Research Article

Social and Demographic Associates of School Bully Behavior in Indian Pupils

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ABSTRACT

Bully activities at school have a long-term detrimental effect. Though the types and manifests of this damaging behavior are studied, there is a paucity of evidence on its social determinants.

Aim and Objective: This study explored the socio-demographic determinants of school-bullying in a central India district.

Methods: Cross-sectional data were compiled over one year from 480 participants by simple random method from urban and rural schools. The bully Prevalence Questionnaire (BPQ) and socio-demographic information questionnaire were used. Questionnaires in English and Hindi language were commissioned to cater to the participants' need. SPSS Vs. 21 was used for data analysis at P ≤ 0.05.

Results: The urban vs. rural divide was noticable (χ2; p -0.033). Boys involvement was dominant (66.2% vs, 30.4% and χ2; p -0.00). Father's occupation and family income were the important social determinants (χ2 value p -0.00, ANOVA p - 0.02, and 0.05). Victimization per se was noticed more among girls as compared to boy's (r .310** vs. .144*). Children of unskilled workers were more often a party to school bullying (r .317**). Father and mother's educational levels were strong players in deciding students' prosocial skills (ANOVA p -0.014 and 0.00). Participants' self-esteem score was influenced by family income (ANOVA p -0.00).

Conclusion: Involvement of boys at high number was a matter of concern. The skewed number in favour of children from unskilled working families necessitates the attention of social reformists and policymakers. Improved education of parents is also vital in curbing this social evil.

Keywords: School Bully Behaviors, Demographic Factors, Social Determinants

Introduction

Most health-related events (50% to 90%) are determined by social and demographic factors.[1-4] In the last two decades, these are emphasized under the term 'Social Determinants of Health (SDH)' that is broadly defined as conditions or circumstances in which people are born, grow, live, work, and age.[5,6] Socio-political and economic factors are its proponents and medical sociology, social demography, and social epidemiology are its interpreters.[5,7]

Bullying, a psychosocial condition, is also influenced by SDH. Though the role of SDH in this regard is explored to some extent in developed nations there is a serious dearth of evidence in developing nations including India. Evidence generated so far indicates that the individual character of students engaged in this psychosocial aberration has a strong connection to the ecosystem with which they interact. The two parts of the ecosystem which has a detrimental effect on behavior development in children are the 'exosystem' made up of neighbourhood and community environment, and the 'macrosystem' made up of the social and cultural backgrounds.[8-10] As the ecosystem is diverse the need to explore them from different social, cultural and demographic contexts is important.

India has a vast population of adolescents of 243 million (21% of the Indian population).[9] The educational policy is constantly encouraging them to get enrolled for formal education through school enrolment.[10-12] The recently passed National Educational Policy 2020, aims at achieving 100% Gross Enrolment Ratio for all school education by 2030 from the present level of 53%.[12] This proactive educational approach is and will not be free from some of its backlash like the increasing prevalence of bullying at the school level. Though the manifests of bullying are being studied in reasonable depth there exists a gap in knowledge relating to the diverse social, economic and cultural backdrops of the students and their association with school bullying.

Methods

Six schools 3 from urban and 3 from rural areas of Ujjain districts of the state of Madhya Pradesh, India were randomly picked by a computer-generated number from the list of schools made available by the district educational officer. Parental and school consents were obtained in writing before the initiation of the participant enrolment. Participants in equal numbers across geography, gender, class/ standard in school were ensured by stratified random selection. Prevalence based formulae(P=31.4%) for sample size calculation ($N=4pq/l^2$) was used to which 10% extra population was added to address the issue of dropouts.[13] The final number was reached by rounding up to the nearest upper digit which came out to be 480.

Inclusion and Exclusion Criteria: Participants from 6th to 10th standard with written parental consent and free from major morbid conditions were enrolled.

Blinded data coding and analysis were done to minimize bias. The level of statistical significance was determined at $p \leq 0.05$ and data was analyzed by SPSS version 25 Chicago Inc USA. Results are expressed in frequency, percentage, χ2 value, Pearson r and ANOVA F and level of significance.

Results

66.2% of boys were involved in one or the other form of bullying. When compared with girls this figure was statistically significant ((χ2 p 0.000). A comparison of urban vs, rural demography showed prominence of all bully activities in urban schools and the most prominent among them was Victimization (χ2 p -0.03). From a social and economic angle, children illiterate (52.9% to 57.1%), unemployed parents (61%) and low-income groups (61,7%) represented a higher percentage in school bullysim. On chi-square analysis, it was affirmed that the father's occupation and family income were significant associates of school bullying (χ2 p-0.00). The details of socio-demographic associates of school bully activities in study participants are presented in Table 1.

A strong to a very strong positive relationship was noted between bully and victim activities in students from all localities, both genders, in children of unskilled workers, and across all income groups except the upper-middle class. Participants' prosocial scores showed a strong negative relationship with both bully and victim scores in urban students, boys, and students from the middle socioeconomic class. While girl students' self-esteem was a negating factor for school bullying (r, -0.144), their poor general health was positively related to it (r, 0.162). The details are presented in Table 2.

Table 1.Chi-square Test (X2) Association of Socio-demographic Profile of Pupils (participants) with Different Types of Bully Behaviours

Variable	Bully	Victim	Bully Victim	Bystander/ Not involved	p-value (χ²) Total (%)
Residence/ Location					(p −0.033)
Urban	25 (10.4)	60 (25)	32 (13.3)	123 (51.3)	240 (100)
Rural	35 (14.6)	37 (15.4)	43 (17.9)	125 (52.1)	240 (100)
Gender					(p- 0.000)
Boys	31 (12.9)	72 (30)	56 (23.3)	81 (33.8)	240 (100)

Girls	29 (12.1)	25 (10.4)	19 (7.9)	167 (69.6)	240 (100)
Father's Education					**(p- 0.396)**
Illiterate	8 (14.3)	12 (21.4)	12 (21.4)	24 (42.9)	56 (100)
middle school	28 (11.2)	57 (22.8)	40 (16.0)	125 (50)	250 (100)
H.S. and H.S.S.	15 (11.5)	21 (16.2)	17 (13.1)	77 (59.2)	130 (100)
≥Graduate	9 (20.5)	7 (15.9)	6 (13.6)	22 (50)	44 (100)
Mother's Education					**(p-0.47) ***
Illiterate	19 (13.8)	27 (19.6)	27 (19.6)	65 (47.1)	138 (100)
middle school	24 (10.1)	49 (20.7)	35 (14.8)	129 (54.4)	237 (100)
H.S. and H.S.S.	12 (16.4)	14 (19.2)	8 (11)	39 (53.4)	73 (100)
≥Graduate	5 (15.6)	7 (21.9)	5 (15.6)	15 (46.9)	32 (100)
Father Occupation					**(p −0.004)**
Unemployed	8 (19.5)	9 (22)	8 (19.5)	16 (39)	41 (100)
Unskilled	28 (9.1)	56 (18.1)	41 (13.3)	184 (59.5)	309 (100)
Skilled worker	15 (19)	18 (22.8)	17 (21.5)	29 (36.7)	79 (100)
Other	9 (17.6)	14 (27.5)	9 (17.6)	19 (37.3)	51 (100)
Mother's Occupation					**(p- 0.801)**
Unemployed	26 (12.5)	47 (22.6)	32 (15.4)	103 (49.5)	208 (100)
Unskilled	17 (10)	35 (20.6)	28 (16.5)	90 (52.9)	170 (100)
Skilled worker	10 (16.1)	8 (12.9)	9 (14.5)	35 (56.5)	62 (100)
Other	7 (17.5)	7 (17.5)	6 (15)	20 (50)	40 (100)
Family Income					**(p-.000)***
Low	11 (10.3)	29 (27.1)	26 (24.3)	41 (38.3)	107 (100)
Middle	39 (14.9)	40 (15.3)	28 (10.7)	155 (59.2)	262 (100)
Average	4 (5.1)	22 (28.2)	16 (20.5)	36 (46.2)	78 (100)
High	6 (18.2)	6 (18.2)	5 (15.2)	16 (48.5)	33 (100)

*Chi-square test was applied after merging the rows. Figures in parentheses indicate %

Table 2.Pearson's Correlation between the Bully and Other Scores with Sociodemographic Variables

Variable	Number	Scores							
		Victim score		Pro-social score		Self-esteem score		GHQ-12 score	
		r	p	r	p	r	p	r	p
Area/ Location									
Urban	240	.216**	.001	−.200**	.002	−.013	.840	.075	.248
Rural	240	.319**	.000	−.094	.146	−.071	.275	.085	.190
Gender									
Boys	240	.144*	.026	−.165*	.010	.057	.376	−.017	.791
Girls	240	.310**	.000	−.092	.153	−.144*	.026	.162*	.012
Father's Occupation									
Unemployed	41	.096	.552	.074	.646	.037	.820	−.085	.598
Unskilled workers	309	.31⁷*	.000	−.142*	.012	−.094	.100	.036	.533
Skilled worker	79	.152	.182	−.278*	.013	.118	.302	.366**	.001

Others	51	.217	.125	−.252	.075	−.077	.592	−.017	.908
Family Income									
Low	107	0.233*	.016	−.109	.264	.078	.425	.094	.337
Middle	262	.249**	.000	−.166**	.007	−.039	.532	.103	.097
Average/upper	78	.210	.065	−.184	.106	−.143	.211	.099	.391
middle High	33	0.476**	.005	−.136	.451	.122	.499	−.165	.358

r = correlation coefficient; * significant at p - 0.05; ** significant at p - 0.000 level

Table 3.One Way "ANOVA Test" Demonstrating the Existence of Relationship between Outcome Variables and Social Determinants

Bully score						
Study Variables		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
Father's Occupation	Between Groups	37.508	3	12.503	3.218	0.02
Family Income	Between Groups	30.574	3	10.191	2.613	0.05
Victimization						
Study Variables		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
Father's Occupation	Between Groups	40.951	3	13.650	1.797	0.14
Family Income	Between Groups	225.482	3	75.161	10.426	0.00
Prosocial						
Study Variables		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
Father's Education	Between Groups	65.057	3	21.686	3.597	0.01
Mother's Education	Between Groups	88.772	3	29.591	4.948	0.00
Self-esteem score						
Variable	**Category**	**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
Family Income	Between Groups	331.011	3	110.337	6.562	0.00

The outcome variables like bully scores, victim scores, prosocial and self-esteem scores and their estimated (one-way ANOVA) relationship with pertinent sociodemographic factors (social determinants) are presented in Table 3. It was noted that the father's education and family income were leading propagators to bully scores(activity), victimization was related only to family income (p- 0.00). Parental education (both father and mother) were a strong prognosticator to prosocial behavior in the child. Family income was a strong predictor for the self-esteem of the child too.

Discussion

Safe school environment is the need of the day. It provides the best environment for learning and self-growth. Ensuring such an ambience is a win-win position for the all-stake holders. The end product is a boon to the immediate and far-reaching society.

But there are many a slip between the cup and the lip. The preponderance of school bullying is a situation that is criminal to be ignored. Just exploring its types, their prevalence, demonstrates are of little use unless the root cause is investigated. Here a valiant effort is made to find the social determinants of this demonic misconduct which will strengthen the hand of different stakeholders in permanently solving the jigsaw.

The role of SDH in health and disease has drawn global attention in the last 2 decades. This major player was and is a constant and dominant contributor to most health-related events, be it infectious, non-communicable or behavioral. Sociology, demography and their epidemiology are the focal points in the identification of this under current.[5,6] WHO (World Health Organization's) Commission on Social Determinants of Health also endorses the above-mentioned mutually non-exclusive explanations for SDH by their theoretical explanations of psychosocial approaches; social production of disease/political economy of health; and eco-social frameworks.[14] Braveman P and Gottlieb L. called this (SDH) as 'the causes of the causes' or 'mother of all causes' for disease causation.[15]

The role of SDH in shaping the present and future health of school children including psychosocial health is substantiated by the WHO's (World Health Organizations) 6th report on Health Behavior in School-Aged Children

(HBSC) study.[16] Social determinants which include "any nonmedical factors influencing health," like individual characteristics such as gender, race/ethnicity, parental educational attainment and occupational status exhibit a two-way relationship with the psychological(mental) health of school children.[17-20] Despite visible gains in some sects, the 6th HBSC reports point to the continuing influence of SDH on issues of overweight-obesity, self-esteem, life satisfaction, substance misuse and bullying.[16]

Bulling in the present study was significantly prevalent in urban areas (p-0,03). Literature provides ample support to this claim. Bradshaw in 2009 reported that safety indicators decline in bigger schools commonly located in urban settings, which have an unfavourable proportion of students to teachers.[21] Mazur and Tabak (2017) too observed a higher prevalence of school bullying in urban settings.[22]

It is commonly reported that boys are more likely to be involved in bullying others than are girls.[18,25] In our study, we observed 66.2% of boys' vs 30.4% of girls (p-0.00) were party to bully activities. Victimization and bully-victim category were at a staggeringly high level of 30% and 23.3% respectively in boys as compared to girls (p-0.00). Cook et al. (2010) found a correlation of gender (boys) with the bully role of 0.18, with the bully/victim role of 0.10, and with the victim role of 0.06, indicating a higher prevalence of boys for all three roles.[24]

The concluding study demonstrates that children of the unemployed father (61%, ANOVA p- 0.02) and from low-income families (61.7%, ANOVA p - 0.05) showed a higher association with the bully score (Table 3). Tippett and Wolke in their meta-analysis observed that odds for children from low socioeconomic households were high for victimization and bully-victim activities (victims odds ratio [OR] = 1.40; 95% confidence interval [CI] = 1.24, 1.58 and bully-victims OR = 1.54; 95% CI = 1.36, 1.74).[25] The present study also highlighted the role of low-income families in pupils' victimization (ANOVA p – 0.00). The meta-analysis results by Tippett and Wolke (2015) indicated that victimization was positively associated with low SES (OR = 1.52; 95% CI = 1.36, 1.71).[25]

Unemployment and low income are directly related to parental education. This study observed a lack of parental education (illiteracy) recording a high point prevalence with school bullying behavior in their children (52.9% for illiterate mothers and 57.1% for illiterate fathers). According to Chaux, et al (2009), a high level of income imbalance in the population lead to power imbalances which was a major factor to instigate violence in urban dwellings. School children overly observe and replicate this disrupted behavior that has stemmed from social inequality at their level.[26]

The prosocial score is of protective significance for behavioral disorders including school bullying. The concluded study affirmed this observation by demonstrating a negative relationship of prosocial scores with both bully and victim scores which were further validated by one-way ANOVA findings (Tables 2 and 3). Card, 2003 in his meta-analysis found that children with low levels of prosocial behavior are more likely to be victimized.[27]

Income generation is usually directly proportional to education and types of occupation. Here it was observed that students from sound income families demonstrated high self-esteem and this like prosocial score acted as a protective factor against school bullying (Table 3). Cook et al., 2010 in their meta-analysis pointed out that low self-esteem leads to aggression, including bullying.[24,28-31]

Strengths and Limitations: Pretested pilot studied questionnaire, trained and single observer (data collector), robust sampling techniques, blinded coding and data analysis were the strength of the study. Bias due to cross-sectional design is an important limitation worth mentioning.

Conclusion

Bullying at school is as old as the institution itself. But the empirical study of bullying behavior is a relatively recent field and is still in transition. Over the past few decades, research has significantly improved understanding of what bullying behavior is, how it can be measured, and the critical contextual factors that are involved in it. While there is no quick fix and one-size-fits-all solution to this complex problem, the evidence supports preventive and interventional policy and practice based on scientific inputs should curb this nuisance to a great extent. From the SDH point of view, multiprong interventions aimed at addressing social inequalities of the nature of access to education, employment opportunities, health services, safe and secure housing and neighbourhoods will go a long way in finding a lasting solution. In this regard, the WHO initiative of 'Health 2020' has taken a leaf out of the sixth international HBSC report which advocates acting in increasing understanding of inequalities due to age, gender and SES to give a befitting reply to this social demon. In future we expect this to be a universal move for all WHO regions.

Highlights

- Social determinants like parental education, occupation, and incomes are strong players in determining bully behavior in school children
- Students from urban schools and boys demonstrated a strong association with school bullying

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Ethical Permission

The IEC (institutional ethical committee of R D Gardi Medical College) permitted the conduction of this study vid version number 225.

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