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Stress and positive attitudes towards violent discipline are associated with school violence by Ugandan teachers

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ABSTRACT

Background: Globally, the use of violent discipline methods by teachers to manage child behavior is still highly prevalent despite enactment of laws that prohibit school violence. In the case of Uganda there is a dearth of accurate prevalence statistics on school violence and factors associated with the use of violence by teachers.

Objectives: Therefore, the current study examined the prevalence of and attitudes towards violence. The study also explored the association between teachers' stress, positive attitudes towards violence and the use of violent discipline management methods.

Methods: A representative sample of 291 teachers and 702 students from 12 public secondary schools in southwestern Uganda responded to anonymous self-administered questionnaires. Data were collected from April to November 2017.

Results: Findings indicated that 86.5% of the teachers reported having used violent disciplinary methods on students in the past month while 91.5% of the students reported experiencing violence by teachers. Teachers (88.3%, $n = 256$) endorsed positive attitudes towards violent discipline. Teachers' stress was related to higher levels of violent discipline ($\beta = 0.20$). This relation was mediated by positive attitudes towards violence (0.06, SE: 0.01, 95%-CI: 0.035–0.092).

Conclusions: Our findings indicate that teacher reported stress was associated with their use of violent behavior and positive attitudes and that positive attitudes reduced the association between teachers' stress and violent behavior. Therefore, interventions aiming to reduce violence by teachers may need to integrate effective stress management skills, in addition to nonviolent discipline strategies, and fostering attitudinal change towards the use of violent methods.

1. Introduction

Globally in the education context, school teachers use violent disciplinary measures to correct students' misbehavior (Pinheiro, 2006; Straus, 2010). Violent disciplinary strategies in this context refer to the intentional use of physical punishment or emotional aggression with the intent to cause bodily or emotional pain for the purpose of correcting or controlling the child's behavior (Gershoff, 2017; Straus, 2001, 2010; UNICEF, 2017).

In East Africa, teachers use of objects, such sticks or canes to hit the bottom of the students. Likewise, teachers use their hands to

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spank, slap or pinch students, or at times pull body parts, such as ears and hair (Devries et al., 2014; Hecker, Goessmann, Nkuba, & Hermenau, 2018). Similarly, teachers curse, use threats, humiliate, insult, shout at, or call students names (Hecker et al., 2018; Parkes & Heslop, 2013). Violent disciplinary methods are used by teachers in response to misbehavior, coming late to school, failure to complete school work and unkempt appearance (Feinstein & Mwachombela, 2010).

1.1. Global perspective on violence by teachers: prevalence and legal situation

The use of violence in school settings is highly prevalent worldwide. Prevalence data that included 63 countries from Africa (including Botswana, Cameroon, Egypt, Uganda, and Tanzania), Middle East and South Asia (for instance India and Yemen), North, Central and South America (e.g. Dominica, Jamaica, and Trinidad & Tobago), East Asia and the Pacific (for example Republic of Korea, and Myanmar) reported that over 70% of the students experienced school violence. Prevalence rates were 13–97% among countries that abolished school violence (Gershoff, 2017). Research conducted in schools in Ghana, Kenya and Mozambique showed that over 80% of the students had experienced school violence in the past year (Parkes & Heslop, 2013). Besides, children aged 15-years from Ethiopia, India, Peru, and Viet Nam reported rates of harsh discipline of 1–34%, and also witnessed teachers physically punishing fellow students at school (13–68%) in the past week (Ogando Portela & Pells, 2015). The use of school violence generally varied according to the countries. However, school violence was generally higher in low- and middle income countries (Deb, Kumar, Holden, & Simpson Rowe, 2017; Devries et al., 2014, 2015; Feinstein & Mwachombela, 2010; Hecker, Hermenau, Isele, & Elbert, 2014; Hecker et al., 2018; Naker, 2005; Nkuba, Hermenau, Goessmann, & Hecker, 2018a).

Teachers' continuous use of violent disciplinary measures has persisted despite the enactment of legal frameworks that prohibit the use of violence in schools. Violent disciplinary measures are legally accepted in 69 countries worldwide (28 from Africa). Despite 130 out of 199 countries prohibiting the use of violent discipline methods, including school corporal punishment, using legal means (GIEACPC, 2017), there is extraordinary sociocultural support for its use as a behavioral management strategy (UNICEF, 2014). Clearly, enacting laws does not necessarily translate into actual ending of the use of violent disciplinary methods. Therefore, it is not surprising that the use of violent corrective measures is still prevalent in many countries (Gershoff, 2017). Furthermore, the legal ban on corporal punishment, such as hitting and slapping, in schools has resulted in a shift to other forms of harsh punishment like sitting in an imaginary chair for a long period of time or emotional violence (Parkes & Heslop, 2013).

1.2. Current situation in Uganda and other East-African countries

Uganda's Ministry of Education and Sports enacted guidelines that prohibit the use of violent disciplinary measures and punishments that harm the learners in the education sector (Naker & Sekitoleko, 2009). By 2016, the Child Amendment Act advocating for nonviolent forms of discipline and protection of children was passed by the Ugandan parliament (GIEACPC, 2018). However, teachers continue to use violence in response to students' misbehavior such as coming late to school, making noise in class, interrupting the lessons and poor academic performance (African Network for Prevention & Protection against Child Abuse & Neglect [ANPPCAN], 2011; Devries et al., 2014, 2015; Naker, 2005). In addition, the Ministry of Education and Sports failed to provide proper guidelines on alternative discipline strategies and/or school violence prevention curricula. Though there was mention of such discipline strategies in the guidelines, the process of handling disciplinary issues, such as documentation of disciplinary actions or operationalization of the guidelines, was entirely left to individual educational institutions (Naker & Sekitoleko, 2009).

Estimates of prevalence of violence against students in Uganda are based on NGO reports (African Network for Prevention & Protection against Child Abuse & Neglect [ANPPCAN], 2011; UNICEF, 2014, 2017) and government document (Ministry of Gender Labour & Social Development, 2018) as well as one representative sample of primary school students from one district (Devries et al., 2014; Merrill et al., 2017). Largely, accurate prevalence data on violent discipline in Ugandan schools is nonexistent. Therefore, prevalence data from representative samples are required to bridge this gap. Furthermore, there is a need to understand the factors associated with the use of violent discipline methods by teachers in the school setting.

1.3. Stress contributes to the use of violent discipline by teachers

One of the factors that increases the likelihood of teachers using violent discipline is their level of stress. For example, Hecker et al. (2018) found that perceived pressure and teaching difficulties increased the level of stress. In turn, the level of stress intensified the use of violent discipline. Several factors have been identified that contribute to a heightened levels of stress among teachers, e.g. financial difficulties or emotional problems (Butchart, Harvey, Mian, & Fürniss, 2006). Moreover, the increase in the number of students with no corresponding rise in the number of teachers unbalances the teacher-student ratio resulting in classroom management problems. On the one hand, teachers have little time to manage such large classes, hence they may resort to violent disciplinary measure as a method of behavioral regulation (Straus, 2010). On the other hand, large classes contribute to a higher level of stress that is also linked to more violent discipline by teachers (Hecker et al., 2018). Ogando Portela and Pells (2015) contend that working conditions of teachers in Africa are strenuous characterized by limited human and physical resources and working in an exhausting environment resulting into high stress and burnout. Poor working conditions for teachers result in higher levels of stress, increased risk of using violence, and hinder a transition to nonviolent forms of discipline (Hecker et al., 2018; Parkes & Heslop, 2013).

In East Africa, violent discipline methods are more likely to be used by teachers working in stressful situations (Hecker et al., 2018). Schools are faced with increased student enrollment with no corresponding increase in teachers, classes and school

equipment. Teacher workload and responsibilities increased drastically: they are challenged with large classroom management concerns, with educating large numbers of students with few teaching materials, and with teaching loads more than 40 lessons a week each lasting 40 min. Teachers employed in the government-aided schools in Uganda are predominantly males and their inadequate salaries are not paid promptly (Wood, 2008). Teachers working in such uncondusive working environments in addition to personal issues (e.g., taking care of large families) are more likely to use violence in response to misbehavior (Hecker et al., 2018; Khoury-Kassabri, Astor, & Benbenishty, 2008; Mweru, 2010).

1.4. The role of sociocultural attitudes towards violent discipline

Besides the level of stress, positive attitudes towards violent discipline that are shaped by sociocultural norms may determine the use of violent discipline by teachers. Sociocultural norms are acceptable views and behaviors in a particular society. With reference to school violence, teachers who have reported positive attitudes towards violence are more likely to perpetuate violence against students (Merrill et al., 2017).

In many societies, adults are convinced that physical punishment is an inevitable aspect of acceptable disciplinary methods (Antonowicz, 2010; Moyo, Khewu, & Bayaga, 2014; Semali & Vumilia, 2016; UNICEF, 2017). This belief is reinforced by sociocultural traditions that accept and rationalize the use of violence (Butchart et al., 2006; Pinheiro, 2006). However, the use of violence as a disciplinary method increases the likelihood of more severe types of violence and abuse (Afifi, Brownridge, Cox, & Sareen, 2006; Baron & Straus, 1987). Straus (2010) found that favorable attitudes towards violence are associated with the actual use of violent discipline, which is used by teachers as a way of instilling a sense of respect, and exercising power, compliance and control over the children's behavior (Naker, 2005; UNICEF, 2017).

Culture shapes attitudes towards violence and the appropriateness of various techniques used to modify the behavior of children depending on the context (Runyan et al., 2010). The rationale given for the use of violence by teachers reflects the authoritarian nature of the school system, in which teachers punish students immediately without even interrogating the cause of the misdemeanor or soliciting their viewpoints (Tafa, 2002). In essence, schools are viable mechanism of ensuring the continuity of social control in society that is associated with the use of violence. This can be seen as a reflection of the underlying structure of dominance and oppression in school systems in post-colonial African countries that originates from the colonialists' intention to control the indigenous population by imprinting authoritarian and hierarchical structures onto society (Harber, 2002). In many places this has resulted in excessive efforts to shaping pupils into successful society members by all available means, resulting in application of violent punishment in case of failure of exams and even for minor offences and unintentional mistakes (Anbarasan, 1999).

Teachers with favorable attitudes towards violence (Nkuba, Hermenau, Goessmann, & Hecker, 2018b) are convinced that utilization of violent disciplinary approaches helps students to attain better grades (Parkes & Heslop, 2013), to shape their personality, and to correct misbehavior (Dubanoski, Inaba, & Gerkewicz, 1983). Violent discipline strategies are assumed to be easy to apply and time efficient, especially for problematic classes where teachers strive to ensure that students behave in a certain way (Butchart et al., 2006; Vockell, 1991).

Teachers may not be aware of the overt and covert negative consequences associated with emotional violence and physical aggression (Straus, 2001), but interpret the use of violence as a sign of care and education which does no harm (Naker & Sekitoleko, 2009). Naong (2007) noted that teachers were certain that violence was easy to administer, cheap, and a quick method to attain better educational outcomes. Positive attitudes towards physical punishment and regarding it as an effective way of educating children may foster the constant use of violence (Straus, 2001; UNICEF, 2014). In East-Africa, teachers resort to violence with a conviction that its use will teach students respect, deter misbehavior, and result into immediate compliance (Naker, 2005). Likewise, teachers believe that physical violence makes students to work harder and to attain better academic grades (Feinstein & Mwahombela, 2010; Mweru, 2010; Semali & Vumilia, 2016; Tafa, 2002). Teachers who use non-violent discipline may develop into violent teachers due to group pressure from their fellow teachers (Kaltenbach, Hermenau, Nkuba, Goessmann, & Hecker, 2018). Devries et al. (2014) contend that teachers who strive to control others were more likely to use physical violence against students. Educators who were mistreated as children and had higher expectations of their students to succeed with high academic grades were more likely to respond to students' misbehavior and poor academic performance with violent actions. Similarly, when students upset them these teachers lose self-control and resort to violence.

Though it seems plausible that positive attitudes towards violent discipline contribute to the actual use of violence, little is known about the interplay between the level of stress, positive attitudes towards violent behavior and the use of violent discipline by teachers in Southwestern Uganda. We argue that both the level of stress and positive attitudes are related to violent discipline.

1.5. Objectives

Research on the prevalence of and attitudes towards violent discipline in school settings, especially in low-and-middle income countries such as Uganda, remains scarce (2017, Gershoff, 2017; UNICEF, 2014). However, NGO reports point to a high prevalence of violent discipline use in schools despite legal provisions that hinder the use of punitive correction approaches. This study sought to present the prevalence of violent discipline and attitudes towards violent discipline from a representative sample of secondary school students and teachers from government-aided secondary schools in Southwestern Uganda. Further, we aimed to investigate the interplay of stress, attitudes, and use of violent discipline by teachers.

Based on previous prevalence estimates (Devries et al., 2015; UNICEF, 2014), we hypothesize a high prevalence of violent discipline and positive attitudes towards the use of violent disciplinary strategies (Merrill et al., 2017). In addition to the direct

association of stress and violent discipline, we expect that stressful situations trigger positive attitudes towards violent discipline – for example, by activating teachers' experiences of being violently disciplined in their own childhood – which, in turn, further increases the likelihood that teachers resort to violent discipline. Furthermore, we hypothesized that the association between the level of teacher stress and their use of violent discipline is mediated by positive attitudes towards violent discipline.

2. Methods

2.1. Design and sampling

The study was conducted in Ankole region in Southwestern Uganda that has the third highest student enrollment in Uganda with about 50% of the students studying in their 8th and 9th year of formal schooling (Education Planning & Policy Analysis Department Ministry of Education Science Technology & Sports, 2014; The Statistics Section Education Planning & Policy Department Ministry of Education & Sports, 2014).

Six of the 10 districts in the region were included in the study population. Five districts were randomly selected, while Mbarara district was purposively included in the study population as it is the largest city with the highest density of secondary schools in Southwestern Uganda. We included all the 41 government-aided mixed secondary schools of the region that had a minimum of 360 students and employed at least 15 teachers. Government-aided secondary schools have fewer resources (personnel, infrastructure and capital) compared to private secondary schools. From each district, we randomly selected two co-educational public secondary schools. In total, we included 12 secondary schools in our study.

Lower secondary school education (ordinary level) in Uganda takes four years that is from the 8th year to the 11th year of formal schooling. From each school, all teachers were invited to participate and 60 students stratified by gender were randomly selected (i.e., 30 from the 8th year and 30 from the 9th year of formal schooling). We focused on the 8th and 9th years of schooling as the presented data were from a longitudinal study and we aim to follow our participants over time. Our random selection of schools and students as well as the inclusion of all teachers of the selected school ensured that our sample represent secondary school teachers and students (8th and 9th year of formal schooling) in Southwestern Uganda. Ankole region secondary school student enrollment was 134, 509 (50% females), and 47% studying in the 8th and 9th year of formal schooling. The student age range was 12–20 years. The region has 3460 teachers (25.8% female) employed in the government-aided secondary schools (Education Planning & Policy Analysis Department Ministry of Education Science Technology & Sports, 2014). Data were collected from April to November 2017.

2.2. Procedure and data assessment

Ethical approval for the study was obtained from the Research Ethics Committee of Mbarara University of Science and Technology, Uganda, the National Council of Science and Technology, Uganda, and Ethics Review Board of the University of Konstanz, Germany. One Ugandan researcher visited all selected schools and interacted with the school head teachers or deputy head teachers to formally and directly inform them about the research project in order to seek their consent and collaboration during the study. Later, the research team had a formal discussion with the teachers and students respectively where information about the study, including the aim, rationale, objectives, ethical matters, and more were discussed in detail. Teachers and students had time to ask questions in relation to the study that were answered promptly.

An Ugandan (JS) researcher collected the data with assistance of two research assistants who were trained in data collection methods before the fieldwork phase of the study. Teachers who were willing to participate in the study signed the consent document before they completed the anonymous, self-report questionnaire. It took about 20 min to completely answer the questionnaires. Parental informed consent and students' assent were obtained before the students were enrolled in the study. Students then completed anonymous questionnaires, which took an average of about 25–30 min. The research team was present during data collection to respond to any participant concerns. Data were collected from participants who were present at the school during the data collection period. On average, we spent one week at each school. In total, 291 of the 435 teachers participated in the study giving a response rate of 67%. The sample also included 702 students, providing a response rate of 97.5% (702 of 720).

2.3. Participants

The teacher sample included 291 teachers (25.4% female and 74.6% male) with a mean age of 37.7 years ($SD = 8.78$; range 23–59 years). Only 63 teachers (21.3%) had pre-university qualifications (form six or diplomas), 207 teachers (71.1%) had bachelor's degrees, and 22 teachers (7.5%) had postgraduate diplomas or master's degrees. Teachers had an average of 12.67 years of teaching experience ($SD = 8.79$, range: 0.42–43.75, Median: 11 years), with a mean class size of 67.59 students ($SD = 46.70$), spent on average 42.69 h per week ($SD = 30.49$, range: 4–168) at school. Besides teaching, half of the participants reported other sources of livelihood, including owning business, or other formal or informal jobs (54.5%, $n = 158$). Teacher households comprised of six family members on average ($SD = 2.75$, range 0–18).

The student sample consisted of 702 students (50% girls) with a mean age of 15.51 years ($SD = 1.15$, range 12–17 years). Nearly half of the sample were studying in the 8th year of formal schooling (53.4%, $n = 375$) and the other half in 9th year. Most students (83.3%, $n = 588$) reported that their biological parents were alive, while only 60.8% ($n = 427$) were living with their parents in the same household. In most cases, both parents provided emotional (61.4%, $n = 431$) and financial support (53.8%, $n = 378$) to their children. On average, the majority of students (91.6%, $n = 643$) attending school walked on foot for 58.83 min ($SD = 39.16$, range

2–270 min) from home to school.

2.4. Measures

The first section of the teacher questionnaire collected information around teachers' sociodemographic information, including age, qualifications, job tenure, and class size. Similarly, also the first section of the student questionnaire asked for socio-demographic information including gender, class, and means of support.

2.4.1. Violent discipline

The Conflict Tactics Scale Child-Parent (CTSCP) version (Straus, Hamby, Finkelhor, Moore, & Runyan, 1998) assessed teachers' use of violent disciplinary approaches and students' experiences of violence perpetrated by teachers at school in the past month. The 27-item CTSCP includes the 13-items physical violence subscale and the 5-items emotional violence subscale (Hecker et al., 2018; Nkuba, Hermenau, & Hecker, 2018). All items are rated on a 7-point Likert scale from never (0) to more than 20 times (25). For analysis, sum scores were calculated for the emotional and physical violence subscales by adding all item responses of the respective subscale. These were then added to total violence sum score. Subscale scores for physical violence ranged from 0 to 325 and for emotional violence from 0 to 125, while the total violence score was in the range of 0 to 450. The level of measurement of sum scores of Likert-scaled items is usually considered as interval type. The CTSPC has demonstrated good cross-cultural reliability and validity (Cui, Xue, Connolly, & Liu, 2016) and has been successfully used in different settings in East-Africa (Hecker et al., 2018; Nkuba et al., 2018). The Cronbach alpha coefficient for the CTSPC total score was 0.76 for the teacher and 0.88 for the student samples.

2.4.2. Attitudes towards violent discipline

An adapted version of the CTSCP with a physical violence subscale (13-items) and an emotional violence subscale (5-items) assessed teachers' attitudes towards disciplinary measures (Nkuba et al., 2018b). Sample items on this scale included "When children do something wrong I think it is ok to shake them" and "When children do something wrong I think it is ok to shout, yell or scream at them." Items are scored on a scale ranging from *never ok* (0) to *always ok* (3). For analysis, a total scores of positive attitudes towards violent discipline was calculated by summing up responses of all the 18 items. This scale has been successfully used in previous studies in East Africa (Nkuba et al., 2018b). In the current sample the Cronbach alpha coefficient was 0.80 for the total score.

2.4.3. Stress and burn out

The Copenhagen Burnout Inventory (CBI), a 19-item scale with three subscales, work-related ($\alpha = 0.87$), client/student-related ($\alpha = 0.85$) and personal burnout ($\alpha = 0.87$), was used to measure teachers' stress level and burnout (Kristensen, Borritz, Villadsen, & Christensen, 2005). Possible response categories for the inventory items ranged on a 5-point Likert scale from never (0), seldom (25), sometimes (50), often (75) and always (100). CBI subscale and total scores are the average scores of the items of the respective subscale. They range from 0 to 100, with scores ≥ 50 defined as high stress level and burnout (Borritz, Rugulies, Christensen, Villadsen, & Kristensen, 2006). The level of measurement of average scores of Likert-scaled items is also considered as interval type. The CBI has shown good reliability and validity in teacher samples in Tanzania (Hecker et al., 2018; Hermenau, Kaltenbach, Mkinga, & Hecker, 2015). The reliability coefficients for the current teacher sample was 0.82 for the personal, 0.74 for work-related, 0.83 for student-related burnout, and 0.90 for the total score.

2.5. Data analysis

We utilized linear regression models to examine the specific associations between teachers' level of stress, positive attitudes towards violent discipline, and the use of violent discipline by teachers. We then tested our hypothesis that the effects of stress on violent discipline are partly mediated by positive attitudes of teachers towards violent discipline using mediation analysis. We conducted a simple mediation analysis following the heuristic of Baron and Kenny (Baron & Kenny, 1986). *Positive attitudes towards violent discipline* would be considered a mediator if (1) the *level of stress* would significantly predict *violent discipline* (2) *level of stress* would significantly predict *positive attitudes towards violent discipline*, and (3) *positive attitudes towards violent discipline* significantly predicts *violent discipline* controlling for the *level of stress*. To test significance of the indirect effect and to estimate effect-sizes, we used the Sobel test as well as a nonparametric approach using 10,000 bootstraps (Preacher & Hayes, 2004). The regression models fulfilled the necessary criteria for linear regression analyses: the residuals did not deviate significantly from normality, linearity, and homoscedasticity. All analyses used a two-tailed $\alpha = .05$. Our metric for a small effect size was $f^2 \geq 0.02$, for a medium effect $f^2 \geq 0.15$, and for a large effect $f^2 \geq 0.35$ (Cohen, 1992). Data were analyzed with IBM SPSS Statistics Version 25 for MAC.

3. Results

3.1. Teachers' use of violent disciplinary approaches in the school

Overall, 250 teachers (86.5%) reported to have used at least one act of violence against students in the past month. In total, 210 of the 290 of the teachers reported to have used at least one type of physical violence at least once in the past month. Most common types of physical violence that teachers used against their students at least once in the past months were *shaking* them (43.3%), *slapping on the hand, arm, or leg* (33%), and *spanking on the buttocks with a bare hand* (31%). See Table 1 for more details. Altogether,

Table 1
Teachers' report of violent discipline approaches used against students in the past month (%).

How often in the past month have you...	0	1-2,	3-10,	> 10
Physical violence				
...shaken them?	56.7	27.8	12.7	2.8
...hit them on the bottom with a ruler, a belt, a stick or some other hard object?	70.1	22.0	5.8	2.1
...hit them with a fist (boxed or punched them) or kicked them hard?	93.5	4.8	1.4	0.3
...spanked (slapped, hit or beat) them on the buttocks or bottom with your bare hand?	69.0	21.0	9.3	0.7
...grabbed them around the neck and choked (or strangled) them?	96.9	2.8	0.3	0
...beaten them up or hit them over and over as hard as you could?	93.8	5.2	0.7	0.3
...burned or scalded them (e.g. with firewood, cigarettes or hot water) on purpose?	97.6	2.4	0	0
...hit some other parts of their body besides the buttocks (or bottom) with a ruler, a belt, a stick etc.?	86.3	12.1	1.3	0.3
...slapped them on the hand, arm, or leg?	67.0	25.4	6.2	1.4
...pinched them?	81.1	12.0	5.2	1.7
...threatened them with a knife or any other dangerous object such as a big stick/cane or a belt?	97.9	2.1	0	0
...thrown or knocked them down (pushed them so hard that they fell on the floor or against the wall)?	97.9	1.7	0	0.4
...slapped them on their faces, head or ears?	88.0	10.0	1.7	0.3
Emotional violence				
...shouted, yelled, or screamed at them?	58.8	24.7	11.3	5.2
...sworn or cursed at them?	89.3	8.6	2.1	0
...said you would send them away or sent them out of the classroom for some time?	33.3	44.3	17.2	5.2
...threatened to spank or hit them but you did not actually do it?	53.0	26.0	14.0	7.0
...called them dumb or lazy or some other bad names?	71.0	22.1	4.8	2.1

232 of 290 the teachers stated that they had used at least one type of emotional violence against students at least once in the past month. The most frequently used types of emotional violence that teachers used at least once in the past months (see Table 1) included *isolation or exclusion* (66.7%), *threatening to spank students* (47%) and *shouting, yelling, or screaming* (41.2%).

Overall, 638 students (91.5%) reported to have experienced at least one type of violent discipline at school at least once. In total, 87% (n = 607 of 698) of the students experienced at least one type of physical violence at least once in the past month. Common acts of physical violence experienced by students at least once in the past month included *hitting on the bottom with an object* (53.8%), *slapping on the hand, arm, or leg* (49.8%), *spanking on the buttocks with a bare hand* (45.3%) and *slapping on the face, head, or ears* (42%) respectively (see Table 2). Results of an independent sample t-tests indicated that there were significant differences in the experience of physical violence between students studying in the 8th year and 9th year of formal schooling ($t(696) = -2.15, p = .03$). Students studying in the 9th year ($M = 17.25, SD = 33.86$) experienced more physical violence compared to students studying in the 8th year ($M = 12.68, SD = 21.57$).

Altogether, 79.6% (n = 558 of 701) of the students reported to have experienced at least one type of emotional violence at least once in the past month. Most common forms of emotional violence that student reported to have experienced at least once in the past months were *having been sent out of the classroom* (51.4%) and *called dumb, lazy, or other bad names by their teachers* (42.3%). There were no significant differences between other students and teachers' demographics and violent discipline.

Table 2
Students' reports of violence experienced at school in the past months (%).

How often in the past month have your teachers...	0	1–2	3–10	> 10
Physical violence				
...shaken you?	69.2	21.2	7.3	2.3
...hit you on the bottom with a ruler, a belt, a stick or some other hard object?	46.2	35.0	12.8	6.0
...hit you with a fist (boxed or punched them) or kicked them hard?	76.0	18.1	4.0	1.9
...spanked (slapped, hit or beat) you on the buttocks or bottom with a bare hand?	54.7	32.8	9.1	3.4
...grabbed you around the neck and choked (or strangled) you?	87.6	10.1	1.7	0.6
...beaten you up or hit you over and over as hard they you could?	75.4	17.7	4.8	2.1
...burned or scalded you (e.g. with firewood, cigarettes or hot water) on purpose?	94.2	4.6	1.1	0.1
...hit some other parts of your body besides the buttocks (or bottom) with a ruler, a belt, a stick etc.?	62.3	27.3	6.3	4.1
...slapped you on the hand, arm, or leg?	50.2	36.5	8.7	4.6
...pinched you?	69.8	25.0	4.5	0.7
...threatened you with a knife or any other dangerous object such as a big stick/cane or a belt?	90.9	6.7	2.0	0.4
...thrown or knocked you down (pushed you so hard that you fell on the floor or against the wall)?	84.0	13.3	2.0	0.7
...slapped you on the faces, head or ears?	58.0	30.0	8.0	4.0
Emotional violence				
...shouted, yelled, or screamed at you?	61.8	28.5	7.1	2.6
...sworn or cursed you?	81.0	14.3	3.4	1.3
...said they would send you away or sent you out of the classroom for some time?	48.6	37.6	9.9	3.9
...threatened to spank or hit you but you did not actually do it?	61.3	29.6	6.0	3.1
...called you dumb or lazy or some other bad names?	57.7	34.6	5.1	2.6

Table 3
Teacher's attitudes towards violent discipline (%).

When students do something wrong, I think it is ok ...	Not OK	Rarely OK	Usually OK
Physical violence			
...to shake them	72.9	19.6	7.5
...to hit them on the buttocks or bottoms with a ruler, a belt, a stick or some other hard object	70.4	18.6	11.0
...to hit them with a fist (boxed or punched you) or kick them hard	95.2	3.4	1.4
...to spank (slap, hit or beat) them on the buttocks or bottoms with bare hands	78.7	14.1	7.2
...to grab them around the neck and choke (or strangle) them	96.9	3.1	0
...to beat them up or hit them over and over as hard as possible	91.4	6.9	1.7
...to burn or scald them (e.g. with firewood, cigarettes or hot water) on purpose?	98.0	1.0	1.0
...to hit some other parts of their body besides the buttocks or bottom with a ruler, a belt, a stick etc.	86.9	10.3	2.8
...to slap them on the hand, arm, or leg	72.5	20.3	7.2
...to pinch them	80.0	16.2	3.8
...to threaten them with a knife or any other dangerous object such as a big stick/cane or a belt?	97.3	1.4	1.3
...to throw or knock them down (pushed them so hard that they fell on the floor or against the wall)?	96.2	2.1	1.7
...to slap them on their faces, heads or ears	90.7	6.9	2.4
Emotional violence			
...to shout, yell, or scream at them	72.0	21.0	7.0
...to swear or curse at them	92.0	6.0	2.0
...to say you would send them away or send them out of the classroom for some time	39.9	42.6	17.8
...to threaten to spank or hit them but not actually doing it	55.7	26.5	17.8
...to call them dumb or lazy or some other bad names	79.4	15.5	5.1

3.2. Attitudes towards violence

Total scores of the attitudes towards violence scale showed that generally teachers (88.3%, $n = 256$) had positive attitudes towards the use of violent discipline (i.e., reporting rarely or usually ok on one of more items). In case of students' misbehavior, 171 teachers (59%) thought it was acceptable (i.e., rarely or usually ok) to use physical violence, while 251 teachers (86.3%) believed it was acceptable (i.e., rarely or usually ok) to use emotional violence. Specifically, teachers had more positive attitudes towards the use of emotionally violent disciplinary strategies (see Table 3) including *exclusion or isolation* (60.1%), and *threatening to spank students* (44.3%).

3.3. Stress and burn out

High levels of burnout were reported by 109 teachers (55%). In total, 25.8%, of the teachers experienced elevated personal burnout, 13.1% work-related burnout, and 16.2% student-related, respectively. Frequently reported stress symptoms included *feeling of tiredness* (80.8%), *finding it hard to work with students* (76.9%), *not having enough energy for family and friends during leisure time* (70.4%), *physical exhaustion* (66.7%) and *feeling worn out at the end of the working day* (62.5%).

3.4. Associations among stress, positive attitudes towards violence, and violent discipline

The teachers' level of stress as well as the positive attitudes towards violent discipline were significantly related to teachers' reported use of violent discipline (see Table 4). The regression model explains 25% of the variability of the reported violent discipline (adjusted $R^2 = 0.25$; $F(2, 283) = 54.76$, $p < .001$, $f^2 = 0.33$).

Without controlling for positive attitudes towards violent discipline, the level of stress was significantly associated to violent discipline by teachers (Table 4). This regression model explained 10% of the variability of the reported violent discipline (adjusted $R^2 = 0.10$; $F(1, 284) = 30.26$, $p < .001$, $f^2 = 0.11$). Furthermore, the level of stress was significantly associated with positive attitudes towards violent discipline (Table 4). This model explained 10% of the variability of the positive attitudes towards violent discipline (adjusted $R^2 = 0.10$; $F(1, 284) = 20.56$, $p < .001$, $f^2 = 0.11$).

To investigate whether the association between stress and violent discipline is mediated by positive attitudes towards violent discipline we conducted a test for simple mediation (Preacher & Hayes, 2004), with the level of stress as the independent variable, positive attitudes towards violent discipline as the mediator and violent discipline by teachers as the dependent variable (see Fig. 1). When the variable for positive attitudes towards violent discipline was added as a mediator, the association between the level of stress and violent discipline by teachers was reduced, this reduction was significant ($Z = 3.96$, $p < .001$, Bootstrap results: 0.06, SE: 0.01, 95%-CI: 0.035 – 0.092). In other words, teacher reported stress was associated with their use of violent behavior and positive attitudes and positive attitudes reduced the association between teacher reported stress and violent behavior (see Fig. 1).

Table 4
Associations between stress, positive attitudes towards violent discipline and violence by teachers in a mediated regression model.

	B	SE of B	B	T
Positive attitudes towards violent discipline ^a				
Level of stress	0.03	0.01	0.31	4.53***
Violent discipline by teachers ^b				
Level of stress	0.15	0.03	0.32	5.50***
Mediation model				
Violent discipline by teachers ^c				
Level of stress ^d	0.09	0.03	0.20	3.32**
Positive attitudes towards violent discipline	2.40	0.29	0.40	8.35***
Indirect effect ^e	<i>Unstandardized estimates</i>	<i>SE of B</i>	<i>Standardized estimates</i>	<i>Z</i>
Level of stress → Positive attitudes towards violent discipline	0.06	0.02	0.13	3.96***

Note. N = 286, B: unstandardized regression weight, SE: standard error, β = standardized regression weight, T: t-test statistics. ** p ≤ .01 two-tailed. *** p ≤ .001 two-tailed.

^a Adj. R² = .10, f² = 0.11.

^b Adj. R² = .10, f² = 0.11.

^c Adj. R² = .25, f² = 0.33.

^d Total effect of the level of stress on violent discipline by teachers: B = 0.15, SE of B = 0.03, β = .33.

^e Sobel test result for the indirect effect of the level of stress on violent discipline by teachers via the mediator positive attitudes towards violent discipline.

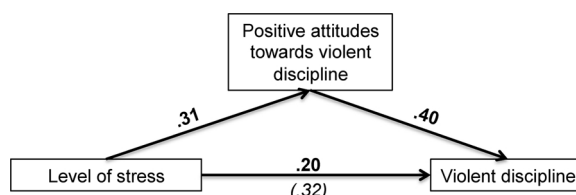


Fig. 1. Mediated regression model (N = 286) exploring the mediating influence of positive attitudes towards violent discipline on the relation between teachers’ perceived levels of stress and their use of violent discipline. This model is consistent with the view that the relation between stress and violent discipline is partially mediated by the teachers’ positive attitudes towards violent discipline. Standardized regression weights are depicted; all associations are significant beyond 0.05.

4. Discussion

4.1. Prevalence of school violence

In the present study, 86.5% of all teachers reported that they used at least one type of violent disciplinary methods against students at least once in the past month. Further, 91.5% of all students reported that they experienced at least one type of violence perpetrated by a teacher at least once in the past month. In total, 72% of the teachers reported having used at least one type of physical violence at least once in the past month, and 87% of the students reported having experienced at least one type of physical violence at least once in the past month. Likewise, 80% of the teachers and 80% of the students reported to have used or experienced at least one type of emotional violence at least once in the past month, respectively. Teachers’ reports were generally consistent with the students’ reports in describing a high prevalence of violence in secondary schools. The findings were consistent with previous prevalence studies from East-Africa (Devries et al., 2014; Merrill et al., 2017; Ministry of Gender Labour & Social Development, 2018; Nkuba et al., 2018a, 2018).

The study results are partially consistent with prior studies that found no difference between teachers’ demographics (sex, academic qualifications and family size) and use of violent disciplinary methods (Devries et al., 2014; Merrill et al., 2017). However, contrary to one previous study, we found no association between individual factors (age and number of years worked at school age and violent discipline (Merrill et al., 2017). The reason for these differences is partly due to measurement of the variables. In the present study variables such as age and family size were continuous while previous studies categorized these variables.

However, students’ ratings of specific physical violent acts and the mean number of acts of physical violence experienced in the past month were generally higher compared to the teachers’ reports (see Tables 1 and 2). This could be interpreted as underreporting by the teachers. Teachers may underreport their use of school violence (Straus, 2010) because they fear potential consequences, such as paying a fine and/or imprisonment (Government of Uganda, 2016). Alternatively, these findings may result from reporting bias due to social desirability on the part of the teachers. Though the overall experience of violence reported by students may be a true reflection of the extent of school violence, we can also not rule out the possibility that students overreport their exposure to violence by teachers as they feel constantly maltreated by teachers and would like to stress this fact. Students in the 9th year of formal schooling experienced more physical violence than their colleagues in the 8th year. This result is not surprising because Ugandan secondary school teachers considered students in the 9th year of formal schooling to be more troublesome. This could in part explain

the group difference.

Our findings are in line with research findings from other parts of the world that showed that violent disciplinary methods are still in use in schools (Antonowicz, 2010; Gershoff, 2017; Ogando Portela & Pells, 2015), despite a legal ban on school violence in many countries and also in Uganda (2018, GIEACPC, 2017).

4.2. Attitudes towards use of violent disciplinary methods

Teachers reported positive attitudes towards the use of violent discipline in response to students' misbehavior. Our results support the notion that teachers in Southwestern Uganda believe that violent discipline is an acceptable classroom management technique that is also capable of instilling and maintaining discipline among students. Thus, teachers seem to continue the use violent disciplinary methods because they have positive attitudes towards violence. The results are in line with prior assertions that positive attitudes towards violence are shaped by sociocultural norms that promote the use of violent disciplinary approaches as part of acceptable child discipline strategies (Butchart et al., 2006; Pinheiro, 2006; Straus, 2010; UNICEF, 2017).

As also previous studies showed, our results indicate that positive attitudes towards violence are associated with the actual application of violence (Merrill et al., 2017; Straus, 2010). Consequently, positive attitudes towards violence and teachers' expectations of its effects, such as behavioral control, may result in the continued use of violent disciplinary strategies (Straus, 2001; UNICEF, 2014).

In our study, teachers reported more positive attitudes towards the use of emotional violence compared to physical violence (see Table 3). It is plausible to assume that teachers may be confident that emotional aggression does not result in negative sequelae (Naker & Sekitoleko, 2009). However, psychological aggression may not necessarily result in visible outcomes, but with time these consequences become noticeable (Straus, 2001).

4.3. Associations among stress, positive attitudes towards violence and violent discipline

Our findings showed associations between stress, positive attitudes towards violence, and violent discipline. Previous studies suggested that stress is significantly related to the use of violent discipline by teachers (Butchart et al., 2006; Hecker et al., 2018; Ogando Portela & Pells, 2015; Parkes & Heslop, 2013). Furthermore, our results indicated that the association between teachers' stress levels and their use of violence discipline was mediated by positive attitudes towards violent discipline (see Fig. 1). In addition to stress, attitudes towards violent discipline explained 15% of the variability of the use of violent discipline by teachers at school (see Table 4). Generally, these results are consistent with the observation that cultural acceptance of violent discipline and positive attitudes towards violence are linked to the actual application of violent disciplinary measures (Straus, 2010). Our findings support the notion that in stressful situations, positive attitudes towards violent discipline are associated with teachers' use of violent disciplinary methods.

4.4. Practical implications and future research

In Uganda, teachers' positive attitudes around the use of violence may be linked to the resulting poor educational outcomes. Teachers attribute students' poor academic performance to indiscipline and may erroneously attribute good academic performance to their use of violent disciplinary strategies (Semali & Vumilia, 2016). However, students can perform well without the use of violent discipline. Nevertheless, teachers adhere to their beliefs that violent discipline helps students to attain better educational outcomes (Naong, 2007; Parkes & Heslop, 2013), shape personality, and control students' behavior in the school context (Butchart et al., 2006; Dubanoski et al., 1983; UNICEF, 2017; Vockell, 1991). Hence interventions should focus on modifying teachers' attitudes towards violence.

Despite officially abolishing the use of physical punishment in the education sector, Uganda has so far failed to provide teachers with practical alternative disciplinary guidelines. Laws in Uganda just mention prevention and intervention in cases of child abuse with no actual recommendations (GIEACPC, 2018). This may be linked to the absence of a clear understanding of the utility of effective, non-violent disciplinary methods (Dubanoski et al., 1983). Moreover, institutions responsible for teacher training in Uganda have not incorporated aspects of the relevant laws, guidelines, and policies that govern the educational sector into their curriculum which align with the current national education agenda. Consequently, Ugandan teacher education trainees in essence do not acquire knowledge of appropriate laws, such as the revised Children Amendment Act that prohibits school violence (Government of Uganda, 2016). Without proper guidelines for alternative disciplinary strategies (Diamantes, 1992), teacher training institutions may find it difficult to formally educate their trainees in non-violent classroom management approaches useful in handling students' misbehavior during their studies (Ogando Portela & Pells, 2015). Teachers without proper training in alternative discipline strategies cannot implement such strategies in their work (Parkes & Heslop, 2013).

Teacher stress was associated with the use of violent disciplinary measures in schools. Therefore, further research should examine how some of the stressors can be mitigated especially in resource limited settings. Likewise, teacher stress management workshops could help teacher effectively deal with stressors. In East Africa, the *Good Schools Toolkit* (Devries et al., 2015) and *Interaction Competencies with Children – for Teachers* (Kaltenbach et al., 2018; Nkuba et al., 2018b) are school-based interventions that aim at reducing the use of violence by teachers. These interventions have been successfully evaluated for their efficacy with promising results. In-service teacher training workshops could help teachers to alter their attitudes that support violence and acquire knowledge about nonviolent behavior management strategies. Notwithstanding, teacher training institutions could also adopt successful

evidence-based interventions and incorporate them into their curriculum. Nevertheless, for effective prevention and intervention it is of utmost importance to fully understand all the socio-cultural and structural factors associated with the use of violence. Furthermore, there is need to involve stakeholders when drafting education-related laws. Besides, stakeholders need to be involved in the designing of school violence prevention efforts. This can foster better the understanding and support during the implementation phase of the intervention.

4.5. Strength and limitations

The study used a large representative sample from Southwestern Uganda. Thus, our findings can be generalized to public secondary schools in Southwestern Uganda. The study elicited self-reports of students and teachers and adopted measures that had been used in the region previously. Nonetheless, the study had several limitations: first, the cross-sectional study design does not allow for the establishment of causality. However, the consistency with previous findings on the link between stress and the use of violence suggests that stress and positive attitudes towards violent discipline are related to teachers' use of violence at school. Second, the use of self-reports cannot rule out potential reporting bias, such as social desirability. Third, cultural bias might have influenced our findings, for example, due to the fact that some of the items may not always reflect typical daily realities of Ugandan teachers and students. However, we sought to keep this potential bias to a minimum as Ugandan researchers played a key role in the design and implementation of the study. The Ugandan researcher was responsible for example for data collection process, ethical approval of the study protocol and making sure that the study measures reflect the Ugandan context and can be easily understood by the study participants.

5. Conclusions

The results reveal a high prevalence of violent discipline by teachers as well as positive attitudes of teachers towards the use of violent discipline in the school context. High levels of stress were related to more violent discipline. This relation was mediated by positive attitudes towards violent discipline. Based on the present findings there is a need to explore further factors that are associated with teachers' use of violent disciplinary methods at school. Our findings emphasize that teacher training requires the integration of effective stress management, nonviolent discipline strategies, and attitude change into the curriculum. Previous studies advocate for equipping teachers with alternative disciplinary strategies to deal with disruptive behavior as a way of reducing violence (Khoury-Kassabri, 2006; Mweru, 2010). Furthermore, in the case of Uganda many education-related policies are formulated by the Ministry of Education and Sports and implemented in the school setting. This top-down process results into problems during the policy implementation phase. Therefore, future research should explore whether consultation and collaboration with stakeholders in the education sector would enhance our understanding of the causes and effects of violent discipline. This could facilitate the appropriate design of violence prevention interventions that can be easily implemented and scaled-up in the long-term.

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Declarations of interest

None.

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