

Aggressive and Antisocial Behaviours Among Secondary School Students in Botswana

The Influence of Family and School Based Factors

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ABSTRACT This study examined the relationship between family factors and secondary school students' aggressive and antisocial behaviours. Participants were 1,478 junior and senior secondary school students from four major urban centres in Botswana, aged 12–20. Results showed significant prevalence of self-reported aggressive tendencies and antisocial behaviours among secondary school students in Botswana. Boys rated themselves higher on aggression, use of alcohol and drugs and carrying and using dangerous weapons compared to girls. High scores on antisocial and aggressive behaviours were significantly related to poor parent–child relations and low parental monitoring. The results are consistent with findings from previous studies. The findings have important implications to violence prevention programs for children and adolescents. Suggestions for future research and the development of intervention programs are made.

KEY WORDS: aggression; antisocial behaviours; parental influences; school based factors

Introduction

Researchers have demonstrated an increase in violence and aggression among youth and children, thereby stimulating debates on the role of the social environment on psychosocial health and general wellbeing of children and youth. Findings from the United States, Western Europe and other parts of the world suggest that youth violence and aggression has not only become so pervasive, but that it has also become a global

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problem [Centers for Disease Control and Prevention (CDC), 2004; Orpinas et al., 1999; Pellegrini and Bartini, 2000; Pellegrini et al., 1999; Rigby, 2005]. For instance, according to the 2004 Youth Health Risk Behaviour Surveillance Survey, in the United States homicide ranked second among the four leading causes of death among children and youth aged 10–24 years of age (CDC, 2004). The survey also reported that the increase in rates of homicide varied by gender and ethnicity. The homicide rates for males were significantly higher than those for females. Black and Latino youth had the highest risk for falling victims of homicide compared with white youth. Similar results were found for carrying and the use of weapons and violent victimization. Although a fair amount of acts of violence and aggression has been documented, there is a general concern among researchers and public health professionals that a significant number of the cases go unreported. This is particularly true in environments where the surveillance is very poor.

Studies on youth aggression and antisocial behaviours among African populations are sparse. This is notwithstanding the amount of interest this subject has generated internationally. Given the developmental challenges facing Africa today, especially cyclical violence and civil strife, one would expect research on youth aggression and violence to be widespread. The constant change to the demographic, socio-economic and political circumstances in the continent is bound to adversely affect the development of youth and children. Frustrations emanating from the socio-economic challenges facing most African societies are bound to lead to increases in violence, aggression and other maladaptive behaviours. Youth aggression is significant for families, the school and the community. This is because aggressive youths are likely to engage in violent and criminal behaviour in adulthood. Not only does youth aggression undermine achievement and other desired behaviours, it also undermines the civil liberties of others, thereby subverting safety, peace and security, which are critical to national development. It is for this reason that there is a need to gather empirical data on the nature, prevalence and predictors of aggression and antisocial behaviours in youth and children among African populations.

The dearth of research on youth violence and aggression among African populations together with poor surveillance by the public health sector mean the extent of the problem remains unknown. However, anecdotal evidence, including media reports, suggests that the problem is of similar magnitude to that reported in other parts of the world. In the context of Botswana, media and police reports as well as reported violence and antisocial behaviours from the school system suggest that acts of violence and aggression committed by youth are increasing at an alarming rate. For instance, in 2001 students at a

senior secondary school renowned for its academic excellence, destroyed school property and beat others as they coerced them to take part in a riot against the school's administration (*Daily News*, 18 May 2001). The students did this to draw the attention of school management to several welfare issues including living conditions in the dormitories. Also widely reported are the so-called passion killings, typically involving murders of girlfriends by their boyfriends or recently jilted boyfriends. One such incident involved a 23-year-old male who murdered and beheaded his 16-year-old girlfriend before committing suicide (Phia, 2005). Two separate incidents immediately followed this one in a major village in the North West district where two female university students aged 21 years were murdered by their boyfriends who also later committed suicide (Nitibinyane, 2005). The boyfriends were of ages 23 and 24 years. Stories of gangs of youths aged between 12 and 18 years who go around villages beating, stealing and sometimes raping are also on the increase (Basimanebotlhe, 2005; *Sunday Standard*, 18–24 September 2005). These incidents suggest the seriousness of youth aggression and violence in Botswana and that there is need for gathering empirical evidence on the prevalence of violence, aggression and related antisocial behaviours in the country.

Researchers have shown that violence and aggression among children and adolescents is caused by multiple factors such as child maltreatment, physical abuse and low self-esteem (Adinkrah, 1995; Herrenkohl, 2001; Spillane-Grieco, 2000). Specifically, physical abuse and excessive use of corporal punishment have both been linked to low self-esteem and aggressive tendencies among youth (Adinkrah, 1995). Other factors associated with aggressive behaviours among youth are poor social relationships at home and in school, deprived economic circumstances, as well as cultural practices that tend to undermine children's sense of self-worth (Adinkrah, 1995; David and Kistner, 2000; Schissel, 2000).

Other widely investigated correlates of youth aggression and antisocial behaviours are family factors such as family structure, parental monitoring and parental relations. Family variables have been found to be significantly related to children's aggression, use of alcohol and drugs and carrying and use of lethal weapons such as knives and guns (Gladman and Lancaster, 2003; Griffin et al., 2000; Orpinas et al., 1999). In a study involving 6th graders in the United States, Griffin et al. (2000) found that children's use of alcohol, cigarette smoking and engagement in aggressive and antisocial behaviours were mediated by family structure. Children from single-parent families engaged in the highest rates of problem behaviour. More parental monitoring was associated with less delinquency overall, as well as less drinking. Similar findings were reported in a study conducted by Singer et al. (1999).

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Significant gender differences have also been identified in the literature, with boys scoring higher on problem behaviours than girls. Thus, the role played by parental factors on youth pro-social and antisocial behaviours cannot be overestimated.

Theoretical background

This study is mainly guided by Bandura's (1973, 1986) Social Learning Theory. The focus of social learning theorists is observable behaviour, particularly how behaviour is acquired, maintained, modified and extinguished through the contingencies that underlie the social environment. In line with this theory, aggression is defined as a learned response pattern under the influence of modelling and reinforcement. Social cognitive theory suggests that behaviour that is positively reinforced is likely to be repeated, whereas behaviour that meets with continual punishment is likely to decrease. Also worth noting is the fact that different reinforcement and punishment schedules may have different consequences on subsequent behaviour (Bandura, 1973).

Social learning theorists have also demonstrated that children who observe someone display certain behaviours are more likely to display such behaviours (Rushton, 1980). The amount of exposure and consistency with which the behaviour is modelled, will affect the likelihood to which the behaviour will be replicated. Also significant in this relationship is the nature of the relationship between the child and the person modelling the behaviour. Behaviour displayed by significant adults (e.g. parents, teachers and coaches) and close friends is likely to be replicated than behaviour displayed by individuals who have no relationship to the child. Cognitive processes also have to be taken into consideration in shaping behaviour.

Underlying the issue of cognition are the concepts of comprehension and reinforcement efficacy. Although social learning theorists cannot agree on the precise role of cognition in the whole process, there is a general consensus that behaviour is often intentionally directed rather than simply responsive to environmental influences (Hefferline et al., 1970). The interaction among moral cognitions, moral behaviour, affective self-reactions and environmental factors play a role in moral functioning (Bandura, 1986). Such an interaction guided the conceptualization of this study.

As noted previously, there exists little empirical evidence on the problem of youth aggression and antisocial behaviours in Botswana. Neither is there known information about the role of the family environment on youth aggression and antisocial behaviours. Youth aggression and antisocial behaviours in Botswana are expected to be influenced by a number of factors, such as the changing economic

and demographic circumstances in the country (Mosha, 1998). For instance, there are increasing numbers of single households headed mostly by females. The prevalence of HIV/AIDS and its related mortality rates has left many children orphaned and under the care of extended family. These factors are bound to have profound effects on the upbringing of children.

It is also possible that the challenges are compounded by the changes in the socio-cultural and economic circumstances in which children are being brought up. For instance, it is probably unrealistic to expect the extended family to continue functioning the way it did a decade or two ago given the growth in economic hardships. Rapid urbanization and its effects on the rural economy, high rates of unemployment and poverty are bound to cause a lot of strain on the traditional family structure. The ability of extended family members to continue providing care and supervision to children under these challenging circumstances is in doubt.

Botswana also makes an interesting case for the study of family factors and antisocial behaviours because of the way children are socialized. Both the family and the school environments help socialize children to think that the voice of young people has no bearing on matters affecting the welfare of society. The limited involvement of children in decision-making and problem-solving activities at home and school has important ramifications on the overall development of youth in a changing culture. It also has implications for the development of pro-social behaviours, moral reasoning and a sense of responsibility for one's actions. Overall, children grow up knowing that it is rude to express their opinions to adults. This could make it difficult for them to share their thoughts and emotions or experiences with adults. Anecdotal evidence suggests that a significant number of children have troubled childhoods. Schools and the community seem to have major challenges dealing with truancy, gang violence, aggression use of alcohol and drugs and declining academic standards. These problems are compounded by the absence of the voice of children themselves on matters affecting their welfare.

Therefore, the purpose of this study was to examine the influence of family factors (family structure, student–parent relationship and parental monitoring) on secondary school students' aggressive and antisocial behaviours. A study of factors that impinge upon aggressive behaviours among Botswana youths is expected to provide vital information that would lead to finding long-term solutions to the problem of aggression and violent behaviours in youth. This study also sought to provide baseline data on the prevalence of aggression and antisocial behaviours which, as noted earlier, have become very pervasive. On the basis of the foregoing, the following research questions were explored:

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- What is the prevalence of aggressive and selected antisocial behaviours among youths in Botswana?
- Is there a relationship between family variables, aggression and antisocial behaviours?
- Are there gender and school level (age group) differences on aggression and antisocial behaviours?
- Do current data from Botswana show a significant relationship between aggression and antisocial behaviours of youths?

Based on these questions the following hypotheses were investigated:

- Hypothesis 1: Family factors are significant predictors of student aggressive and antisocial behaviours. This relationship will vary by gender and school level.
- Hypothesis 2: There is a significant positive relation between aggression and antisocial behaviours.

The study was delimited to Botswana youths attending secondary school (Form 1–Form 5) in four major urban towns in Botswana, namely Gaborone, Francistown, Lobatse and Selibe Phikwe. The study was also delimited to investigating selected family variables; namely family structure, parental relations and parental monitoring. This study assumed that the respondents provided honest responses to questions. The study also assumed that respondents understood all the items on the questionnaires.

Methods

Participants

Participants in this study were 1,478 youths (male = 48.8 percent and female = 51.2 percent) from 16 secondary schools in four major urban centres in Botswana. About 48.38 percent of the students were attending junior school (Forms 1–3) while 51.4 percent were attending senior secondary school (Forms 4–5). Their age ranged between 12 and 20 years ($M = 16.2$, $SD = 1.8$). The mean age for junior school was 15 years ($SD = 1.3$) as compared to 17.4 years for senior school ($SD = 1.3$). Although socio-economic background was not formally assessed in this study, students were likely to be representative of diverse socio-economic backgrounds, as 91.5 percent were from public schools, which tend to enrol students from diverse backgrounds.

Procedure and measures

The study conformed to the ethical guidelines stipulated by the Ministry of Education. Ethical clearance to conduct the study was obtained

from the Ministry of Education. Further permission to conduct the study in schools was obtained from the management of each school involved in the study. Written consent was obtained from each student prior to data collection. Prior to administration of the survey, each student was made aware of his or her right to decline participation in the study and that they were at liberty to decline to answer any questions they found too invasive without penalty. Paper and pencil instruments were administered in classrooms or assembly halls within schools. Trained Research Assistants administered questionnaires. Each questionnaire administration exercise took approximately 30–45 minutes. Although there were a number of incomplete items, no students refused to complete the questionnaires. All participants in the study completed the following measures:

Background information questionnaire. A background information questionnaire designed by the investigator was used to collect relevant demographic information such as age, gender, school level, family structure, parental monitoring and relations with parents or guardians. Family variables were measured with items adapted from Orpinas et al. (1999). Family structure was measured with a single item that asked the students to select the parent or guardian they stayed with most of the time, from a list of possible responses (mother and father, mother only, father only, mother and stepfather, father and stepmother, grandparent, uncle, aunt, older sibling, etc.). Relationship with parents was assessed with an item that requested the student to rate how well they got along with the parent or guardian they lived with most of the time, on a scale of 1 (very bad) to 4 (very well). Parental monitoring was assessed with an item in which students rated the extent to which the parent or guardian they lived with most of the time let them come and go as they wish. The item had a scale ranging between 1 (never) and 4 (always).

Aggression and antisocial behaviours. Aggression was assessed using the Aggression Scale (Orpinas and Frankowski, 2001). The Aggression Scale is an 11-item measure of self-reported aggressive behaviours among children and youths. The scale requests information regarding frequency of the most common overt aggressive behaviours including verbal aggression such as teasing, name calling, encouraging others to fight or threatening to hurt or hit. Respondents were asked to rate the frequency with which they had engaged in the listed events on a scale of 0 to 5 with 0 denoting never and 5 denoting five or more times. Responses on the scale are additive and therefore can range between 0 and 66 points. Tests of internal consistency with US children showed that the scale had strong internal consistency following tests on various populations, with alpha coefficients ranging from 0.85 through 0.92. A test of internal consistency with the current sample

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from Botswana yielded a Cronbach's alpha of 0.84, which showed that although the scale was normed on US populations, the items bore relevance for use within the context of Botswana.

To assess antisocial behaviours such as the carrying of weapons such as knives and guns, use of weapons in fights, alcohol and drug use and punishment at school and home, nine Likert-type items adapted from the Centres for the Disease Control and Prevention's Youth Risk Behaviour Surveillance Survey (YRBSS) (CDC, 2001) were used. The items were labelled Risk Behaviour Questionnaire (RBQ). The Students had to rate the frequency with which they engaged in the behaviours over the past six months on a scale of 0 to 5, with 0 representing never and 5 representing five or more times. The RBQ included items on witnessing others engage in antisocial or risk behaviours as it was felt that an assessment of observing others would serve as a good indicator of prevalence of the behaviours. Besides, students were more likely to report seeing someone else engage in a behaviour than report their own involvement. Six items were used to assess punishment at school and home over the past six months, with 0 representing no punishment and 5 representing being punished five or more times over the past six months. Punishment was expected to correlate highly with family factors as well as aggressive and antisocial behaviours committed during the period. It was also considered to be a good indicator of the role played by the school or home environments in addressing youth aggression and antisocial behaviours.

Data analyses

The results of this study are organized around the four general research questions posed and the proposed hypotheses. First, descriptive information was provided on the prevalence of aggressive and antisocial behaviours for the entire sample as well as by gender. A summary of family variables was also provided. Exploratory factor analysis (EFA) was conducted on the RBQ for data reduction and for purposes of examining the hypothesized relationships between aggression, antisocial behaviours and family factors. These were followed by examination of effect sizes and post-hoc comparisons in the case of significant effects.

Results

Aggression and antisocial behaviours

Use of alcohol and drugs, experience of acts of punishment at school and home, prevalence of disciplinary problems and witnessing, carrying and use of drugs and dangerous weapons over the past six months

were examined. Approximately 9 percent of the students reported carrying a knife or sharp object, 4.1 percent reported using a knife or sharp object in a fight, while 46.6 percent reported witnessing or hearing of someone carrying a knife or sharp object at least once over the past six months. Seventeen percent reported having witnessed or heard of someone carrying a gun. About 21 percent reported that they had used alcohol at some point over the past six months. About 5 percent reported smoking marijuana or ganja compared to 33.4 percent who reported having seen another student smoking marijuana. The sale of drugs by students was also prevalent with 8.4 percent reporting having heard of another student selling drugs. The mean self-reported aggression score for the entire sample was 12.4 ($SD = 11.1$), which represent an average of 12 aggressive acts over the past six months.

A significant percentage (86.8 percent) of the students reported having experienced some form of punishment at home and school. Most of the physical punishment (66.2 percent) took place at school compared to 20.6 percent from home. In addition to physical punishment, there were other forms of punishment at school such as digging holes, cleaning toilets and standing in the sun. The significant presence of these various forms of punishment in school suggests that the school environment has a larger share when it comes to enforcing discipline among children compared to the home environment. It could also mean that students committed a greater number of transgressions at school compared to home. It could also be due to the fact that students spend more of their time at school than at home. Interestingly, girls ($M = 4.79$, $SD = 3.77$) appeared more likely to be punished both at home and school than boys ($M = 4.54$, $SD = 3.70$). However, this difference was extremely small and not statistically significant. A summary of the descriptive statistics for selected variables from the RBQ is provided in Table 1.

Descriptive statistics for family factors

Concerning the students' family structure, 43.6 percent reported that they lived with both parents compared to 25.2 percent who lived with their mothers only. Only 4 percent reported that they lived with their fathers only. About 3.7 percent reported that they lived with a biological parent and a stepparent. The remaining 23.5 percent reported that they lived with other types of relatives including older siblings, grandparents, aunts and uncles.

When asked to rate parental monitoring or permissiveness of the home environment, only 25 percent of the students reported that they were never allowed to come and go as they wished compared to 59 percent who said sometimes, 7.6 percent who said almost always and 6.6 percent who said always. With regard to relations with parents or

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Table 1 Mean scores for the selected RBQ items

Variable	Total sample		Boys		Girls	
	M	SD	M	SD	M	SD
Physical punishment at home	0.47	1.14	0.46	1.16	0.47	1.13
Physical punishment at school	2.38	2.13	2.34	2.13	2.41	2.12
Other forms of punishment at school	0.54	1.17	0.67	1.29	0.42	1.04
Carried a knife or sharp object to protect self	0.24	0.90	0.33	1.02	0.15	0.77
Used knife or sharp object in a fight	0.10	0.58	0.11	.57	0.02	0.59
Drank alcohol	0.68	1.52	0.83	1.66	0.53	1.36
Smoked marijuana	0.17	0.86	0.26	1.04	0.02	0.62
Witnessed other students using drugs	1.06	1.79	1.25	1.89	0.88	1.67
Witnessed or heard of someone carrying a gun	0.32	0.92	0.39	1.04	0.26	0.80
Heard of a student selling drugs	0.30	0.94	0.37	1.06	0.23	0.80

Note: The means represent the average on a scale of 0–5 that students were punished, engaged in or witnessed the behaviours.

guardians they lived with, 58 percent ($n = 857$) of the participants reported that they related very well, 36.4 percent ($n = 538$) reported that the relationship was just OK, while 5.6 percent ($n = 68$) reported that it was bad or very bad.

Exploratory factor analysis (EFA) of the RBQ

In an attempt to further reduce the RBQ items into factors that could be used in subsequent analyses of aggressive and antisocial behaviours, an EFA was conducted on the nine items from the RBQ. Principal component factor analysis with varimax rotation revealed three factors with Eigen values greater than 1. The three factors accounted for 62.7 percent of the total variance between scores. All the nine items were retained and converged to represent three components that are synonymous with some of the key areas, which, anecdotal evidence suggests, pose the biggest challenge to schools in Botswana when it comes to student indiscipline.

The items and corresponding factor loadings are contained in Table 2. The first factor named ‘Use of alcohol and drugs’ had three items and accounted for 37.2 percent of the variance. The second factor, named ‘Witnessing use of weapons, alcohol and drugs’ had four items and accounted for 13.6 percent of the variance. The third factor named ‘Carrying and use of dangerous weapons’ had two items and accounted for 11.9 percent of the variance. Tests of internal consistency were conducted on the three factors using Cronbach’s alpha. The acceptable

Table 2 *The factor structure from the RBQ*

<i>Item</i>	<i>Factor 1</i>	<i>Factor 2</i>	<i>Factor 3</i>
1. Carried a knife or sharp object to protect self	–	–	0.77
2. Used knife or sharp object in a fight	–	–	0.84
3. Witnessed or heard of someone carrying a knife	–	0.79	–
4. Witnessed other students using drugs	–	0.72	–
5. Witnessed or heard of someone carrying a gun	–	0.63	–
6. Heard of a student selling drugs	–	0.52	–
7. Drank alcohol	0.72	–	–
8. Smoked cigarettes	0.86	–	–
9. Smoked ganja or marijuana	0.83	–	–
Cronbach's alpha	0.79	0.67	0.59

minimum coefficient was set at 0.60. Except for Carrying or use of dangerous weapons ($\alpha = 0.59$), the three factors had adequate internal consistency: Use of alcohol and drugs, $\alpha = 0.79$; Witnessing use of drugs and dangerous weapons, $\alpha = 0.67$. Because of the exploratory nature of this study and the perceived relationship of carrying and use of dangerous weapons to other outcomes, this factor was retained for further analysis.

Hypotheses testing

First the effects of gender and school level on aggression and antisocial behaviours were examined using analysis of variance (ANOVA). Results showed significant effects of all three variables; therefore, they were included in further tests of the proposed hypotheses.

Effects of family factors on aggression and antisocial behaviours

The first hypothesis stated that there would be family factors which are predictive of student aggressive and antisocial behaviours and that this relationship will vary by gender and school level. This hypothesis was tested in a multivariate analysis of variance (MANOVA) with the RBQ factors and total aggression score as dependent factors and family variables (family structure, parental monitoring and parent-child relationship) as predictors. Gender and school level were included in the model. Examinations of multivariate normality and homogeneity of variance assumptions showed that the assumptions have been met.

Results showed significant main effects for parent-child relationships, Pillai's Trace = 0.04, $F(4, 1274) = 12.99$, $p < 0.0001$, $\eta^2 = 0.04$;

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parental monitoring, Pillai's Trace = 0.01, $F(4, 1274) = 4.53$, $p < 0.001$, $\eta^2 = 0.01$; gender, Pillai's Trace = 0.03, $F(4, 1274) = 8.44$, $p < 0.0001$, $\eta^2 = 0.03$; and school level, Pillai's Trace = 0.07, $F(4, 1274) = 22.57$, $p < 0.0001$, $\eta^2 = 0.07$. However, the effects sizes were very small. Surprisingly, there was no significant effect for family structure.

Effects of parent-child relationships. Follow-up univariate analyses revealed significant effects for parent-child relationship on all four dependent measures; use of alcohol and drugs, $F(3, 1381) = 6.08$, $p < 0.0001$; witnessing use of alcohol, weapons and drugs, $F(3, 1381) = 4.46$, $p < 0.004$; carrying and use of drugs and dangerous weapons, $F(3, 1381) = 5.01$, $p < 0.002$; and the mean aggression score, $F(3, 1367) = 14.88$, $p < 0.0001$. Post hoc planned contrasts revealed significant differences in use of alcohol and drugs between youths who indicated that relationships with their parents were very good and those who said it was very bad, ($p < 0.03$); and those who stated that the relationship was very well and those who said it was just OK, ($p < 0.001$). Overall, there was an inverse relationship between good parent-child relationships and use of alcohol and drugs. Self-reported use of alcohol and drugs became significantly higher for youths who reported that relationship with their parents or guardians was just OK, bad or very bad (the means and standard deviations are presented in Table 3).

An inverse relationship was also observed between good parent-child relationship and the mean aggression score. Post hoc contrasts showed a significant increase in self-reported aggression for children who did not get along very well with their parents compared to those who did ($p < 0.01$). In fact, the mean aggression score for those who said the relationship was bad, was almost double that of those who said the relationship was very good. No significant difference was found between those who said the relationship was either bad or very bad. A similar inverse relationship was observed for carrying and the use of dangerous weapons as well as witnessing use of alcohol, weapons and drugs. For the mean aggression score, significant differences were mainly between those whose relationship was very good and those who stated that it was very bad. For witnessing use of alcohol, weapons and drugs, the significant difference was only between those who said the relationship with parents was very good and those who said it was just OK. Descriptive statistics for the four dependent measures are presented in Table 3.

Effects of parental monitoring. An examination of effects for parental monitoring revealed that this factor had significant effects on Use of alcohol and drugs, $F(3, 1372) = 8.44$, $p < 0.0001$, witnessing the use of alcohol, weapons and drugs, $F(3, 1372) = 3.72$, $p < 0.01$ and aggression, $F(3, 1363) = 2.88$, $p < 0.04$. There was no significant effect for carrying

Table 3 *Descriptive statistics for the four dependent measures by parent-child relationships*

Variable	Parent-child relationships							
	Very well (n = 812)		Just OK (n = 509)		Very bad (n = 44)		Bad (n = 20)	
	M	SD	M	SD	M	SD	M	SD
Use of alcohol and drugs	-0.08	0.84	0.10	1.16	0.04	0.88	0.57	1.61
Witnessing use of alcohol, weapons and drugs	-0.07	0.96	0.11	1.03	0.13	1.19	0.24	1.11
Carrying and use of dangerous weapons	-0.01	0.83	-0.02	1.09	0.17	1.37	0.82	2.73
Aggression	11.05	10.52	13.64	11.13	20.43	14.23	16.80	11.12

Table 4 *Descriptive statistics for the four dependent measures by parental monitoring*

Variable	Are you allowed to come and go as you wish?							
	Never (n = 355)		Sometimes (n = 828)		Almost always (n = 102)		Always (n = 91)	
	M	SD	M	SD	M	SD	M	SD
Use of alcohol and drugs	-0.14	0.71	-0.01	0.96	0.18	1.28	0.40	1.58
Witnessing use of alcohol, weapons and drugs	-0.15	0.87	0.05	1.03	0.08	1.00	0.08	1.17
Carrying and use of dangerous weapons	-0.01	0.96	-0.02	0.97	-0.02	0.92	0.18	1.19
Aggression	11.16	10.62	12.74	11.14	11.84	10.20	14.44	11.09

or use of dangerous weapons. Post hoc contrasts showed significantly higher scores on use of alcohol and drugs by youths who reported that they came and went as they wished at home compared to those whose response to this item was never. Significant differences were found on scores for witnessing use of alcohol, weapons and drugs between students who reported that they never came and went as they wished and those who said that this sometimes happened. Similarly, scores on aggression significantly increased with a decrease in parental monitoring. Overall scores for the four dependent measures increased as parental monitoring decreased (See Table 4). However, the differences were not always significant between the different levels of parental monitoring.

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Table 5 *Descriptive statistics for the dependent measures by gender and school level*

	<i>Gender</i>				<i>School level</i>			
	<i>Male</i> (n = 670)		<i>Female</i> (n = 728)		<i>Junior school</i> (n = 681)		<i>Senior school</i> (n = 717)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Use of alcohol and drugs	0.04	1.12	-0.04	0.88	-0.19	0.63	0.19	1.23
Witnessing use of alcohol, weapons and drugs	0.15	1.10	-0.13	0.88	-0.09	0.92	0.09	1.06
Carrying and use of dangerous weapons	0.01	0.98	-0.01	1.01	0.10	1.05	-0.09	0.93
Aggression	13.90	11.33	10.96	10.69	13.03	11.70	11.77	11.09
Punishment	4.54	3.41	4.79	3.78	5.26	3.88	4.11	3.51

Gender and school level (age group) differences

Gender differences were found for witnessing use of drugs and dangerous weapons, $F(1,1381) = 27.53, p < 0.0001$ and aggression, $F(1,1381) = 24.62, p < 0.0001$. Boys had significantly higher mean scores on these factors than girls. The mean differences are presented in Table 5.

School-level (age group) differences were found for all the dependent measures: Using alcohol and drugs, $F(1,1396) = 52.80, p < 0.0001$; witnessing use of drugs and dangerous weapons, $F(1,1396) = 10.89, p < 0.001$; carrying or use of weapons, $F(1,1396) = 12.68, p < 0.0001$; and aggression, $F(1,1396) = 4.52, p < 0.03$. Junior school students had significantly lower mean scores on use of alcohol and drugs and witnessing use of drugs and dangerous weapons than senior school students. They also reported more incidents of punishment than older students. However, they reported significantly higher scores on carrying or use of weapons and aggression compared to senior school students (see Table 5).

These results provide partial support to the first hypothesis, which states that family factors are predictive of student aggressive and antisocial behaviours. The results support the hypothesized effects of parental monitoring and parental relationships on aggression and antisocial behaviours. However, there was no support for effects of family structure. The results also showed main effects for gender, age and school level.

The second hypothesis stated that there will be a significant positive correlation between aggression and antisocial behaviours. This relationship was examined using Pearson's correlation coefficients. Results yielded low but significant correlations between the mean aggression

score and use of alcohol and drugs, $r = 0.21, p < 0.01$; witnessing others carrying or using drugs and weapons, $r = 0.36, p < 0.01$; carrying or use of weapons, $r = 0.28, p < 0.01$. The results supported the proposed hypothesis. Students who had higher scores on use of alcohol and drugs, witnessing others carrying or using drugs and weapons, carrying weapons to protect oneself and using them in fights were likely to have high aggression scores.

Discussion

Findings from this study provide support for the association between the family environment and students' aggressive and antisocial behaviours. The use of alcohol and drugs, experience of acts of punishment at school and home, prevalence of disciplinary problems and witnessing, carrying and use of drugs and dangerous weapons approached similar proportions reported among US children (CDC, 2004; Orpinas et al., 1999). The prevalence of aggression and other problem behaviours among youths in Botswana confirm the expressed concern among educators about the growing indiscipline in the school system. It also serves as confirmation that the problem has a global dimension to it.

The study further provides support for the association between youth aggressive and antisocial behaviours and family factors. It seems that the home environment in Botswana is less involved in the disciplining of children when compared to the school. This is further corroborated by the percentage of youths in this study who reported low parental monitoring. As reported by Orpinas et al. (1999), poor parental monitoring was strongly related to higher mean scores on aggression and use of alcohol and drugs. In addition, youths who had low parental monitoring were likely to report witnessing others use alcohol, weapons and drugs, which suggests the possibility of being in the company of those youths.

As was the case with parental monitoring, a negative relationship with parents was a strong predictor of incidence of problem behaviours such as aggression, use of alcohol and drugs, carrying and using weapons or observing others using or carrying weapons and drugs. The odds of engaging in these types of behaviours were higher for youths who did not get along very well with parents or guardians than those who got along very well with their parents or guardians. These findings provide credence to the general perception that there are increasing numbers of parents in Botswana who have abdicated their parenting responsibility and instead have left everything to the school. With the mounting pressure on the family unit due to urbanization and its economic challenges, the basic care and supervision that parents have to provide to children are bound to be wanting.

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Interestingly, the effect size of the relationship between family structure and aggression and antisocial behaviours was not significant. The lack of effect for family structure could mean that contrary to expectations, when considered alongside parental monitoring and parent-child relationships, family structure does not rank high among family predictors of aggression and antisocial behaviours. Providing adequate care and supervision to children and ensuring that there are open channels of communications should yield better outcomes regardless of family structure. However, the mean differences for family structure suggest that this factor is worth further investigation as a potential contributor to aggression and antisocial behaviours. For instance, students who reported living with both parents rated themselves lower on all the dependent measures compared to their counterparts who lived with a single parent or other adults. Those who lived in a household where one of the parents was a stepparent reported higher incidence of alcohol and drug use than those from household where both biological parents were present or those from households headed by a single biological parent. These findings support those by Orpinas and colleagues (1999) who found parental monitoring and relationship with parents to be more predictive of aggression than family structure. Caution has to be exercised when interpreting the impact of all family variables, however, as the effect sizes were very low.

Gender differences on aggression and antisocial behaviours in this study are similar to those reported in other studies (CDC, 2004; Orpinas and Frankowski, 2001; Orpinas et al., 1999). Girls reported fewer aggressive behaviours and lower scores on alcohol and drug use, weapon carrying and use, as well as observing others carrying and using drugs and weapons. This result suggests that although girls are still affected by the problem behaviours that affect youths in general, they are not as badly affected as boys. Therefore, they may be more amenable to change. Thus, provision of intervention programmes could significantly reduce delinquent behaviours in at least a section of the youth population. The gender differences could be due in part to the different socialization of boys and girls. It is fair to surmise that there is still slightly tighter control on the movements of girls compared to boys. There seems to be more outrage when girls engage in delinquent behaviours compared to boys. Results from incidence of punishment in the current study revealed that girls tended to be punished more than boys, even though this was not statistically significant.

Significantly higher scores on carrying and use of weapons and aggression among junior school students, compared to senior school students, were surprising. Junior school students rated themselves higher on these factors, while senior school students reported higher

scores on use of alcohol and drugs. This suggests that students in junior schools or younger students are equally affected by student aggressive and delinquent behaviours and that intervention programs for developing pro-social and higher moral reasoning among students should start early in the lives of children. It is likely that peer influences play a significant role in weapon carrying and the likelihood to be aggressive overall. Students who had higher scores on use of alcohol and drugs, witnessing others carrying or using drugs and weapons, carrying weapons to protect oneself and using them in fights were likely to have high aggression scores.

Summary and conclusions

This study has added to the extant literature on predictors of aggression among youths in a number of ways. First, the study has provided descriptive information on the prevalence of negative or antisocial behaviours in Botswana schools that have been previously identified as closely linked to aggressive and violent behaviours among youths, such as use of alcohol and drugs and carrying and use of dangerous weapons. Second, the study has established the impact of family factors such as parental monitoring and parental relationship on the prevalence of antisocial behaviours and aggression. Third, the study has provided support for gender and age differences on aggression and negative social experiences identified in previous studies. Overall, the study has confirmed that youth in Botswana are affected by similar risk behaviours affecting youth in the US and elsewhere (CDC, 2004; Orpinas et al., 1999; Rigby, 2005).

Limitations

Limitations of this study relate to the design. A longitudinal design would enable one to make causal inferences about the role of negative social experiences on aggression. For instance, it would be possible to determine if punitive punishment over time leads to violent behaviours. In addition, a longitudinal design coupled with direct observations would enable researchers to infer cause and effect between family variables and aggression and antisocial behaviours. Another limitation of the study was the inability to use teacher ratings to corroborate students' self-ratings on aggression and other deviant behaviours.

The study was also limited in its inability to assess the role of socio-economic background on deviant behaviours and aggression. The items on family variables were also too few and limited in their ability to fully address the impact of family structure and family circumstances on aggression and delinquent behaviour. Future research should look into

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these factors in depth. Given that the school environment plays a significant role in addressing student discipline compared to the home environment, it would be ideal to examine also the role of within school variables such as teachers' and administrators' handling of students' problem behaviours and how this could deter or reinforce the negative behaviours. The direct impact of school corporal punishment, which is common in the school system, was not investigated in this study; yet such punishment has been strongly linked to student aggression and poor self-esteem (Elbedour et al., 1997).

Recommendations and implications for future research

This study has important implications for the development of school based aggression and violence prevention programmes. More research is needed in this area with a view to developing programmes that would address the prevalence of alcohol and drug use as well as weapon carrying in schools. More studies that specifically examine the impact of family variables such as family structure, socioeconomic status, parenting styles and parental monitoring on aggression and negative behaviours are necessary. Findings from such studies would then guide the development of multifaceted intervention programmes aimed at addressing youth psychosocial health and wellbeing. Other approaches could also be used to corroborate students' self-ratings, such as direct observational methods of students' antisocial behaviours in different contexts. Such approaches could help enhance the data collected on such behaviours.

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