Prevalence, and Risk and Protective Factors at School and in the Family Bullying at Rural High Schools in the Eastern Cape Province, South Africa:

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This study examined bullying and risk and protective factors in school and family domains, in a sample of 1,565 Grade 11 students in 41 high schools in two rural school districts in South Africa. The questionnaire included two questions to identify bullies, victims and bully-victims, as well as measures drawn from the Communities That Care Youth Survey, which addressed risk and protective factors in the school and family. Multinomial logistic regression was used to investigate the association between risk and protective factors on bullying outcome. Students reported that in the last year, 3.90% were bullies, 16.49% were victims of bullying, and 5.45% were bully-victims. Geographical area was domain plays a key role in establishing risk of victimization. victimization. Results provide confirmation that bullying is prevalent in rural South Africa, and suggest that the school conventional involvement with bullying. No family factors were identified as associated with bullying or with achievement were significantly associated with victimization, as was rewards for conventional involvement in school. The higher levels of academic achievement were significantly associated with bully-victim status, and a moderate-high level of rewards for significantly associated with bullying status. Achieving relatively higher grades than classmates was significantly

Keywords: bullying, school, South Africa, rural, family, risk factors, protective factors

Introduction

Around the world, bullying amongst schoolchildren is identified as a prevalent problem with serious consequences (Smith and Brain, 2000; Smith, Cowie, Olafsson, Liefooghe, Almeida, Araki, del Barrio, Costabile, Dekleva, Houndoumadi, Kim, Olaffson, Ortega, Pain, Pateraki, Schafer, Singer, Smorti, Toda, Tomasson and Wenxin, 2002; Solberg and Olweus, 2003). While the consequences may include relatively minor events such as truancy and absenteeism from school (Olweus, 1978), bullying may also have longer-term, more critical impacts via poor academic results (Olweus 1993); it may form part of a cycle of escalating violence (Andershed, Kerr and Sattin, 2001); and it may even lead to suicide (Rios-Ellis, Bellamy and Shoji, 2000). Bullying is thus clearly a problem that deserves investigation and prevention.

Violence in South Africa as Context for Bullying. South Africa has very high levels of violence in general – for instance, the rate of death from homicide is far higher in South Africa than in the rest of sub-Saharan Africa or, indeed, the world (Matzopoulos, Norman and Bradshaw, 2004). Intuitively, in such a violent society, it makes sense that there would also be

high rates of bullying at school, since bullying is a subtype of violent behaviour (Olweus, 1993). However, although violence has been studied in South Africa, bullying at school has received very little attention. That research which does exist suggests results in accord with intuition: that rates of bullying are high (Reddy, Panday, Swart, Jinabhai, Amosun, James, Monyeki, Stevens, Morojele, Kambaran, Omardien, and Van den Borne, 2002), and are higher among South African students than among those in the USA (Barbarin, 1999). Qualitative data suggests that some bullying is related to racism in recently desegregated schools (Pillay, 2004). Finally, in a sample of urban South African high school students, either bullying or being bullied has been found to be related to low self-esteem in a number of domains, particularly the family and the school (Wild, Flisher, Bhana and Lombard, 2004).

In addressing problems such as violent behaviour, an approach that investigates risk and protective factors best enables identification of points of intervention (Emmett and Butchart, 2000). Risk factors are those associated with increased likelihood of negative health behaviours or outcomes (such as bullying), while protective factors are those that are associated with increased likelihood of positive health behaviours or outcomes, or

with decreased likelihood of negative health behaviours or outcomes (Kirby, 2001). Although the association with the negative event (in this case, bullying) may not be causal, these correlates are useful for identifying high-risk groups or factors that may assist in developing intervention strategies.

(Laufer and Yossi, 2003), as is low parental involvement (Flouri and Buchanan, 2003). Harsh discipline, poor family management and family drug problems also tend to put children at risk instance, teacher recognition of prosocial behaviour) as a protective factor (Olweus, 1993). More generally, low school connectedness seems to be associated with being a victim of bullying, and may compromise children's abilities to achieve at school (Eisenberg, Neumark-Sztainer and Perry, 2003; Skues, for either outcome. cognised as playing key roles in shaping children's vulnerability tims of bullies are not well understood, these domains are retors increase the likelihood of children's becoming bullies or vicfor becoming aggressive (Espelage and Swearer, 2003; Olweus, 1993). Although the mechanisms by which these facof parental support for school matters is an important risk factor Cunningham and Pokharel, 2005). In the family domain, a lack areas for understanding bullying (Espelage and Swearer, 2003; Flouri and Buchanan, 2003; Laufer and Harel, 2003; Rigby, ture, the school and family domains have been identified as key areas for understanding bullying (Espelage and Swearer, 2003; been identified as a risk factor (Laufer and Harel, 2003; Olweus, 2005). In the school domain, low academic achievement has 1997), and rewards for conventional involvement at school (for chool and Family Influences. In the developed world litera-2003;

Province and live with extended family or even with non-kin. work while the children remain at school in the Eastern Cape parents may leave the Eastern Cape Province in order to find inces to find work. This has an impact on family structures, as tober 1995 (Sidiropoulos, 1998), and people often migrate from teacher ratios; Sidiropoulos, 1998). Family situations in the Eastern Cape Province are also not those of the developed world. The unemployment rate in the province was 41.4% in October 1000 (2010). eas. As an example of the differences in school context, in 2000, 10.9% of U.S. students aged 16-24 dropped out of school before completing the twelfth grade (U.S. Department of Commerce, 2000); in South Africa in 2000, 70% of respondents in a the rural Eastern Cape Province to urban areas in other provpossible that it is in part associated with factors that impede a causes of this high dropout rate have not yet been identified, it is study had not completed their secondary education (Braehmer, as Norway, the United Kingdom, the United States, and Japan (Espelage and Swearer, 2003), or in South Africa's urban arsearch has been conducted chiefly in developed countries such that in the Eastern Cape Province of South Africa. Previous reprevious studies have been undertaken are very different from It is also important to note that the contexts in which most attachment to school (such as very high student: Greenstein, Morake and Seutloadi, 2000). While

Ethnicity was considered as a possible variable that might play a role in whether children are bullied or not. Some studies find that ethnicity increases the likelihood of victimisation (e.g., Mouttapa, Valente, Gallaher, Rohrbach and Unger, 2004), but others find no relationship between ethnicity and bullying or victimization (e.g., Seals and Young, 2003, Siann, Callaghan, Glissov, Lockhart and Rawson, 1994). Given that there are no consistent effects, and that our sample was almost wholly Black (95.9%), we decided not to include ethnicity in our analyses.

These differences from other contexts make it imperative to explore whether the school and the family domains do in fact

play a role in bullying amongst South Africa's rural adolescents. One might speculate that, for instance, if the proportion of high school dropouts is so much higher in South Africa, this might be related to low academic achievement and low rewards for conventional involvement, or to parental attitudes unsupportive of education, that might also increase likelihood of bullying or victimisation (Catalano and Hawkins, 1996). School and family domains do play roles in a number of adolescent risk behaviours, such as substance abuse and unsafe sexual behaviour (Catalano and Hawkins, 1996), and their importance has also been identified in South African literature (Eaton, Flisher and Aarø, 2003; Flisher, Parry, Evans, Muller and Lombard, 2003, Liang, Flisher and Lombard, 2007, Townsend, Flisher, Chikobvu, Lombard and King, in press). However, we are not aware of any studies addressing their relationship with bullying in South Africa.

Goals of the Study. This study aims to address some of the identified gaps in the literature on:

- the prevalence of bullying in South African rural high schools, since this has not yet been investigated;
- factors in the school and family domains are indeed associated with bullying, as they are with other adolescent risk behaviours.

Method

Participants and setting

Forty-one high schools were randomly selected (such that probability of selection was proportional to the size of the school) from all the high schools in the Umtata (21 of 28 schools) and Queenstown (20 of 59 schools) districts in the Eastern Cape Province, South Africa. Two grade 11 classes were randomly selected from each school, and 40 learners randomly selected from their combined class lists. This yielded a total sample size of 1,640 (800 from Queenstown and 840 from Umtata).

Sample

Across the two districts, we found a total of 1,601 questionnaires to be valid (796 in Queenstown and 805 in Umtata). Among these, ages ranged from 7 to 39, with 6 missing values. For the purposes of modelling, questionnaires with outliers for the ages were not included in the analysis, leaving an age-range of 15-23 and a total of 1,476 students in the sample. A demographic description of the sample is given in Table 1.

Measures

Two questions in the questionnaire addressed bullying (Liang, Flisher, and Lombard, 2007): "During the past 12 months, have you bullied anybody at school?" and "During the past 12 months, have you ever been bullied at school?" An answer of either "yes" or "no" was required for each question. Respondents who answered "yes" to the first question only were coded as bullies; those who answered "yes" to the second question only were coded as victims; and those who answered "yes" to both questions were coded as bully-victims. These questions are similar to that used in the National Youth Risk Behaviour Survey (Reddy et al., 2002), and could therefore be judged to be appropriate for the South African context.

Demographic data included age, gender, and socially defined racial group.

Measures used in this study were drawn from the Communities That Care Youth Survey, which has been developed to

Table 1. Demographic Description of Sample (N=1,476)

Family structure Live with both parents Live with only one parent Live with neither parent	Socially defined racial group Asian Black Coloured White	Language of questionnaire English Xhosa	Gender Male Female	
572 523 359	1,415 35	371 1,105	614 857	ח
38.8 35.4 24.3	0.3 95.9 2.4	25.1 74.9	41.6 58.1	%

identify risk and protective factors for a range of risk behaviours in young people (Catalano and Hawkins, 1996). In this survey, variables that were considered to be risk factors in the school context were academic failure (or low academic achievement) and a low degree of commitment to school. The two variables we thus used to explore factors important in the school environment are academic failure and rewards for conventional involvement.

Academic achievement. A two-item scale ("What was your aggregate or average mark last year?" and "Are your school marks better than the marks of most of the children in your class?") was used. Aggregate was coded 1 (F or E), 2 (D or C) and 3 (A or B). The item asking about the relative position of school marks was initially scored on a 4-point Likert-like scale, with "1" being "definitely no" and "4" being "definitely yes". For these purposes, both the "no" answers were coded "0" and both "yes" answers coded "1". The items were then summed to create the variable "academic achievement", which therefore had a range from 1-4. Higher scores indicated greater academic success.

The variable addressing rewards for conventional involvement was the sum of 6 items, all of which are coded "0" ("no" or "definitely no") or "1" ("yes" or "definitely yes"). It thus had a range from 0-6.

Risk Factor Scales. Scales for risk factors in the family context included poor family management, poor family discipline, and a family history of antisocial behaviour. Poor family management was a six-item scale, comprising such items as "My parents or guardian ask if I have done my homework" and "The rules in my family are clear". The range of possible answers was "NO", "no", "yes" and "YES". For this analysis, both negative answers ("NO" and "no") were coded "1", and both positive answers ("Yes" and "YES") were coded "2". Poor family discipline was a 3-item scale coded in the same way, which explored whether parents would catch the respondent if he or she used alcohol or drugs, missed school, or carried a knife. Family history of antisocial behaviour, a six-item scale, had four items ad-

dressing use of alcohol, tobacco and other drugs, and two others addressing sibling antisocial behaviour.

Protective factors in the family context included family attachment, opportunities for positive involvement in the family, and rewards for conventional involvement. Opportunities for positive involvement was a three-item scale: "My parents or guardian let me do lots of enjoyable things with them", "My parents or guardian ask me what I think before most family decisions affecting me are made", and "If I had a personal problem I could ask my parents or guardian for help". Both were scored as for poor family management. Rewards for conventional involvement were assessed on a two-item scale, with scores from "Never or almost never" ("1") to "All the time" ("4"). The items were "My parents or guardian notice when I am doing a good job and let me know about it" and "How often do your parents or guardian tell you they are proud of you for something you have done?"

Since family management may be influenced by family structure (for instance, single parents may have less time with their children and so be less able to supervise them) (Sameroff, Bartko, Baldwin, Baldwin, and Seifer, 1998), family structure was included in the model. This variable was coded "1" if the respondent was living with both parents, "2" if living with only one parent, and "3" if living with neither parent.

Gender and age were also included in both models. In cross-sectional studies bullying tends to decline with age (Eslea and Rees, 2001; Salmivalli, 2002), and gender appears to influence both the type of bullying and its reporting (Land, 2003).

Procedure

Students were invited to participate if their parents had not refused consent for their participation, and each student gave informed assent for his or her participation. The study was approved by the Research Ethics Committees of the University of Cape Town, University of Fort Hare, and the University of the Transkei.

Questionnaires were administered in the classroom during a class period. Parents were asked to give permission for their children's participation in the week before the study. All students whose parents did not refuse permission to participate, and who themselves consented, participated in the study. Fieldworkers administered the questionnaires without teachers present, and under conditions such that confidentiality and anonymity were maintained.

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Because the dependent variable had 4 categories (bully, victim, both, none), we used multinomial logistic regression to investigate the influence of gender, age and risk and protective factors in the school and family domains, on bullying outcome (Tabachnik and Fidell, 1996). Appropriate sample weights were applied to adjust for clustering by school, and school district was included in the model to control for stratification by district, as the prevalence was significantly different across the two districts. Since very few respondents scored "1" for academic failure or between 0 and 3 for rewards, the school model included the scores of academic achievement 2, 3 and 4 (here named low – high academic success) and scores 4, 5 and 6 of rewards (here called moderate – high rewards) as separate variables.

Table 2. Prevalence of Bullying and Victimisation by Area (N=1,444)

Area	Bully	Victim	Bully-victim	Neither bully nor victim
Queenstown				
Percentage	2.76	19.81	4.15	73.28
[95% confidence intervals for proportions]	[1.60, 4.73]	[16.62, 23.44]	[2.62, 6.51]	[68.82, 77.32]
5	:20	145	31	518
Umtata				
Percentage	5.18	12.79	6.92	75.12
_	[3.41, 7.79]	[9.87, 16.40]	[4.80, 9.88]	[69.75, 79.82]
5	36	92	51	551
Total				
Percentage :	3.90	16.49	5.45	74.15
[95% confidence intervals for proportions]	[2.81, 5.40]	[14.27, 18.99]	[4.08, 7.26]	[70.75,77.28]
5	56	237	82	1,069

Results

Prevalence

The majority of the students (1,069, or 74.15%) reported neither bullying nor being bullied, whereas 56 (3.90%) reported bullying others, 237 (16.49%) reported being a victim of bullying, and 82 (5.45%) reported being both bullies and victims. Thirty-two students failed to answer one or both of the questions relating to bullying. Prevalence by area is shown in Table 2.

School factors influencing bullying

Of the factors investigated (area, gender, academic failure or rewards), only a moderate to high level of rewards (a score of "5") for conventional involvement was a significant correlate of bullying. A significantly higher prevalence of victimization was found in the Queenstown area, with risk of victimization being 1.75 times that in Umtata. Low, moderate and higher academic achievement were significantly associated with victimization, as was moderate rewards (a score of "4") for conventional involvement. The only correlate of bully-victim status was the highest score for academic success. Table 3 shows these results in greater detail. Neither gender nor age was found to be a significant factor in either of these analyses.

Family factors influencing bullying

In this analysis, only area was found to be a significant predictor of bullying status. Neither gender nor age, nor any of the family factors, were found to be significant. The results are shown in more detail in Table 4.

Discussion

It is clear that while most school students in the Eastern Cape Province of South Africa have neither been bullied nor bullied someone else, bullying is a prevalent problem: over a quarter of students experienced it either as a bully, as a victim, or both. These rates are similar to those found in a study of Cape Town Grade 11 students (Wild et al., 2004), but lower than rates of bullying identified in a study of 5- and 6-year-olds (Barbarin, 1999) and in the National Youth Risk Behaviour Survey (Reddy et al., 2002). Although comparison with the interna-

tional literature is difficult, because different operationalisations of bullying have been used, it is clear that South African children experience high rates of aggression from their schoolmates.

This study did not investigate the nature of the bullying in detail, but it is clear from other studies that aggression can take serious forms in South African schools. For instance, in a national study of youth victimisation, 38.3% of South African young people reported being attacked while at school (Leoschut and Burton, 2006), and a study of risk behaviours in several sites around South Africa found that as much as 13.9% of boys had carried a knife to school to be used as a weapon in the four weeks preceding the study (Flisher, Ward, Llang, Onya, Mlisa, Terblanche, Bhana, Parry and Lombard, 2006).

Our finding that academic success and some (but not too much) reward for conventional involvement is related to victimization, suggests that schools in the Eastern Cape Province may have developed a culture where peers victimize achievers, and that adolescents may be protected when they receive no attention from teachers. These results are significantly at odds with literature from the developed world (Espelage and Swearer, 2003; Olweus, 1993). For instance, studies in other contexts suggest that school connectedness and motivation to achieve is lower in victims (Eisenberg et al., 2003; Skues et al, 2005), whereas our results suggest that the victims are the achievers, relative to others in their classes. Future studies should investigate the perceptions of academic achievement amongst students, and how this might lead to victimization.

In addition, many studies from the developed world emphasize the role of the family in both bullying and victimization (Espelage and Swearer, 2003; Olweus, 1993). Our finding that no family factor is significantly correlated with bullying or with victimisation is dramatically different from literature from other contexts. Since so many of our participants were not living with either parent, our findings may indicate that they experience their families as having very little influence in their lives. However, this should be investigated in greater depth, both in attempts to replicate this finding and in order to understand the mechanism by which this lack of influence occurs.

The effect of area in our study is strongly marked, and would also bear further investigation. Community-level factors such as

Table 3. School Factors Associated with Bullying and Victimisation (N=1,311)

			,						
	Bully ¹	-		Victim	m,		Bully-victim ¹) 3	ļ
School factor	Relative Risk Ratio	95% Confidence Interval	% ence val	Relative Risk Ratio	95% Confidence Interval	6 ence val	Relative Risk Ratio	95% Confidence Interval	% ence val
∪mtata ²	1.44	0.72	2.89	0.57*	0.39	0.82	1.54	0.96	2.47
Female gender	0.92	0.55	1.54	0.95	0.74	1.20	0.80	0.47	1.36
Low academic achievement3	0.82	0.32	2.06	1.92*	1.05	3.51	1.25	0,53	2.97
Moderate academic achievement	0.85	0.34	2.12	1.90⁺	1.03	3.50	1.47	0.63	3,43
Higher academic achievement	0.93	0.39	2.21	2.96*	1.48	5.93	3.06*	1.32	7.12
Moderate rewards ⁴	0.80	0.32	1.97	1.64*	1.13	2.37	1.11	0.58	2.12
Moderate-high rewards⁴	0.46+	0.23	0.90+	1.06	0.75	1.50	0.75	0.40	1.41
Higher rewards*	0.53	0.19	1.46	0.79	0.48	1.30	1.04	0.51	2.12

Table 4. Family Factors Associated with Bullying and Victimisation (N=1,190)

	Bully ¹	7.1		Vic	Victim ¹		Bully-victim ¹	ij.	
School factor	Relative Risk Ratio	95% Confidence Interval	% ence val	Relative Risk Ratio	95% Confidence Interval	% ence val	Relative Risk Ratio	95% Confidence Interval	% ence val
∪mtata ²	1.98+	1.04	3.74	0.57*	0.40	0.82	1.82+	1.01	3.29
Female gender	0.71	0.41	1.22	1.05	0.82	1.34 42.	0.79	0.44	1.43
Age	0.91	0.76	1.09	0.96	0.87	1.06	1.02	0.89	1.17
Not living with both parents ³	1.36	0.70	2.65	0.88	0.57	1.35	1.54	0.77	3.06
Poor family management	0.90	0.68	1.19	0.86	0.73	1.00	1.03	0.81	1.32
Poor family discipline	0.84	0.61	1.17	0.94	0.76	1.15	1.14	0.85	1.53
Family history of antisocial behavior	1.04	0.87	1.23	1.10	1.00	1.21	1.10	0.92	1.30
Opportunites for positive involvement	1.35	0.96	1.88	1.00	0.82	1.18	0.95	0.68	- 33
Rewards for conventional involvement	0.96	0.80	1.16	1.09	0.99	1.20	0.92	0.76	1.10

^{*} p<0.01; + p<0.05

A bully status of "none" is the reference category

Queenstown is the reference category

Lowest possible academic achievement is the reference category

Lowest possible rewards is the reference category

^{*} p<0.01; * p<0.05

A bully status of "none" is the reference category

Queenstown is the reference category

Living with both parents is the reference category

avenues for prevention. tant area for future research, as it may help to identify effective ing. Understanding the area effect and its causes is an imporing investigated and shown to be associated with risk for bullyviolence exposure (Schwartz and Proctor 2000) and neighbourood income (López Turley 2003) are increasingly be-

in order to identify avenues for preventive interventions. Future studies should, however, certainly use a more elaborated definition of bullying. school and family domains would be fruitful avenues to explore One of the key limitations of this study is the definition of bullying that was used: multi-item, behavioural indices generally yield better data (Rigby, 2002). Unfortunately, as this study ing is in fact experienced by South African students, and that the rather lengthy. Our goal here was merely to establish that bullyof bullying could not be used as the questionnaire was already formed part of a much larger study, a more elaborated definition

tion in depth. that are prospective and that can therefore investigate causacorrelational nature. More studies are necessary to build a more complete picture of bullying in South Africa - specifically those This study is also limited by its cross-sectional and

an effective arena for intervention Despite its limitations, our data does establish that rural South African adolescents do bully each other and suffer the effects of bullying. In addition, it suggests that the school may be

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