A comparison of gender, age, grade, and experiences of authoritarian parenting amongst traditional and cyberbullying perpetrators

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In this study, we explore the differences between learners who perpetrate cyberbullying and traditional bullying in Gauteng with regard to their sociodemographic characteristics and the level of self-reported, authoritarian parenting they experienced. This study was conducted on Grade Six and Seven learners from four primary schools in Benoni, Gauteng ($N = 279$). Pupils completed an adapted version of the Revised Olweus Bully/Victim Questionnaire (R-OBVQ) and items from the Parenting Practices Questionnaire (PPQ), which measured the authoritarian parenting style. Results revealed that grade was significantly associated with both traditional and cyberbullying perpetration; Grade Six learners were significantly more likely to have perpetrated traditional bullying behaviours, χ^2 (3, $N = 272$) = 9.26, $p < .05$, and Grade Seven learners were more likely to have perpetrated cyberbullying behaviours, χ^2 (1, $N = 272$) = 5.96, $p < .05$. Age was significantly associated with cyberbullying perpetration only, with older learners more likely to perpetrate such behaviours, χ^2 (2, $N = 272$) = 9.24, $p < .05$. Both types of bullying were significantly related to self-reported, authoritarian parenting, therein suggesting that this parenting style is more prevalent in the households of bullying perpetrators.

Keywords: authoritarian parenting style; cyberbullying; Parenting Practices Questionnaire (PPQ); Revised Olweus Bully/Victim Questionnaire (R-OBVQ); traditional bullying

Introduction
Traditional bullying and cyberbullying in schools are pervasive problems that are increasingly being recognised as important public issues (Liu & Graves, 2011), amongst children of all ages. However, it has been noted that children in primary school are more likely to bully others than children in high school (Due, Holstein, Lynch, Diderichsen, Gabhain, Scheidt & Currie, 2005; Fitzpatrick, Dulin & Piko, 2007; Nansel, Overpeck, Pilla, Ruan, Simons-Morton & Scheidt, 2001; Smith, Morita, Junger-Tas, Olweus, Catalano & Slee, 1999). In addition, it has been found that cyberbullying tends to increase between the ages of 11 and 15 (Archer & Côté, 2005; Espelage, Mebane & Swearer, 2004). In addition, Eslea and Rees (2001) revealed that bullying was most frequently remembered to have occurred between the ages of 11 and 13 years (i.e., in Grade Six and Seven), thereby indicating the significance of bullying experiences for children within this age category.

Defining Traditional and Cyberbullying
According to Olweus (1994), a child is being bullied or victimised when he or she is exposed to the repetitive, aggressive behaviour of a more powerful child, aiming to cause harm or disturbance to the less powerful child. The role of a bully is ascribed to the child who engages in bullying peers at least once a week, on a repeated and systematic basis, for at least three months (Solberg, Olweus & Endresen, 2007).

Several researchers have utilised Olweus' definition as a basis for characterising cyberbullying. Thus, cyberbullying is viewed as an intentional, repeated, and aggressive act or behaviour carried out by an individual or a group of people employing information and communication technologies (ICTs) as their instrument of choice (Agatston, Kowalski & Limber, 2007; Beran & Li, 2005; Burton & Mutongwizo, 2009; Dooley, Pyżalski & Cross, 2009; Li, 2007; Mishna, Saini & Solomon, 2009; Smith, Mahdavi, Carvalho, Fisher, Russell & Tippett, 2008; Von Marées & Petermann, 2012). ICTs, such as short message services (SMS), e-mails, instant messaging services (e.g. WhatsApp, MXit, and BlackBerry Messenger [BBM]), as well as blogs and social media websites (such as Facebook, Twitter, Instagram), are often the portals that cyberbullies use to harass, torment, and humiliate their victims (Burton & Mutongwizo, 2009; David-Ferdon & Hertz, 2009; Patchin & Hinduja, 2006).

Determinants of Bullying Perpetration
Research into bullying behaviour in schools has identified a number of possible determinants of bullying perpetration (Rigby, 2005). These perform along a continuum ranging from psychopathology (Slee & Rigby, 1993) and Machiavellian (Sutton & Keogh, 2000), to personal attitudes (Rigby, 2005) and reduced feelings of empathy (Olweus, 1993; Solberg et al., 2007), together with the social influences exerted by peers, friends and family (Baldry, 2003; Baldry & Farrington, 2005; Bowes, Arseneault, Maughan, Taylor, Caspi & Moffitt, 2009). Notwithstanding these findings, which suggest, among others, that peer relationships increase in importance and play a critical role in social and emotional development as children grow older (Espelage &

Swearer, 2003; Kupersmidt & Coie, 1990), the social influence exerted by parents among this age group is the focal point of departure in the current paper.

Bullying Trajectories

Both bullying behaviours hinder children's social development and functioning while also damaging the psychological well-being of both victim and bully (Brewster & Railsback, 2001; Farrington, 1995; Jiang, Walsh & Augimeri, 2011; Swearer, Espelage, Vaillancourt & Hymel, 2010; Ttofi, Farrington, Lösel & Loeber, 2011). Resultantly, the trajectories that follow, particularly for the bullies, are plagued with delinquent behaviour, criminal misconduct and employment problems later in life (Brewster & Railsback, 2001; Farrington, 1993; Farrington & Ttofi, 2011; Jiang et al., 2011; Lyznicki, McCaffree & Robinowitz, 2004; Olweus, 1993; Ttofi et al., 2011). Similarly, Farrington (1995) revealed that bullies have a propensity towards increased aggressive behaviour and domestic violence in young adulthood.

Those involved in bullying at school are also more likely to have diagnosable psychiatric disorders (Dake, Price & Telljohann, 2003) and exhibit higher levels depression and antisocial behaviour when compared to their uninvolved peers (Olweus, 1994, 1997; Salmon, James & Smith, 1998). Bullies in primary and high school have also been reported to have an increased prevalence of suicidal ideation and suicide attempts, when compared to their uninvolved peers (Kaltiala-Heino, Rimpelä, Marttunen, Rimpelä & Rantanen, 1999; Kaminski & Fang, 2009).

A similar trajectory for victims is reported in the literature. Victimised learners are reported to have a myriad of physiological, psychological and cognitive problems (Due et al., 2005; Kim & Leventhal, 2008) ranging from sleep difficulties, bed wetting, depression, anger management problems, school phobia, low self-esteem, feelings of loneliness and helplessness, and somatic symptoms, such as headaches and stomach aches (Due et al., 2005; Kim & Leventhal, 2008). Victimised children also have a higher likelihood of developing childhood psychiatric disorders such as agoraphobia, generalised anxiety disorder and panic disorders when compared to their uninvolved peers. Moreover, it has been noted that some victims fail to attain basic literacy and numeracy skills in school as an indirect consequence of being bullied (Mwoma & Pillay, 2015).

Both trajectories, that of the bullies and those of the victims have an adverse impact on the emerging economy in South Africa; bullies may struggle to find or maintain employment (Farrington & Ttofi, 2011), whereas some victims may not have the required literacy and numeracy skills to enter the job market (Mwoma & Pillay,

2015). In this regard, it has been noted that high literacy and numeracy skills are associated with a better economy (Mwoma & Pillay, 2015). Consequently, these factors are likely to have long-term implications for the government, as more resources are allocated to supporting those who are not economically productive (Mwoma & Pillay, 2015).

Unfortunately, despite the broader awareness of the profound impact associated with this widespread phenomenon, bullying remains a concern worldwide (Swearer et al., 2010). Bullying is no less an important social challenge in an emerging economy such as South Africa (Greeff & Grobler, 2008; Neser, Ovens, Van der Merwe, Morodi, Ladikos & Prinsloo, 2004; Taiwo & Goldstein, 2006), where children are vulnerable due to challenges such as racism and poverty (Themane & Osher, 2014 as cited in De Wet, 2016). As such, it represents an essential subject for researchers to tackle, both locally and internationally.

Prevalence of Traditional and Cyberbullying in South Africa

South African research indicates that the incidence of traditional bullying varies widely, ranging between 11 to 61%, depending on gender, grade and region (Greeff & Grobler, 2008; Neser et al., 2004; Taiwo & Goldstein, 2006). Cyberbullying is reportedly less common, with 16 to 53% of high school scholars reporting such victimisation (Zulu & Tustin, 2012). Much of this research on bullying was conducted amongst high school learners, and limited research exists within the South African primary school setting (studies include those by Greeff & Grobler, 2008; MacDonald & Swart, 2004; Swart & Bredekamp, 2009). While there is evidence to suggest that different types of bullying behaviours peak at different ages, it has been noted that primary school children are more likely to bully others than their high-school counterparts (Due et al., 2005; Eslea & Rees, 2001; Fitzpatrick et al., 2007; Juvonen, Nishina & Graham, 2001; Nansel et al., 2001; Salmivalli, 2002; Seals & Young, 2003; Smith et al., 1999). In addition, it has been found that cyberbullying tends to increase between the ages of 11 and 15 (Archer & Côté, 2005; Espelage et al., 2004). Resultantly, the current research aimed to explore the differences between children, aged 11 to 13 years, who perpetrate traditional bullying and cyberbullying in public primary schools (specifically Grades 6 and 7) in South Africa.

The Guiding Theoretical Framework

The authors hypothesised, as Bandura (1978) did, that individuals learn through observing others' behaviours, attitudes, as well as the outcomes of those behaviours. Broadly put, Bandura's social learning theory (1978) argues that an individual's

real-life experiences and that to which he/she is exposed directly or indirectly shape future behaviour. The theory further suggests that individuals learn strategies for managing their emotions, resolving conflict disputes and engaging with others through these interactions or exposures (O'Connor & Scott, 2007). Accordingly, the social learning theory has been used to explain aggressive behaviours (Bandura, 1978) and can be applied to the study of bullying by explaining how individuals learn to bully (Swearer, Wang, Berry & Myers, 2014).

Baumrind's (1991) authoritarian parenting style
Several studies demonstrate a link between observing aggressive behaviours and the perpetration of bullying behaviours among youth (Swearer et al., 2014). For instance, youth who are exposed to violence and aggression in their homes, such as punitive parenting and/or adverse conflict resolution tactics, are significantly more likely to bully others than those who are not exposed to such behaviours (Baldry, 2003; Bowes et al., 2009; Farrington, 1993). In this regard, Baumrind (1991) suggests that parents or caregivers who act in line with the authoritarian parenting style (hereafter referred to as APS) predispose a child to harbour certain tendencies associated with a variety of bullying behaviours, such as enforcement, conflict, physical aggression, etc.

Baumrind studied parenting behaviours and identified two orthogonal dimensions in parenting practices: demandingness (or control), which is cited as the extent to which the parent expects more mature and responsible behaviour from a child; and responsiveness (or warmth), which refers to the degree to which the parent responds to the child's needs (Baumrind, 2013). Initially, Baumrind used these two dimensions to classify parenting styles into four categories, namely: the authoritative parenting style, which is characterised by high control and high warmth; the permissive or indulgent parenting style, characterised by low control and high warmth; the neglectful parenting style, characterised by low control and low in warmth; and the APS in which the parent's behaviour is high in control and low in warmth (Baumrind, 1991; Maccoby & Martin, 1983).

The authoritarian personality is rigid, repressed, conventional, non-negotiable, power-oriented, and hierarchical, in contrast to the authoritative personality, who is warm, flexible, equalitarian, and genuine (Baumrind, 1991, 2013). As a parent, an authoritarian personality would be expected to be a restrictive, punitive, repressive, and coercive authority figure (Baumrind, 2013). These parents emphasise their control over their child, often use enforced discipline, restrict the child's autonomy, and decide which behaviour is appropriate for them (Baumrind, 1991). Authori-

tarian boundaries are strict, non-negotiable, and reinforced with punitive consequences. Moreover, authoritarian parents demand total obedience and expect their children to adhere to their rules and orders unquestioningly (Baumrind, 1991).

Method
Participants
Clearance to conduct the study was obtained from the Ethics Committee of the Department of Psychology at the University of South Africa (Unisa; Ref. no.: 20/11/2012) and the Gauteng Department of Education (GDE; Ref. no.: D2013/246). This research did not receive any specific grant from funding agencies in the public, commercial, or non-profit sectors.

Learners were recruited from ordinary public primary schools (as opposed to LSEN public primary schools - Learners with Special Educational Needs) located within the Ekurhuleni North District, in Benoni, a city located to the east of Johannesburg, Gauteng. A total of 964 information leaflets and consent forms were distributed to the Grade Six and Seven learners in four participating primary schools.

Of those, 284 learners received parental consent to participate. After that, the learners were given the option to participate. One learner decided not to take part in the study while four other learners were absent on the day of administration. Informed consent was obtained from all individual participants included in the study and comprised a total of 279 learners. Data collected from seven learners was omitted from the data set, as these learners were older than the stipulated age criteria (11–13 years). A final sample consisting of 272 participants was retained (response rate of 28.2%).

Measures
Pupils completed an adapted version of the Revised Olweus Bully/Victim Questionnaire (R-OBVQ) together with items from the Parenting Practices Questionnaire (PPQ), which measured the APS (Robinson, Mandleco, Olsen & Hart, 1995). Items in the R-OBVQ were scored according to the suggested five-point Likert scale, indicating the frequency of the event (Olweus, 2007:71). The response scale includes the following ranks; '*hasn't happened,*' '*once or twice,*' '*two or three times a month,*' '*about once a week,*' and '*several times a week.*'

With individual subjects as the unit of analysis, sums or means of groups of questions about being bullied or bullying other students in the R-OBVQ, respectively, have typically yielded internal consistency reliabilities (Cronbach's alpha; α) of .80 or higher (Olweus, 2007). Recent results by Gonçalves, Heldt, Peixoto, Rodrigues, Filipetto and Guimarães (2016), which revealed Cronbach's alpha values of .85 (victim scale) and .87 (bully

scale), attest to the reliability of the instrument. The PPQ has also demonstrated satisfactory reliability scores, with the authoritarian parenting dimension exhibiting a Cronbach's alpha of .71 (Önder & Gülay, 2009).

The self-report questionnaire utilised in the current study comprised 47 Likert-scale questions that examined five domains, namely traditional bullying victimisation, traditional bullying perpetration, cyberbullying victimisation, cyberbullying perpetration, and the APS. The questionnaire was administered online, in the computer classroom of the four participating schools, and took approximately 20 minutes to complete.

The item analyses yielded good Cronbach alpha values: .83 for APS (nine items), .85 for cyberbullying perpetration (four items), and .78 for traditional bullying perpetration (six items). However, the item analysis (relating to the perpetration of cyberbullying) suggested the removal of one item based on the low correlations between this variable and others in the construct. After removing the one item suggested (*I called another student mean names, made fun of or teased them in a hurtful way online*), the overall Cronbach alpha value pertaining to the construct of cyberbullying perpetration increased to .91. These results are shown in Table 1.

Table 1 Descriptive statistics for the three constructs ($N = 272$; Young, 2014)

	No. of items	*M (SD)*	Skewness	Kurtosis	α
Authoritarian parenting style	9	2.36 (.73)	0.71	0.01	.83
Cyberbullying perpetration	4/3*	1.05 (.30)	10.02	120.51	.85/.91*
Traditional bullying perpetration	6	1.25 (.37)	4.66	39	.78

Note. *Cronbach Alpha/Scale if item deleted.

The data were not normally distributed and did not meet the assumptions of homoscedasticity or homogeneity of variances and normal distribution of errors for performing regression analyses (Field, 2009). Attempts at transforming the data were unsuccessful. Therefore non-parametric tests were used in the analyses, which were conducted using SPSS 21. Frequency analyses, cross-tabulations, and chi-square statistical tests were employed to determine the prevalence of bullying and cyberbullying and to establish whether prevalence was significantly associated with gender, age, and grade. Similarly, frequencies of multiple response sets were obtained to ascertain which ICTs were most often used when individuals perpetrated cyberbullying behaviours. Spearman's Rho correlation coefficients (Field, 2009) were then conducted to check for possible relationships between traditional bullying, cyberbullying, and the APS.

Results

The majority of the participants were female ($n = 173$; 63.6%), while 36.4% ($n = 99$) of the participants were male. The mean age of respondents was 12.08 years ($SD = 0.71$). Twenty-two percent ($n = 59$) of the sample were 11 years old, 48.5% ($n = 132$) were 12 years old, and 29.8% ($n = 81$) were 13 years old. The sample comprised 121 Grade Six learners (44.5%) and 151 Grade Seven learners (55.5%).

Three learners (1.1% of the sample) indicated that their parents/guardians do not work, 84 learners (30.9%) stated that some of their parents/guardians work while 185 learners (68% of the sample) said that all their parents/guardians work. The majority of learners ($n = 225$) indicated that their parents were the only ones in charge, while 10 participants stated that their parents, together with their grandparents, were in charge at home. A further nine learners indicated that both parents and siblings were the authority figures at home.

Almost one-third (31.6%) of the sample perpetrated traditional bullying behaviours at least once during the year preceding the study. Of this third, 28.3% reported bullying another student '*once or twice*' during the year preceding the study, 1.8% of the respondents indicated that they bullied another student '*two or three times a month*,' and 1.5% indicated that they had bullied others '*several times a week*' during the year preceding the study.

Utilising the cut-off point suggested by Solberg and Olweus (2003) to identify bullies, the results indicated an overall bully prevalence rate of 3.3%, with '*two or three times a month*' accounting for 1.8% and '*several times a week*' accounting for 1.5% of the bullying prevalence rate. Regarding cyberbullying, 8.8% of the learners indicated that they had perpetrated cyberbullying behaviour(s) '*once or twice*' during the year preceding the study.

Just as traditional bullying takes numerous forms, so does cyberbullying. Burton and Mutongwizo (2009) discuss the following subtypes of cyber violence: harassment, denigration, impersonation, and outing (i.e. deliberately sharing someone's secrets, or embarrassing information, that was never intended to be shared with others), trickery, exclusion, cyber-stalking, happy-slapping (i.e. the video capture of a person walking up to another and slapping him/her), and flaming (brief online fights, wherein angry and vulgar language is exchanged). Only two of these forms emerged in the current analysis, namely harassment and cyber-stalking.

The Roles of Gender, Grade and Age

A Chi-square test of association was conducted to examine the potential association between traditional bullying perpetration and gender, age and grade. There were no statistically significant associations between perpetrating traditional bullying behaviours and gender, χ^2 (3, $N = 272$) = 1.19; or between perpetrating traditional bullying behaviours and age, χ^2 (6, $N = 272$) = 11.94. Interestingly, the differences in the responses between grades were statistically significant, χ^2 (3, $N = 272$) = 9.26, $p < .05$, with Grade Six learners significantly more likely to have perpetrated traditional bullying behaviours than Grade Seven learners.

There was no association between the gender of a learner and perpetrating cyberbullying behaviour, χ^2 (1, $N = 272$) = 0.11. However, 13-year-old learners were more likely to perpetrate cyberbullying than the 11 and 12-year-old learners in the study, χ^2 (2, $N = 272$) = 9.24, $p < .05$. Similarly, Grade Seven learners were significantly more likely to have perpetrated cyberbullying when compared to their Grade Six counterparts, χ^2 (1, $N = 272$) = 5.96, $p < .05$. This could be due, in part, to the fact that 13 is the minimum age required to register on social media platforms such as Facebook, Twitter, Instagram, Pinterest, Tumblr and Snapchat (Graber, 2014).

Relationships Between Traditional and Cyberbullying Perpetration and Authoritarian Parenting

The correlation between perpetrating traditional bullying and perpetrating cyberbullying was significant and moderately strong, r_s (270) = .37, $p < .01$. Significant and moderately strong correlations were also identified between authoritarian parenting and traditional bullying perpetration, r_s (270) = .31, $p < .01$, and authoritarian parenting and cyberbullying perpetration, r_s (270) = .13, $p < .05$.

Results from the cluster analysis for traditional bullies revealed two clusters of good quality. The ratio of sizes of the largest cluster to that of the smallest cluster stood at an acceptable 2.53. The smallest cluster housed 77 learners (28.3%) and the largest 195 students (71.7%). A further analysis of the individual clusters revealed that those in Cluster 1 scored around the median (i.e. 2.38) with regard to the APS and reported no incidences of perpetration, while those in cluster 2 scored above the APS median (i.e. 2.62) and reported bullying others in a traditional manner at least '*once or twice*' during the year preceding the study. The majority of learners in Cluster 1 were females, aged 12 in Grade Seven, while those in Cluster 2 were predominantly 12-year-old females in Grade 6.

Results from the second cluster analysis (cyberbullies and the APS), again revealed two clusters of good quality. However, the ratio of sizes soared above that which is considered acceptable; as such these results should be interpreted with caution. The smallest cluster contained 24 learners (8.8%) and the largest housed 248 learners (91.2%). Learners in cluster 1 scored around the APS median and reported no incidences of cyberbullying perpetration. Those in Cluster 2, on the other hand, scored 1 standard deviation (*SD*) above the median and reported perpetrating cyberbullying behaviours at least once or twice. The demographics for each cluster revealed some similarities: the majority in each cluster were female learners in Grade Seven. Differences lay in the age of learners: in Cluster 1 the majority of learners were 12 years old, while the majority in Cluster 2 were 13 years old.

Discussion

Bullying is not a new phenomenon and is of great concern worldwide, especially in emerging economies such as South Africa (De Wet, 2016). As an important roleplayer in the emerging market economies (Schoeman, 2000), South Africa's social challenges has the potential to both reflect and influence other developing countries. This study, therefore, provides insight into the patterns of social behaviour, particularly bullying perpetration, in this part of the global village.

Three percent (3.3%) of the learners in the study were identified as traditional bullies; 1.8% reported bullying others two or three times a month, and 1.5% reported bullying others several times a week, reflecting a lower percentage of traditional bullies when compared to a different South African study, which revealed an 8.2% prevalence of perpetration (see study by Liang, Flisher & Lombard, 2007). A larger portion of students (31.6%) engaged in bullying someone *at least* once during the year in a traditional manner. Liang et al. (2007) have found similar results, with 36.3% of students reporting involvement in perpetrating traditional bullying behaviours once or twice. Though not as high, Accordino and Accordino (2011) and Zulu and Tustin (2012) revealed that 25% and 23.3% of participants respectively reported bullying another person in a traditional manner. The higher prevalence revealed in the current study may be due to the reporting of involvement in bullying over the last year, rather than a shorter time frame (Liang et al., 2007).

Dominant Characteristics of Children Perpetrating Traditional Bullying

Neither gender nor age was significantly associated with traditional bullying perpetration in the current study, χ^2 (3, $N = 272$) = 1.19, *ns* and χ^2 (6, $N = 272$) = 11.94, *ns*, respectively. However, a significant association was revealed between the grade of a participant and being a traditional bully, χ^2 (3, $N = 272$) = 9.26, $p < .05$, with Grade Six learners

perpetrating bullying behaviours more so when compared to their Grade Seven counterparts. Although the association between the two variables was weak, Cramer's V = .184, *p* = .026 (Pallant, 2011), the result corresponds with findings by Greeff and Grobler (2008), Liang et al. (2007), Nansel et al. (2001), Seals and Young (2003), and Selekman and Vessey (2004), all of whom revealed a steady decline in self-reported experiences of bullying with the advancement in grade levels. However, Salmivalli (2002) maintains that the decrease in frequency with age, and subsequently with grade, is true only for studies using self-report measures. Having used self-report measures to obtain data in the current study, the possibility exists that results for these participants could differ when other measures are employed.

A significant positive relationship was identified between the APS and traditional bullying perpetration; the frequency of traditional bullying perpetration increased as the APS score increased. As the child's perception of authoritarian behaviours displayed by parents/guardians increased, so did traditional bullying perpetration, r_s (270) = .31, *p* < .01. Although not as strong an effect (as was found between traditional bullying and cyberbullying perpetration), the relationship was also moderate, regarding effect size (Field, 2009; Pallant, 2011).

Baldry and Farrington (2000) have found APS to be a better predictor of bullying perpetration when compared to the other parenting styles (Baldry & Farrington, 2000; Georgiou, Fousiani, Michaelides & Stavrinides, 2013). A possible explanation for the relationship between traditional bullying and the APS has been suggested by Georgiou, Fousiani, et al. (2013) – parents who are demanding and rigid but not responsive or supportive (i.e. authoritarian parents), who are also competitive and have little or no respect for egalitarian values, tend to transmit these vertical individualistic cultural values (i.e. competitiveness, an imbalance of power, authoritarianism) to their children. These authors go on to suggest that the elements of vertical individualism, especially the power imbalance, prompt individuals to perpetrate acts of peer aggression, such as bullying.

In a different study by Georgiou, Stavrinides and Fousiani (2013), it was suggested that children of authoritarian parents tend to perceive their family as insensitive to their own pain and they, therefore, show little empathy to less powerful individuals. Moreover, Georgiou, Stavrinides, et al. (2013) suggest that, through social learning, the children of authoritarian parents may come to accept physical or psychological violence as an appropriate method for dealing with interpersonal conflict. Overall, these results, together with those from the current study, could indicate that traditional bullies socially learn the aggression and

hostility displayed by authoritarian parents via observation and modelling, and then portray these behaviours in their interactions with their peers.

Dominant Characteristics of Children Perpetrating Cyberbullying

None of the learners engaging in acts of cyberbullying perpetrated these acts frequently enough to meet the cut-off for being labelled as a cyberbully, using the definition above. However, it must be noted that the idea of repetition within cyberbullying is not as straightforward as some literature suggests (Slonje, Smith & Frisén, 2013). More recently, it has been noted that one cyberbullying act may readily 'snowball' out of the initial control of the bully, due to the technology used by others (Slonje et al., 2013:2). Thus, a single act by one perpetrator may be repeated by others, and experienced numerous times by the victim (Slonje et al., 2013).

Within the current study, 8.8% of learners claimed they had engaged in perpetrating cyberbullying acts at least once during the year preceding the study. Gender was again not significantly associated with acts of cyberbullying, χ^2 (1, *N* = 272) = 0.11, *ns*. Such findings are consistent with Beran and Li (2005), Burton and Mutongwizo (2009), Makri-Botsari and Karagianni (2014), Popovac and Leoschut (2012), Slonje and Smith (2008), and Ybarra and Mitchell (2004b), all of whom indicate that gender is not associated with being a cyberbully; and that males and females are equally likely to perpetrate such behaviours. By sharp contrast, David-Ferdon and Hertz (2009) revealed that girls are more likely to perpetrate cyberbullying compared to their male counterparts, while Li (2006) revealed that males were more likely to cyberbully others when compared to their female counterparts. These conflicting findings require further cogitation within the South African context.

Age was significantly associated with cyberbullying behaviour, with 13-year-old learners in the current study having indicated perpetrating cyberbullying behaviours more often than their 11- and 12-year-old counterparts have. This result was also reported by Ybarra and Mitchell (2004b). Slonje and Smith (2008) suggest that the opportunity for cyberbullying may increase with age as older pupils more often (than younger peers) have cell phones, access to the internet, knowledge of current apps and instant messaging services.

Similarly, Grade Seven learners indicated perpetrating cyberbullying behaviours more often than their Grade Six counterparts did, where the differences were small but significant, χ^2 (1, *N* = 272) = 5.96, *p* < .05. Comparable results were uncovered by Kowalski and Limber (2007), where significant differences by grade were also observed, with seventh and eighth graders more

likely to perpetrate cyberbullying behaviours when compared to their Grade 6 counterparts, χ^2 (6, $n = 152$) = 52.00, $p < .001$. Sixth graders were also half as likely as seventh or eighth graders to be bullies. According to Kowalski and Limber (2007), grade differences in perpetration are not altogether surprising. As children move through school, they spend more time on computers and related technologies and become more skilled at their use. Furthermore, as children move from one grade to the next, they are also more likely to begin participating in social network sites (Kowalski & Limber, 2007).

The learners' self-reported authoritarian behaviours displayed by parents/guardians were also significantly related to cyberbullying perpetration, r_s (270) = .13, $p < .05$. Although a weak relationship, the results indicate a positive relationship, suggesting as authoritarian behaviours portrayed by the parents increase (or increase according to their child's perception), cyberbullying frequency perpetration increases. This finding echoes previous research indicating that the highest incidence of cyberbullying perpetration was recorded by children raised by authoritarian parents (Makri-Botsari & Karagianni, 2014). According to these authors, children who have experienced parental rejection and lack of communication, both of which are consistent with the APS, are more likely to cyberbully others to gain the freedom, the attention, the power or the recognition that they lack in their relationships with their parents (Makri-Botsari & Karagianni, 2014). In a similar study, Dilmaç and Aydoğan (2010) revealed that an authoritarian attitude (exhibited by parents) could predict cyberbullying behaviours, explaining 5.4% of the variance in cyberbullying perpetration. Concurrent with the findings by Makri-Botsari and Karagianni (2014), Dilmaç and Aydoğan (2010) suggest that cyberbullies raised in an authoritarian households project their inner need for power and domination toward peers as a reaction to the lack of parental attention, love and acceptance.

Other studies have examined the relationship between characteristics of parenting and cyberbullying, and have found that children who perpetrate cyberbullying behaviours experience limited parental monitoring, stronger parental discipline, and a weaker emotional bond with their parents than children who do not cyberbully (Wang, Iannotti & Nansel, 2009; Wong, 2010; Ybarra & Mitchell, 2004a). Similarly, Ybarra and Mitchell (2004a) found that frequent discipline was significantly related to cyberbullying perpetration, and poor parent-child relationships are a key identifier of cyberbullies. Accordino and Accordino (2011) also reveal similar findings, indicating that learners with distant or poor parent-child relationships tend to have higher incidences of perpetrating cyberbullying.

Conclusion, Limitations and Recommendations
While there has been increasing intervention and prevention efforts aimed at reducing bullying worldwide, the perpetration of both traditional and cyberbullying behaviours among primary school learners remains a concern in South Africa. Notwithstanding the evidence that these phenomena are multifaceted and complex by nature, the influence exerted by the APS cannot be precluded.

However, there are several limitations to the findings of the current study, including the non-random nature of the sample of schools; the low response rate; the correlational design and the reliance on self-reported data, which can be subject to faulty and differential recall, intentional distortion, inattention, and over and under-reporting (Liang et al., 2007; Townsend, Flisher, Chikobvu, Lombard & King, 2008). In addition, the current research project only examined the relationship between bullying perpetration and one of Baumrind's typologies. Future research would benefit from an examination of all parenting styles among all primary school learners and their respective associations to, not only bullying behaviours but victimisation as well.

Regardless of the limitations, the study does reveal a relationship between the APS and bullying perpetration. This, together with the multifaceted nature of the phenomenon, makes a strong case for systemic interventions, such as multi-component or whole-school intervention strategies. Such interventions move beyond the individual and include a combination of classroom rules, lectures addressing bullying, activities with bullies/victims/bystanders, providing information to parents, increasing supervision, the introduction or reinforcement of disciplinary methods, cooperation between researchers and the school staff, training of teachers, and utilising technological resources (Da Silva, De Oliveira, De Mello, De Andrade, Bazon & Silva, 2017). On this matter, it has been noted that whole-school interventions, which include parents, are more effective in reducing bullying when compared to social skills training, bullying prevention integrated into the curriculum, and computer-based interventions (Da Silva et al., 2017). In general, broader interventions that move beyond an individual approach and include the families of students are more efficient and present more favourable results when compared to other approaches (Da Silva et al., 2017).

Notes
i.   This article is based on the Masters dissertation of Kelly Young.
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