serve as examples of context specific challenges which have made examinations of bullying patterns in African settings difficult.

The primary aim of this study was to explore several social and demographic factors—known to be associated with bullying victimization—among adolescents in an urban LIC setting. Specifically, we looked at bullying trends in Tanzania, which is generally regarded as one of the most politically and economically stable countries in Africa [26]. Given that most research has been conducted in HIC settings and that a nascent body of literature suggests that factors associated with bullying in African countries may differ from those in countries elsewhere, this epidemiologic research is necessary to arriving at a global understanding of bullying patterns. Our findings will add to the growing body of literature on bullying patterns in LIC, thereby creating a more comprehensive, encompassing picture of this global public health problem.

2. Methods

2.1. Setting

The data which informs this study was collected in Dar es Salaam (DES), which is Tanzania's largest and most important economic center. A coastal city, it is one of the fastest growing urban centers on the African continent and currently has a population of approximately 3.5 million. Roughly 33% of the population of DES are under the age of 14 years [27].

2.2. Sample

Data were collected cross-sectionally by way of a two-stage cluster sampling procedure. This was done to produce data which was representative of all students in secondary schools in DES. Only schools from DES were included in the sample, and there is no available data on the composition or structure of the schools. At stage one, schools were selected with a probability proportional to enrollment size. At stage two, classes were randomly selected with all students in the selected classes being eligible to participate. The school response rate was 100% with the overall student response rate being 87%. A total of 2,176 students participated. Prior to conducting analyses, we excluded 22 adolescents who did not have complete data resulting in a final sample of 2,154 (52% females). The ages of the participants ranged from 11 to 16 years (M = 13.05; SD = 1.38). No information is available on economic status of the sample as this information was not collected with the survey. The Tanzanian Ministry of Health and Social Welfare had approved the survey.

2.3. Measurements

We derived our data from the Tanzanian Global School-based Student Health Survey (GSHS). The GSHS is a self-administered questionnaire that collects relevant information for the discernment of risk

and protective factors for adolescents of school age in 43 mainly low- and middle-income countries. Additional information about the GSHS can be found elsewhere [28].

Our definition of bullying was derived from the GSHS questionnaire, which itself is based on the definition provided by the World Health Organization [28]. Participants were asked: *"During the past 30 days, on how many days were you bullied?"*. The responses were *"0 days; 1 or 2 days; 3 to 5 days; 6 to 9 days; 10 to 19 days; 20 to 29 days; and all 30 days"*. Subsequently they were asked to identify the type of bullying they have been subjected to: *"I was hit, kicked, or locked indoors"*; *"I was made fun of because of my race or color"*; *"I was made fun of because of my religion"*; *"I was made fun of with sexual jokes, comments or gestures"*; *"I was left out of activities on purpose or completely ignored"*; *"I was made fun of because of how my body or face looks"*; *"I was bullied in some other way"*. In this study we divided the entire sample into two categories: those that had been bullied and those who were not, both within the 30 day recall period. This was done by dichotomizing the responses to the question *"...how many days were you bullied"*. Bullied children were those that reported being bullied "3–5 days"; "6 to 9 days"; "10 to 19 days"; "20 to 29 days"; or "all 30 days". Those who were not bullied (responses of "0 Days" or "1–2 Days") were considered controls; there were no other criteria for inclusion in the control group. These cutoffs take into consideration the repeated over time nature of bullying and have been used in previous research on the topic [29,30].

Previous research documents that rates of victimization differ significantly by age and by gender [31], and as such, these variables were examined in the present study. We also investigated the associations of bullying victimization with the following independent variables, which were derived from questions from the GSHS survey:

(a) Truancy. For truancy we used *"During the past 30 days, on how many days did you miss classes or school without permission?"*, response options included *"0 days; 1 or 2 days; 3 to 5 days; 6 to 9 days; 10 or more days"*. Students were considered truant if they had missed three or more days of school within the preceding 30 days.

(b) Hunger and social deprivation. Hunger was measured using *"During the past 30 days how often did you go hungry because there was not enough food in your home?"* A category for social deprivation was created using *"During the past 12 months, how often have you felt lonely?"*

(c) Psychosocial factors. Psychosocial factors included signs of depression and anxiety. For signs of depression we used responses to the question *"During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped your usual activities?"* the responses were "yes; no" with yes responses being used for analysis. For anxiety we used the responses to *"During the past 12 months, how often have you been so worried about something that you could not sleep at night?"* which was dichotomized into *"never; rarely; sometimes"* against *"most of the time; always"* with the latter being used as the independent variable.

(d) Extent of parent-child relationship. To measure the extent of the parent-child relationship we used the responses to "*During the past 30 days, how often did your parents or guardians really know what you were doing with your free time?*" The responses were dichotomized into "*most of the time/always*" and "*never; rarely; sometimes*".

(e) Social network. Social network factors encompassed number of friendships: *"How many close friends do you have?"* with choices being *"0; 1; 2; 3 or more"* and we assessed the association with bullying for each friendship category.

2.4. Statistical Analysis

We first tested the extent to which the bullying dependent variable was related to the selected independent variables using Pearson correlation coefficients. Then, in the bivariate analyses we used Pearson's chi-square for categorical variables and t-tests for continuous variables. We then used logistic regression to examine the strength of variable associations with bullying, while adjusting for covariates (age, gender and economic deprivation). The results for the bivariate analyses are reported as proportions, or means (age) along with their p-values. Significant p-values indicated that there were significant differences between bullied and non-bullied groups. We reported the results for the regression analyses using adjusted odds ratios (aOR) with 95% confidence intervals (CI). Statistical significance for both the bivariate and multivariate analyses were established at $p < 0.05$. We also conducted analyses to examine a possible dose response relationship between the number of days adolescents had reported being bullied and each of the variables under study. To do this we conducted a multinomial logistic regression using the following bullying categories: "0 days", "1 to 2 days" and "3 or more days". The effect measurements were reported as relative risk ratios (RRR) along with 95% confidence intervals. All analyses were conducted using Stata/IC 12 [32] and the R Statistical Environment [33] for Linux.

3. Results

Within the recall period, 24.1% (n = 519) of respondents reported having been bullied one or more days with 2.3% (n = 50) reporting bullying during each of the 30 days. This corresponded to event rates of 2.89 (95% CI = 2.64/3.14) and 0.28 (95% CI = 0.20/0.36) respectively per 1,000 person years. The reported types of bullying included being: kicked, pushed or shoved (24.5%); made fun of because of race/color (10.6%); made fun of because of religion (8.5%); made fun of about sex (10%); left out of activities (7.3%); made fun of about their body (11.3%); or made fun of in some other way (27.3%). The Pearson correlation test demonstrated that all variables with the exceptions of gender and number of friendships were statistically significantly correlated with bullying victimization (Table 1). However, only social deprivation showed a slightly more than moderate positive correlation (r = 0.30), and parent's knowledge about free time showed a fairly sizable negative correlation (r = −0.49). Signs of depression (r = 0.20), truancy (r = 0.17), and anxiety (r = 0.16) had the next strongest correlations among the remainder of the variables, with economic deprivation having a slightly less than moderate positive correlation (r = 0.13). In the bivariate analyses (Table 2) we found significant associations between bullying, hunger and social deprivation. Adolescents who reported being bullied were more likely to suffer from anxiety, signs of depression and be absent from school. We also found a significant association between parents knowing about their children's free time activities and bullying.

Table 1. Pearson correlation coefficients between bullying and selected variables.

Variable	Pearson coefficients	*p*-value
Age	0.060	0.010
Gender	0.028	0.211
Truancy	0.168	<0.001
Economic deprivation	0.130	<0.001
Social deprivation	0.300	<0.001
Number of friends	−0.010	0.659
Parent's knowledgeable about free time	−0.489	0.029
Anxiety	0.161	<0.001
Signs of depression	0.197	<0.001

Table 2. Bivariate analyses of bullied *vs*. non-bullied adolescents in Dar es Salaam, Tanzania (2006).

Variable	Bullied (n = 684)	Not bullied (n = 1,470)	P-value
Mean age (SD)	13.1 (1.37)	13.0 (1.34)	0.015
Gender (male)	50.0	47.0	0.211
Truancy (3 days or more)	16.5	6.7	<0.001
Deprivation			
Economic (yes)	7.5	2.9	<0.001
Social (yes)	13.7	3.3	<0.001
Number of friends			
No close friends	9.8	8.1	0.432
One close friend	13.8	12.9	-
Two close friends	18.7	20.6	-
Three or more close friends	57.8	58.5	-
Parent relationship			
Parents knowledgeable about free time	32.6	38.6	0.007
Psychosocial			
Anxiety (yes)	10.0	2.6	<0.001
Signs of Depression (yes)	34.0	18.0	<0.001

In the multivariate model (Table 3), compared with controls, we found no significant association with either age or gender. Bullied adolescents were nine percent more likely to report being anxious (aOR = 1.09; CI = 1.20–3.01), slightly more than twice as likely to report both signs of depression (aOR = 2.03; CI = 1.63–2.53) and social deprivation (aOR = 2.76; CI = 1.86–4.10). Hunger was significantly associated with being bullied (aOR = 1.78; CI = 1.10–2.84). We found that having one or more friends was slightly protective, even if not statistically significant. A parent who knew what their children were doing during their free time represented a significant protective effect against bullying (aOR = 0.78; CI = 0.64–0.95).

In the bivariate analysis according to days of bullying exposure (Table 4), we observed statistically significant dose-response trends for truancy , economic and social deprivation, number of close friends (non-friend group), parent knowledge of free time, and anxiety. While significant categorical differences existed among signs of depression, no clear trend was visible.

Table 3. Multivariate analysis of bullied *vs.* non-bullied adolescents in Dar es Salaam, Tanzania (2006).

Variable	Any bullying	
	aOR (95%CI)	*P*-value
Age	1.06 (0.99–1.14	0.107
Sex (male)	1.01 (0.82–1.23)	0.956
Truancy (3 days or more)	2.26 (1.65–3.08)	<0.001
Deprivation		
Economic (yes)	1.77 (1.10–2.84)	0.018
Social (yes)	2.76 (1.86–4.10)	<0.001
Number of friends		
No close friends	Reference	-
One close friend	0.88 (0.58–1.34)	0.558
Two close friends	0.83 (0.56–1.22)	0.339
Three or more close friends	0.89 (0.63–1.25)	0.490
Parent relationship		
Parents knowledgeable about free time	0.78 (0.64–0.96)	0.016
Psycho-social		
Anxiety (yes)	1.90 (1.20–3.02)	0.006
Signs of Depression (yes)	2.03 (1.63–2.53)	<0.001

Table 4. Bivariate analyses according to days of exposure to bullying among adolescents in Dar es Salaam, Tanzania.

Variable	Not bullied (N = 1,470)	Bullied 1 or 2 times (N = 277)	Bullied 3 or more times (N = 311)	*P*-value
Mean age (SD)	13.0	13.1	13.1	0.058
Gender (male)	47.0	46.0	53.2	0.123
Truancy (3 days or more)	6.7	12.0	20.1	<0.001
Deprivation				
Economic (yes)	2.9	4.3	10.3	<0.001
Social (yes)	3.3	8.7	20.6	<0.001
Number of friends				
No close friends	8.1	10.2	12.1	0.030
One close friend	12.9	17.5	10.2	
Two close friends	20.6	17.1	17.7	
Three or more close friends	58.5	55.3	60.0	
Parent relationship				
Parents knowledgeable about free time	38.6	35.4	29.9	0.014
Psychosocial				
Anxiety (yes)	2.6	8.3	12.0	<0.001
Signs of depression (yes)	17.9	28.5	16.9	<0.001

In Table 5, the results of the multinomial logistic regression confirmed that significant dose response relationships existed after controlling for other covariates. With increasing exposure to

bullying victimization, truancy (RRR = 1.70 to 2.81), social deprivation (RRR = 1.80 to 4.48) and signs of depression (RRR = 1.67 to 2.57) had associations which increased in both strength and direction.

Table 5. Multinomial logistic regression analysis by bullied category.

Variable	Bullied 1 or 2 times RRR (CI)	*P*-value	Bullied 3 or more times RRR (CI)	*P*-value
Age	1.09 (0.98–1.20)	0.104	1.03 (0.93–1.13)	0.620
Gender (male)	0.87 (0.66–1.15)	0.326	1.12 (0.85–1.48)	0.412
Truancy (3 days or more)	1.70 (1.09–2.62)	0.018	2.81 (1.92–4.11)	<0.001
Deprivation				
Economic (yes)	1.12 (0.55–2.30)	0.762	2.30 (1.31–4.05)	0.004
Social (yes)	1.80 (1.03–3.12)	0.039	4.48 (2.85–7.02)	<0.001
Number of friends				
No close friends	1.25 (0.79–1.97)	0.342	1.38 (0.89–2.14)	0.151
One close friends	1.33 (0.92–1.93)	0.128	0.69 (0.44–1.08)	0.101
Two close friends	0.82 (0.57–1.18)	0.292	0.92 (0.65–1.32)	0.666
Three or more close friends	-	-	-	-
Parent relationship				
Parents knowledgeable about free time	0.89 (0.68–1.18)	0.449	0.67 (0.50–0.89)	0.006
Psychosocial				
Anxiety (yes)	2.06 (1.14–3.72)	0.017	1.70 (0.96–3.00)	0.067
Signs of depression (yes)	1.67 (1.23–2.26)	0.01	2.57 (1.93–3.42)	<0.001

4. Discussion

Nearly one in four adolescents reported some form of bullying during the recall period—whether physical or psychological in nature. Compared with global data from high-income countries, the prevalence of bullying in DES was slightly higher than reported rates in the United States. Prevalence rates were similar to those in France but lower than rates in Russia [34]. When compared with data from countries in the region, with a similar period of recall, students in Tanzania were bullied less than those in Ghana [11] and South Africa [20]. The reasons for a lower rate compared with their African counterparts might be related to greater overall economic and political stability in Tanzania [26]. Additionally, Tanzania has a longstanding social tradition since independence of interdependent community relationships and other longstanding traditions which elevate tolerance (religious and social) and acceptance of ethnic and cultural differences [35].

The findings presented in this study confirm several detrimental behavioral and social patterns reported in the peer-reviewed literature, namely that students from economically disadvantaged backgrounds, as implicated by reports of hunger, and those who are socially deprived are more likely to be bullied by peers. Additionally, those who are bullied are more likely to suffer from poorer mental health (signs of depression) and miss days of school [11], and a dose-response relationship existed between these two variables and frequency of bullying.

This study's findings of the protective association with parent supervision is congruent with other studies which have found that supportive parenting and supervision results in improved health outcomes and enhanced social development [36]. Extending this rationale, parents who are more

knowledgeable about the whereabouts and free time activities of their adolescents, are potentially also more likely to have open relationships with them. This openness can mean that adolescents feel more comfortable discussing problems with peers with their parents, which may result in timely intervention.

Our study was unique for the previous findings in the literature we were unable to confirm. Compared with other African studies which have found differences in bullying rates by gender [21,23], we found no significant differences by gender. This finding may underscore gender-based cultural or contextual variations in what behaviors might be considered bullying. Furthermore, some research provides evidence that victimization declines with age among adolescents [31]. After controlling for covariates, we were not able to replicate this finding. A potential explanation may lie in cultural factors which may be more supportive of younger adolescents. In both instances, another likely explanation may be in the inherent limitations of the data used in the analyses.

While hunger was strongly associated with reported bullying, the association may have more complex underpinnings in a LIC setting. Researchers in Colombia argued that qualitative differences in equality, as they related to resource access, were more predictive of bullying behavior among adolescents [37]. This was in contrast to other work which focused mainly on the quantitative aspects of poverty [1,34].

To revisit the significant findings of truancy and mental health problems in bullying victims, these may be potential points of intervention for public health professionals in the region. The dose-response relationships between bullying frequency and truancy, and signs of depression, make a strong case for the inimical nature of bullying and its effect on victims' functioning and mental health. It is quite possible that the reported signs of depression and anxiety are contributing to truant behavior; it is well-documented that signs of depression and anxiety can substantially interfere with one's ability to participate in school and work activities [38]. Designing school-based interventions to address and treat these mental health issues in victims may improve functioning, and subsequently reduce truant behavior.

This study adds to the literature on bullying in the African region, and to our knowledge, is the first study on bullying in Tanzania using a population-based sample. Its contribution lies in its examination of risk and protective factors for bullying. In practice, it provides information on the nature of bullying in a LIC urban context. However, its contribution should be considered in view of several limitations. As the study is cross-sectional, causality cannot be assessed. The study is also limited in its ability to examine or control for exposures that may have originated in the home. The data used in this study did not disaggregate victimization by setting and thus no further analyses were possible to examine bullying behavior for example, on the way to or from school. Additionally, the data were self reported, variables of interest were each derived from only one survey item, and the survey did not capture the responses of adolescents who were not in school on the days in which the questionnaire was administered. As the survey was conducted only in DES, the results found in this study are not generalizable to the entire country.

5. Conclusions

As the results in this study have demonstrated, bullying takes a harmful toll on the health and well-being of school-attending adolescents in Dar es Salaam. More attention should be given to

devising ways in which prevention efforts could be realized in school settings. In one intervention study in the United States focusing on problem solving skills, emotional management and empathy, rates of verbal, physical and sexual aggression decreased among a similarly adolescents in mid-western schools [39]. Given that bullying victims more likely to be truant and suffer from poorer mental health, a school-based intervention designed to ameliorate individual psychological symptomatology and encourage school attendance may be beneficial. In addition, group-level programming which encourages healthy peer-relationships may be envisaged with the aim of promoting well-being among bully-victims and non-victims alike. More research is needed, especially multi-level studies, which might convey more information on bullying differences that might exist between schools and in diverse settings.

Acknowledgements

Conflicts of Interest

The authors declare no conflict of interest.

References and Notes

1. Pernille Due, Juan Merlo, Yossi Harel-Fisch, Mogens Trab Damsgaard, Bjørn E. Holstein, Jørn Hetland, Candace Currie, Saoirse Nic Gabhainn, Margarida Gaspar de Matos, and John Lynch. "Socioeconomic inequality in exposure to bullying during adolescence: A comparative, cross-sectional, multilevel study in 35 countries." *American Journal of Public Health* 99 (2009): 907–14.
2. Lila C. Fleming, and Kathryn H. Jacobsen. "Bullying among middle-school students in low and middle income countries." *Health Promotion International* 25 (2010): 73–84.
3. Elise E. DeVore, and Kenneth R. Ginsburg. "The protective effects of good parenting on adolescents." *Current Opinion in Pediatrics* 17 (2005): 460–65.
4. Billie Gastic. "School truancy and the disciplinary problems of bullying victims." *Educational Review* 60 (2008): 391–404.
5. Riittakerttu Kaltiala-Heino, Matti Rimpela, Mauri Marttunen, Arja Rimpela, and Paivi Rantanen. "Bullying, depression, and suicidal ideation in Finnish adolescents: school survey." *British Medical Journal* 319 (1999): 348–51.

6. Michele Mouttapa, Tom Valente, Peggy Gallaher, Louise Ann Rohrbach, and Jennifer B. Unger. "Social network predictors of bullying and victimization." *Adolescence* 39 (2004): 315–21.

7. Peter K. Smith, and Rowan Myron-Wilson. "Parenting and School Bullying." *Clinical Child Psychology and Psychiatry* 3 (1998): 405–17.

8. Anat Brunstein Klomek, Marjorie Kleinman, Elizabeth Altschuler, Frank Marrocco, Lia Amakawa, and Madelyn S. Gould. "Suicidal Adolescents' Experiences With Bullying Perpetration and Victimization during High School as Risk Factors for Later Depression and Suicidality." *Journal of Adolescent Health* 53 (2013): S37–42.

9. Paul R. Smokowski, and Kelly Holland Kopasz. "Bullying in School: An Overview of Types, Effects, Family Characteristics, and Intervention Strategies." *Children & Schools* 27 (2005): 101–10.

10. Anat Brunstein Klomek, Andre Sourander, Solja Niemelä, Kirsti Kumpulainen, Jorma Piha, Tuula Tamminen, Fredrik Almqvist, and Madelyn S. Gould. "Childhood bullying behaviors as a risk for suicide attempts and completed suicides: A population-based birth cohort study." *Journal of the American Academy of Child and Adolescent Psychiatry* 48 (2009): 254–61.

11. Andrew Owusu, Peter Hart, Brittney Oliver, and Minsoo Kang. "The association between bullying and psychological health among senior high school students in Ghana, West Africa." *The Journal of School Health* 81 (2011): 231–38.

12. Dan Olweus. "Bullying at school. Basic facts and an effective intervention programme." *Promotion & Education* 1 (1994): 27–31.

13. Dan Olweus. "Bullying at School: Knowledge Base and an Effective Intervention Program." *Annals of the New York Academy of Sciences* 794 (1996): 265–76.

14. Kay Harel. "Kenya studies its schools to identify obstacles for girls. Education and gender." *Population Briefs: Reports on Population Council Research* 3 (1997): 6.

15. David W. Brown, Leanne Riley, Alexander Butchart, and Laura Kann. "Bullying among youth from eight African countries and associations with adverse health behaviors." *Pediatric Health* 2 (2008): 289–99.

16. Catherine Campbell, Morten Skovdal, Zivia Mupambireyi, and Simon Gregson. "Exploring children's stigmatisation of AIDS-affected children in Zimbabwe through drawings and stories." *Social Science & Medicine* 71 (2010): 975–85.

17. Lucie Cluver, Lucy Bowes, and Frances Gardner. "Risk and protective factors for bullying victimization among AIDS-affected and vulnerable children in South Africa." *Child Abuse & Neglect* 34 (2010): 793–803.

18. Lucie D. Cluver, Frances Gardner, and Don Operario. "Effects of stigma on the mental health of adolescents orphaned by AIDS." *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine* 42 (2008): 410–17.

19. Lucie Cluver, and Mark Orkin. "Cumulative risk and AIDS-orphanhood: Interactions of stigma, bullying and poverty on child mental health in South Africa." *Social Science & Medicine* 69 (2009): 1186–93.

20. Holan Liang, Alan J. Flisher, and Carl J. Lombard. "Bullying, violence, and risk behavior in South African school students." *Child Abuse & Neglect* 31 (2007): 161–71.

21. Seter Siziya, Adamson S. Muula, and Emmanuel Rudatsikira. "Prevalence and correlates of truancy among adolescents in Swaziland: findings from the Global School-Based Health Survey." *Child and Adolescent Psychiatry and Mental Health* 1 (2007): 15.

22. Seter Siziya, Emmanuel Rudatsikira, and Adamson S. Muula. "Victimization from bullying among school-attending adolescents in grades 7 to 10 in Zambia." *Journal of Injury & Violence Research* 4 (2012): 30–35.

23. Michael L. Wilson, Pascal Bovet, Bharathi Viswanathan, and Joan-Carles Suris. "Bullying Among Adolescents in a Sub-Saharan Middle-Income Setting." *Journal of Adolescent Health* 51 (2012): 96–98.

24. Jaana Juvonen, Sandra Graham, and Mark A. Schuster. "Bullying Among Young Adolescents: The Strong, the Weak, and the Troubled." *Pediatrics* 112 (2003): 1231–37.

25. Gerald F. Giesbrecht, Bonnie J. Leadbeater, and Stuart S. W. Macdonald. "Child and context characteristics in trajectories of physical and relational victimization among early elementary school children." *Development and Psychopathology* 23 (2011): 239–52.

26. Elliott D. Green. "The political economy of nation formation in modern Tanzania: Explaining stability in the face of diversity." *Commonwealth and Comparative Politics* 49 (2011): 223–44.

27. Benjamin Kamala, Michael L. Wilson, and Marie Hasselberg. "Pattern of childhood falls in a low-income setting: A cross-sectional study in Dar es Salaam." *International Journal of Injury Control and Safety Promotion* 18 (2011): 305–11.

28. WHO. "Global school-based student health survey (GSHS)." Available online: http://www.who.int/chp/gshs/en/ (accessed on 26 February 2012).

29. Heba Alwan, Bharathi Viswanathan, Valentin Rousson, Fred Paccaud, and Pascal Bovet. "Association between substance use and psychosocial characteristics among adolescents of the Seychelles." *BMC Pediatrics* 11 (2011): 85.

30. Michael L. Wilson, Andrea C. Dunlavy, Bharathi Viswanathan, and Pascal Bovet. "Suicidal expression among school-attending adolescents in a middle-income sub-saharan country." *International Journal of Environmental Research and Public Health* 9 (2012): 4122–34.

31. Peter K. Smith, Kirsten C. Madsen, and Janet C. Moody. "What causes the age decline in reports of being bullied at school? Towards a developmental analysis of risks of being bullied." *Educational Research* 41 (1999): 267–85.

32. *Stata Statistical Software*. Release 12. College Station: StataCorp LP, 2011.

33. The R Development Core Team. *R: A Language Environment for Statistical Computing*. Vienna: R Foundation for Statistical Computing, 2011.

34. Wendy Craig, Yossi Harel-Fisch, Haya Fogel-Grinvald, Suzanne Dostaler, Jorn Hetland, Bruce Simons-Morton, Michal Molcho, Margarida Gaspar de Mato, Mary Overpeck, and Pernille Due, *et al.* "A cross-national profile of bullying and victimization among adolescents in 40 countries." *International Journal of Public Health* 54 (2009): 216–24.

35. Julius K. Nyerere. "Ujamma: the basis of African socialism." *The Journal of Pan-African Studies* 1 (1987): 4–11.

36. Mujgan Alikasifoglu, Ethem Erginoz, Oya Ercan, Omer Uysal, and Deniz Albayrak-Kaymak. "Bullying behaviours and psychosocial health: Results from a cross-sectional survey among high school students in Istanbul, Turkey." *European Journal of Pediatrics* 166 (2007): 1253–60.

37. Enrique Chaux, Andres Molano, and Paola Podlesky. "Socio-economic, socio-political and socio-emotional variables explaining school bullying: A country-wide multilevel analysis." *Aggressive Behavior* 35 (2009): 520–29.
38. Neville J. King, and Gail A. Bernstein. "School Refusal in Children and Adolescents: A Review of the Past 10 Years." *Journal of the American Academy of Child & Adolescent Psychiatry* 40 (2001): 197–205.
39. Dorothy L. Espelage, Sabina Low, Joshua R. Polanin, and Eric C. Brown. "The Impact of a Middle School Program to Reduce Aggression, Victimization, and Sexual Violence." *Journal of Adolescent Health* 53 (2013): 180–86.