Child Maltreatment, Mental Health Problems and Prevention of Violence among Secondary School Students in Tanzania

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Summary

Child maltreatment is a worldwide societal phenomenon of concern that has continuously subjected children to various health risks (Gershoff, 2010; Lansford et al., 2015; UNICEF, 2010). Research findings in high-income countries have reported a high prevalence of child maltreatment in families and schools, which were consistently associated with children’s mental health challenges (Lansford, Sexton, Davis-Kean, & Sameroff, 2012; Weaver, Borkowski, and Whitman, 2008). Moreover, findings from global researches have consistently reported the different forms of child maltreatment which include physical violence, emotional violence and child neglect as prevalent in families and schools and its strong contribution to mental health and behavioral challenges in children (Durrant, 2008; Gershoff, 2017; Lansford et al., 2015).

However, studies in Sub-Saharan African countries indicated a much higher prevalence of the different forms of child maltreatment in families and other settings outside families, such as schools (Global Initiative to End All Corporal Punishment of Children (GIEACPC), 2016a; Morantz, et al., 2013; UNICEF, 2014). Subsequently, the reported high prevalence of child maltreatment in Sub-Saharan African countries has been strongly associated with different behavioral and health challenges, such as aggression, delinquent behaviors and conduct disorders in children (Kinyanda, Kizza, Abbo, Ndyanabangi & Levin, 2013; Ismayilova, Gaveras, Blum, To-Camier, and Nanema, 2016). Consistent with other Sub-Saharan African countries, child maltreatment has been reported as highly prevalent in families and schools in Tanzania (Feinstein & Mwahombela, 2010; Hermenau et al., 2011; UNICEF, 2011) and has been strongly linked to mental health complications and behavioral problems in children (Hecker, Hermenau, Isele, & Elbert, 2014; Hecker, Hermenau, Salmen, Teicher, & Elbert, 2016; Hermenau, Eggert, Landolt, & Hecker, 2015). However, the large body of literature reported from Sub-Saharan African countries and from Tanzania in particular has only provided information about the prevalence of different types of child maltreatment and the associated mental health challenges from settings with either an at-risk population (Hermenau, Eggert, et al., 2015; Lekule, 2014; Morantz, Cole, Vreeman, et al., 2013), or has included non-representative samples (Feinstein & Mwahombela, 2010; Hecker et al., 2016; Semali & Vumilia, 2016). In line with this, very few school-based violence prevention interventions (e.g., Devries et al., 2015; Kaltenbach, Hermenau, Nkuba, & Hecker, 2017) have been empirically evaluated. Therefore, as an extension to the previous studies in Tanzania and Sub-Saharan African countries, the present thesis examined the prevalence of child maltreatment and mental health problems, as well as the associations between child maltreatment and mental health problems among secondary school students in Tanzania. Both children’s and parents’ perspectives were considered in a
nationally representative sample. Subsequently, the feasibility and efficacy of a preventive intervention approach (ICC-T) with the aim of preventing secondary school students from violence by teachers was evaluated. The thesis consists of three articles.

The first article examined the prevalence of different forms of child maltreatment in families using a nationally representative sample of secondary school students and their parents. Findings in this article indicated that more than 90% of students were exposed to violent disciplining by parents within the past year. Concurrently, more than 80% of parents acknowledged using violent disciplining methods in managing their children’s misbehavior. Using a path model, we found that violent disciplining by parents was associated with parental stress. Familial risk factors such as family income and family size contributed to parental stress but were not directly linked to child maltreatment. The findings imply that in societies with different social and financial challenges, children are at more risk of violence due to parental stress and other challenges existing in families, particularly in many countries in Sub-Saharan Africa. These findings are consistent with previous studies in Sub-Saharan Africa (Morantz, Cole, Vreeman, et al., 2013; Morantz, Cole, Ayaya, Ayuku, & Braitstein, 2013; Oburu & Palmérus, 2003) and results from high income countries (Gershoff, 2013; Stoltenborgh, Bakermans-Kranenburg, & Van Ijzendoorn, 2013; Straus, 2010).

The second article examined the prevalence of mental health problems among secondary school students as well as its association with exposure to violence and maltreatment in Tanzanian families. Overall, 41% of the students reported mental health problems. The reports of parents also indicated a prevalence rate of students’ mental health problems of 31%. These findings are in line with previous studies that reported a high prevalence of mental health problems among children and adolescents in Sub-Saharan Africa (Kinyanda et al., 2013; Ndetei et al., 2008). Importantly, the current findings extend the previous findings from Tanzania (e.g., Hecker et al., 2014, 2016; Hermenau et al., 2014) that have documented the burden of children. Moreover, analysis in the present study revealed that physical violence (but not emotional violence) by parents was related to self-reported mental health problems of students. In addition, peer violence and emotional violence by teachers were found to be associated with the mental health problems of students. In general, the findings indicate an agreement between the reports of students and their parents regarding the effects of physical violence by parents on students’ mental health, underlining the strong association between physical—but not emotional violence—by parents or caregivers in Tanzanian families with mental health problems among secondary school students. Thus, the findings of this study are partly consistent with previous
studies, which found associations between physical violence, emotional violence, peer violence, parental stress and mental health problems in children in different countries (Infurna et al., 2016; Ismayilova et al., 2016; Kinyanda et al., 2013; Neece et al., 2012; Norman et al., 2012).

To contribute to the prevention of school violence in Tanzania, the third article presents findings of a cluster randomized controlled trial that evaluated the feasibility and efficacy of the preventive intervention *Interaction Competencies with Children for Teachers* (ICC-T). The study was conducted in government secondary school teachers in Tanzania. The trial consisted of four intervention schools (where the intervention was offered) and four control schools that received no training. The intervention with teachers of the randomly assigned intervention schools lasted for 5.5 days. Before and three months after the ICC-T intervention, data from both teachers and students at intervention and control schools were assessed regarding positive attitudes towards violence and the use of emotional and physical violence (teachers) as well as exposure to emotional and physical violence at school. Furthermore, to assess feasibility data trained participants completed a survey before, directly after, and three-months following the intervention. Findings indicated a very good feasibility and first hints about the efficacy of the ICC-T intervention: teachers reported good integration of the interventions’ core elements in their daily works three months after the training. Subsequently, a stronger decrease in the use of (teachers) and exposure to (students) emotional and physical violence was reported in intervention schools compared to control schools after the intervention. On top of that, teachers in intervention schools reported a stronger decrease in positive attitudes towards violent disciplining compared to teachers in control schools. The current findings converge with previous findings (Kaltenbach et al., 2017) in a Tanzanian primary school. This indicates that ICC-T intervention can be a helpful approach in reducing violence by teachers in school settings in Tanzania and possibly elsewhere in Sub-Saharan Africa.

The present thesis emphasizes that violence and child maltreatment in families and schools is highly prevalent in Tanzanian families and at school and are negatively associated with children’s mental health. ICC-T is a feasible and effective approach to reducing violence in the school setting and can bridge the gap in teachers’ regular professional training that has a deficit in teaching non-violent approaches of dealing with misbehavior at school (e. g., Nkuba & Kyaruzi, 2015; Yaghambe & Tshabangu, 2013; Mweru, 2010). Furthermore, ICC-T intervention results might be scaled up not only in Tanzania but also in similar settings in other Sub-Saharan African countries. To consider the negative consequences of violence and maltreatment among children in Sub-Saharan Africa, more interventions are needed, in order to help parents and
Summary

teachers successfully manage children's disciplinary challenges without compromising their mental health.
Zusammenfassung


Zusammenfassung


x
Störungen der SchülerInnen aufgezeigt. Generell weisen die Ergebnisse auf eine Übereinstimmung zwischen den Berichten der SchülerInnen und jenen der Eltern in Bezug auf die Effekte körperlicher Gewalt durch Eltern auf die mentale Gesundheit der betroffenen SchülerInnen hin und unterstreichen so die starke Assoziation von physischer – aber nicht emotionaler - Gewalt durch Eltern oder Betreuungspersonal und psychische Störungen der SchülerInnen. Demnach sind die Ergebnisse der vorliegenden Studie teilweise deckungsgleich mit jenen früherer Studien, die Verbindungen zwischen psychischer Gewalt, emotionaler Gewalt und Gewalt durch Gleichaltrige mit elterlichem Stress und psychischen Störungen bei Kindern in verschiedenen Ländern aufzeigten (Infurna et al., 2016; Ismayilova et al., 2016; Kinyanda et al., 2013; Neece et al., 2012; Norman et al., 2012).

Zusammenfassung


Record of achievement

The articles in this dissertation were completed in collaboration with different contributors. Below is the list of the research articles comprised in this thesis and my independent contributions.

**Article 1:** Violence and maltreatment in Tanzanian families – Findings from a nationally representative sample of secondary school students and their parents (submitted for publication in *Child Abuse and Neglect, 2017*)

Mabula Nkuba, Katharin Hermenau, Tobias Hecker

**My contributions:**
- designed the study
- carried out field data collection
- supervised the field data collection
- performed the statistical analysis
- drafted and written the manuscript.

**Article 2:** Mental health and its association to violence and maltreatment in a nationally representative sample of Tanzanian secondary school students (submitted for publication in *Journal of Child Psychology and Psychiatry, 2017*)

Mabula Nkuba, Katharin Hermenau, Katharina Goessmann, Tobias Hecker

**My contributions:**
- designed the study
- carried out field data collection
- supervised field data collection
- participated in statistical analysis
- drafted the manuscript.
Article 3: Preventing violence by teachers using the intervention approach *Interaction Competencies with Children for Teachers (ICC-T)*. A cluster randomized controlled trial in secondary schools in Tanzania (Manuscript in preparation for publication)

Mabula Nkuba, Katharin Hermenau, Katharina Goessmann, Tobias Hecker

**My contributions:**

- participated in the design of the study
- carried out the intervention implementation
- carried out the field data collection
- supervised field data collection
- participated in statistical analysis
- drafted the manuscript.
1 Introduction

Children are the most precious treasure a society can have: they bear the seeds, the promise and the guarantee of a society's future. However, their potential for contributing to society are determined by what parents, guardians and caregivers do or fail to do with respect to raising children (Aunola & Nurmi, 2005; Gewirtz, Forgatch, & Wieling, 2008; Lansford et al., 2007). That is to say: the quality of attention dedicated to children, the way of treating them, the quality of love shown to them and the general warmth in daily parenting are all crucial. Unfortunately, evidence from global studies has indicated high prevalence rates of violence and maltreatment against children, often perpetrated in the name of child discipline management in families and other settings outside of families such as schools (Gershoff, 2013; Gilbert et al., 2009; GIEACPC, 2015a). In fact, research findings from both high and low income countries have consistently reported that child maltreatment in the form of physical punishment and emotional humiliation is a common means of controlling and managing children's misbehavior used by parents, guardians and other authority figures such as school teachers (Durrant, 2008; Gershoff, 2017; Lansford et al., 2015). Regrettably, the different forms of child maltreatment reported in families and schools continue to be a legal means of managing misconduct among children in many countries worldwide (GIEACPC, 2016a; Straus, 2010; UNICEF, 2014). In line with this, child neglect has been indicated as being prevalent especially in low-income countries (Gilbert et al., 2009; UNICEF, 2012). Moreover, studies from different parts of the world have revealed that child maltreatment is even more prevalent in settings with economic difficulties, social hardship, a low level of parental education attainment, large family size and among stressed families or burdened parents (Davis-Kean, 2005; Lansford & Deater-Deckard, 2012; Rossman & Rea, 2005).

Along with the high prevalence of maltreatment against children reported in different research findings worldwide, studies have also shown a high prevalence of mental health problems among children (Berlin et al., 2009; Ferguson, 2013; Durrant & Ensom, 2012; Gould et al., 2012; Holden, Hawk, Smith, Singh, & Ashraf, 2017; Young & Widom, 2014). The reported mental health problems among children are linked to child maltreatment in different settings such as families and schools (Lansford, Sexton, Davis-Kean, & Sameroff, 2012; Mulvaney & Mebert, 2007; Herrenkohl, Klika, & Russo, 2013). Subsequently, research findings from Sub-Saharan African countries reported a high prevalence of different types of child maltreatment such as physical violence, emotional violence and neglect, which were highly correlated with different mental health complications, including anxiety disorders, depressive disorders, and lowered
General introduction

self-esteem among children (Hecker et al., 2014, 2016; Semali & Vumilia, 2016). Unfortunately, the previous studies conducted in Sub-Saharan African countries have mostly focused on either at-risk populations or non-representative samples. In addition, scientifically evaluated interventions aiming at preventing children from maltreatment are still rare. Hence, the present thesis examined the prevalence of child maltreatment and mental health problems among Tanzanian secondary school students in a nationally representative sample. Alongside that, the association between child maltreatment and mental health problems was examined. Finally, evaluation of the feasibility and efficacy of the ICC-T violence prevention intervention was implemented to secondary school teachers with the aim of providing skills in the use of non-violent disciplining methods and approaches which might increase teacher-students relationship.

1.1 Child maltreatment in Sub-Saharan Africa

Child maltreatment refers to any act of abusive or neglectful behavior by a parent or caregiver that results in harm, potential for harm, or threat of harm to a child (Katz, Afifi, Taillieu, & Cheung, 2015; Leeb, Paulozzi, Melanson, Simon, & Arias, 2008; Straus, 2010). The different forms of child maltreatment ranging from physical violence (e.g., hitting with stick or other objects), emotional violence (e.g., threatening to spank) and child neglect have been consistently reported to be the main approaches to controlling children’s misbehavior in Sub-Saharan Africa (GIEACPC, 2017b; UNICEF, 2010, 2014). For example, a report by the Global Initiative to End All Corporal Punishment of Children indicated a high prevalence of violence against children of about 90% in West and Central Africa and 89% in East and North Africa (GIEACPC, 2016b). Moreover, UNICEF (2014) reported a high average rate (80%) of physical and emotional violence for children in families in a study including 23 African countries. In line with that, different studies from Sub-Saharan African countries (e.g., Morantz, Cole, Ayaya, et al., 2013; Oburu & Palmérus, 2003) reported a high prevalence of child neglect by parents. For example, a study by Morantz, et al (2013) indicated that children in various families suffer from intra-household discrimination, material and psychological disregard as well as educational neglect by parents, guardians or caregivers. Additionally, research findings (e.g., Devries et al., 2014; Gershoff, 2017; Mweru, 2010) have indicated an extensive use of violent disciplining strategies in schools by teachers in different countries in Sub-Saharan Africa. Noting the prevalence of violence against children in Sub-Saharan Africa countries, research findings from both high and low income countries and particularly in Sub-Saharan African countries (e.g., Lansford et al., 2014; Slack, 2004 ; Lansford et al., 2015) have emphasized that violence
against children in different societal settings is always associated with various familial factors, social economic hardship and parental or caregivers' stress.

Although the country is a signatory to the United Nations Convention on the Rights of the Child (UN General Assembly, 1989), in Tanzania, child maltreatment is a legally permitted means of correcting children's misbehavior, a fact which might be linked to the reported high use of violent disciplining methods in families and schools (Research and Analysis Working Group, Republic of Tanzania., 2008; United Republic of Tanzania, 2009). A national survey in Tanzania which was conducted by UNICEF (2011) using a sample of 3,700 respondents aged between 13-24 years found that almost three quarters of the participants had been slapped, pushed, punched, kicked, beaten up, attacked or threatened with a weapon by a relative or authority figure during their childhood. Moreover, Straus (2010) noted that only 28% of secondary school students in a studied sample had never been spanked or hit by their parents or guardians before the age of 12 years. On top of that, Hecker et al (2014) and Hermenau et al (2014) reported high prevalence rates of maltreatment among primary school children in Tanzania. Furthermore, studies by Hermenau, Eggert et al (2015) and Lekule (2014) reported high numbers of physical, emotional and material neglect among Tanzanian school children of primary school age. However, most studies conducted previously in Tanzania had respondents drawn from either non-representative samples or at-risk children; therefore, studies that focus on representative samples with data from different perspectives (e.g., children’s and their parents’ experience) are necessary.

1.2 Mental health problems and child maltreatment in Sub-Saharan Africa

Mental health problems in children are significantly associated to maltreatment (Mulvaney & Mebert, 2007; United Nations, 2014). The World Health Organization defines mental health problems as conditions in which a child is unable to successfully perform mental functions, resulting in a failure to be a productive and inability to change or cope with adversity (World Health Organization, 2001; 2004). Studies mostly in high income countries provide evidence that different types of maltreatment in children contribute to different elements of mental health problems such as depressive symptoms, posttraumatic stress symptoms and aggressive behaviors (Infurna et al., 2016; Norman et al., 2012). In Sub-Saharan African countries, mental health problems have been reported to be prevalent in children as in other parts of the world (Cortina, Sodha, Fazel & Ramchandani, 2012; Hermenau et al., 2014). For example, Kinyanda et al (2013) reported a prevalence of depressive disorders in 9% of children studied in Uganda. Moreover, Ndetei et al (2008) found a 13% prevalence of anxiety disorders and 44% of
depression symptoms in students of public secondary schools in Kenya. To large extent, the reported mental health problems among children in Sub-Saharan African countries are associated with child maltreatment by parents, guardians and other caregivers (Ismayilova, Gaveras, Blum, To-Camier & Nanema, 2016; Kinyanda et al., 2013). Research findings from countries such as Ethiopia, the Democratic Republic of Congo, Uganda, and Cameroon provide evidence that child maltreatment by parents and other caregivers is associated with mental health problems among children (Ashenafi et al., 2001; UNICEF, 2014).

Considering the reports from Tanzania, Hecker et al (2016) reported different types of mental health problems including peer problems and emotional problems in children of primary school age that were strongly linked to harsh disciplining methods in families and schools. Consistently, other studies from Tanzania (e.g., Hermenau et al., 2015; Hecker et al., 2014) indicated a prevalence of mental health problems ranging from internalizing to externalizing problems in school children that were associated with physical violence, emotional violence and child neglect. Generally, research findings conclude that different factors ranging from biological, familial, social, age, gender and peer-related violence contribute to mental health problems (Menesini & Salmivalli, 2017; Wareham & Boots, 2012; Pankhurst, Negussie, & Mulugete, 2016; Wu, Abdullah, & Mofrad, 2012). However the risks of mental health problems are exacerbated when children are exposed to maltreatment in addition to the aforementioned factors (e.g., Neece et al., 2012; Saputra et al., 2017; Tracy, Zimmerman, Galea, McCauley, & Stoep, 2008; Hultman, Sandin, Levine, Lichtenstein, & Reichenberg, 2011; Tearne et al., 2016). Therefore, it is important to protect children from any form of maltreatment so as to reduce the likelihood of experiencing childhood mental health problems.

1.3 Prevention of violence against children in Sub-Saharan Africa
The high prevalence rates for child maltreatment in Sub-Saharan African countries (Devries et al., 2014; Feinstein & Mwahombela, 2010; GIEACPC, 2016b) indicated legal frameworks (GIEACPC, 2015b) and societal norms (Hecker et al., 2014) as the main reasons which fuel violence against children in families and schools. These factors indicate the need for designing and implementing intervention programs which aim at influencing changes in laws and societal norms currently existing in this region. Considering the experience from research in high income countries, it is clearly indicated that societal-based interventions play a great role in reducing violence against children in families and other settings outside of families (Bussmann, Erthal, & Schroth, 2009; Zolotor & Puzia, 2010). However, studies in different settings have consistently indicated that school-based intervention programs involving teachers and students are more
effective means of preventing violence against children in different societal settings, including families and schools (Gershoff, 2017; Naong, 2007; Parkes & Heslop, 2013; Pinheiro, 2006). This is because teachers as trusted members of society are in the position to influence other members of society and impact changes in terms of legal adjustments and social beliefs. Moreover, violence prevention at school can bring about societal change in later years when students graduate from schools with positive parenting and educational experiences. Due to these facts, school-based interventions focusing on training teachers might reflect more practical solutions for Sub-Saharan African countries due to the high rate of child violence by teachers, which has been reported consistently, as mentioned above (Antonowicz, 2010; Pankhurst, Negussie & Mulugete, 2016), a fact which calls for intervention programs in order to prevent children from different types of violence. However, to date, few violence prevention interventions have been evaluated in Sub-Saharan Africa (Bonell et al., 2013; Devries et al., 2015; Kaltenbach et al., 2017). Examples of these interventions include the Stop Violence Against Girls in Schools campaign from 2007 to 2013, which was designed to reduce violence across multiple settings including the school in Ghana, Kenya and Mozambique (Parkes & Heslop, 2013). This intervention significantly contributed to reducing school violence in Ghana and increased school enrolment for girls in Kenya and Mozambique. Another preventive intervention called the Good Schools Toolkit was conducted in 42 schools in Uganda (Devries et al., 2015). The intervention included classroom activities that focused on reducing the use of violent methods of discipline while promoting positive teacher-student relationships. At the evaluation stage, the rate of child exposure to violence was reduced to 42%.

In Tanzania, Interaction Competencies with Children for Teachers (ICC-T) was designed and implemented among teachers in a primary school (Kaltenbach et al., 2017). The ICC-T intervention aimed at preventing violence against children in schools by offering skills to teachers on the use of non-violent disciplining strategies and improving teacher-student relationships. The ICC-T training workshop focused on providing essential interaction competencies to teachers with their children at school. The training concept followed the childcare guidelines of the American Academy of Pediatrics (The American Academy of Pediatrics, 1999). In an initial implementation of the ICC-T intervention in Tanzania, a good feasibility was found. On top of that, teachers reported a good integration of the core elements of training in their daily work and an improvement in teacher-student relationships.

The focus of the present study was therefore to evaluate the feasibility and efficacy of the ICC-T intervention in changing teachers’ attitudes and practice towards the use of violent
disciplining methods in schools. The evaluation was set in a cluster randomized controlled trial whereby secondary schools were assigned to either an intervention group (training was offered) or a control group (no training offered). The training workshop for teachers in intervention schools covered different competencies such as teacher-student interaction, maltreatment prevention, effective discipline strategies, identifying and supporting burdened students, and the implementation of the ICC-T components in schools’ daily routines. The training concept focused on participative approaches, practice, a trustful atmosphere and sustainability. The intervention content was implemented through intensive practice, reinforcement, repetition of the content, self-reflection, team building and peer consulting. Evaluation of the training was carried out before, directly after and three months following the workshop.

In summary, the ICC-T intervention focused at reducing the use of violent disciplining methods by teachers in intervention schools as compared to control schools. Subsequently, the intervention aimed at reducing teachers’ positive attitude towards violent disciplining methods in intervention schools as opposed to teachers in control schools. More importantly, a low exposure to violence for students in intervention schools as compared to control schools was expected. In general, the evaluation of the ICC-T intervention expected an increase in teacher-student relationships with the school environment becoming a less stressful learning for students in intervention schools as compared to control schools.

1.4 The rationale of the present thesis
In this thesis, the prevalence of different forms of family violence and child maltreatment was examined in a nationwide representative sample of secondary school students by including the perspective of both students and their parents or guardians. Based on previous estimates, a high prevalence rate of physical and emotional violence as well as neglect in Tanzanian families was expected. In line with this, the association between parental and familial risk factors with child maltreatment was investigated. Moreover, the prevalence of mental health problems among secondary school students and the association between child maltreatment by parents and mental health problems of children were examined. Subsequently, the feasibility and efficacy of the ICC-T intervention approach to secondary school teachers was evaluated in a cluster randomized controlled trial. The specific objectives of this study are as follows:
1. To examine the prevalence of different forms of family violence and child maltreatment in a nationwide representative sample of secondary school students.
2. To investigate the association between different parental and familial risk factors and child maltreatment.
3. To examine the prevalence of mental health problems among secondary school students.
4. To investigate the association between violence and maltreatment by parents (physical violence, emotional violence, and neglect) and mental health problems of secondary school adolescents.
5. To assess the feasibility and efficacy of ICC-T intervention as an approach for school violence prevention by secondary school teachers in Tanzania.

These objectives were addressed in three articles to be presented in this thesis. The first article examined the prevalence of violence and maltreatment in a nationally representative sample of secondary school students and their parents in Tanzania. The second article focused on mental health and its association with violence and maltreatment among secondary school students in Tanzania. Moreover, the third article evaluated the feasibility and efficacy of the ICC-T intervention in governmental secondary school teachers with the aim of preventing students from violence by teachers. Finally, the last section of this thesis will present the general discussion, discussion of findings and overall conclusions from the findings.
2 Violence and maltreatment in Tanzanian families – Findings from a nationally representative sample of secondary school students and their parents

2.1 Abstract
Though the Sustainable Development Goals of the United Nations aim to end all forms of violence against minors, child maltreatment remains a globally prevalent phenomenon. Despite the fact that parents in numerous countries apply violent discipline methods to control children’s behavior, little is known about the prevalence of maltreatment and violent discipline in Sub-Saharan Africa. In this study, we examined the prevalence of maltreatment and violent discipline from both the adolescents’ and parents’ perspectives. In addition, we explored risk factors that could be associated with violent discipline by parents. We administered questionnaires to a nationally representative sample of 700 Tanzanian secondary school students (52% girls, mean age: 14.92 years, SD = 1.02, range: 12–17) and 333 parents or primary guardians (53% females; mean age: of 43.47 years, SD = 9.02, range: 19–71). More than 90% of all students reported exposure to violent discipline by a parent within the past year. Concurrently, more than (80%) of parents acknowledged using violent discipline techniques. Using a path model, we found that violent discipline by parents was associated with parental stress. Other risk factors contributed to a higher stress level but were not directly linked to maltreatment. Our findings indicate high levels of violent discipline in Tanzanian families. There is a pressing need to design and implement interventions that prevent children from experiencing violence at home. Reducing parents’ stress levels may be a starting point for intervention. Yet, due to the high levels of violent discipline, societal beliefs also need to be considered.

Keywords: prevalence; child maltreatment; harsh discipline; family violence, Sub-Saharan Africa; Tanzania
2.2 Background
Child maltreatment refers to any act of abusive or neglectful behavior by a parent or caregiver that results in harm, potential for harm, or threat of harm to a child. The abusive actions referred here may include the use of words or overt actions, are deliberate and intentional, and can involve physical, emotional or sexual transgressions (Gilbert et al., 2009; Katz, Afifi, Taillieu, & Cheung, 2015; Leeb, Paulozzi, Melanson, Simon, & Arias, 2008). Following this definition, the use of any physical or psychological force with the intention of causing physical or emotional pain for the purpose of correcting or controlling the child's behavior, is considered an act of child maltreatment due to the potential harm incurred by the child and the continuous threat or stressor posed to the child (Hecker, Hermenau, et al., 2016; Norman et al., 2012). Neglectful behavior on the other hand includes the failure to provide for a child's basic physical, emotional, educational, and health needs and protection of a child from harm or potential harm (Morantz, et al., 2013; Stoltenborgh, Bakermans-Kranenburg, & Van Ijzendoorn, 2013). Although child maltreatment is one of the crucial social challenges worldwide and is associated with substantial impairments of social wellbeing and health (Dubowitz & Bennett, 2007; Gershoff, 2013; Stoltenborgh, van Ijzendoorn, Euser, & Bakermans-Kranenburg, 2011), prevalence rates from low-income countries especially in Sub-Saharan Africa remain scarce (Stoltenborgh, Bakermans-Kranenburg, Alink, & van IJzendoorn, 2012; Straus, 2010).

2.2.1 Violence against children in families
Evidence from global research indicates that violence against children, perpetuated by parents as a way to deal with children's misbehavior, is both more prevalent and severe worldwide than is generally understood (Durrant, 2008; Gershoff, 2010; Lansford et al., 2015). The few reports and studies from low-income countries report high rates of child maltreatment in families (Global Initiative to End All Corporal Punishment of Children (GIEACPC), 2015, 2016a; Hecker, Hermenau, Isele, & Elbert, 2014; Hermenau et al., 2011; UNICEF, 2014). For example, in their study on the level of violent discipline in 24 countries using data from 30,470 families, Lansford and Deater-Deckard (2012) indicated high prevalence and strong belief in the usefulness of violence in dealing with children's misbehavior. However, there is wide variability across countries regarding the use of violence in families (Stoltenborgh, Bakermans-Kranenburg, van Ijzendoorn, & Alink, 2013). A UNICEF report (2010) focusing on the prevalence of child maltreatment in 35 low- and middle-income countries indicated that three out of four children aged 2-14 experienced physical punishment or psychological aggression in their homes during the month before the survey. The prevalence ranged from 38% in Bosnia-Herzegovina to almost
95% in Yemen; the rate of harsh discipline was above 70% in three quarters of the countries surveyed. This indicates the extent to which children in families worldwide are facing high levels of violence in their families, mostly with the parents’ intentions to correct misbehavior. The endorsement of violence as a means for discipline and behavioral management have been reported in various countries in Sub-Saharan Africa (Global Initiative to End All Corporal Punishment of Children (GIEACPC), 2015; Oburu & Palmérus, 2003; UNICEF, 2011). For example, a UNICEF report (2014) surveying 62 countries (23 from Africa) between 2005 and 2013 indicated that the average prevalence of violent discipline strategies and psychological aggression in families was up to 80% for children in the month prior to the survey. Consistently, prevalence of violence against children in West and Central Africa was recently reported to be 90%, in East and in North Africa it was 89% (Global Initiative to End All Corporal Punishment of Children (GIEACPC), 2016a).

In Tanzania, a national survey by UNICEF (2011) involving 3,700 respondents aged 13-24 years, found that almost three quarters of the participants had been slapped, pushed, punched, kicked, beaten up, attacked or threatened with a weapon by a relative or authority figure during their childhood, and 51% of the minors in the sample had experienced physical and emotional abuse in the past year. Furthermore, only 28% of secondary school students disagreed in another study that they were spanked or hit often by their parents or guardians before the age of 12 years (Straus, 2010). This high rate indicates that harsh discipline by parents and guardians is very common in Tanzanian families (Hecker et al., 2014; Hermenau et al., 2011, 2014) and can be linked to laws permitting the use of corporal punishment for justifiable correction (Global Initiative to End All Corporal Punishment of Children (GIEACPC), 2016b; United Republic of Tanzania, 2009). Though these high rates of maltreatment and violent discipline have been reported in NGO reports and studies examining non-representative samples, no prevalence data based on representative samples including both the children’s and the parents’ perspectives is currently available.

### 2.2.2 Child neglect in families

Child neglect affects the lives of many children worldwide (Gilbert et al., 2009; UNICEF, 2014). For example, in the United States of America, investigations of child protective services determined that approximately 59% of child maltreatment victims were neglect cases, and approximately 34% of child maltreatment-related fatalities were attributed to neglect (Grogan-Kaylor & Otis, 2003). A study of parents of 3-6 year old children conducted across 15 provinces in China found that 28% of parents reported neglectful behavior (UNICEF, 2012). A meta-
analysis on the global prevalence of neglect (Stoltenborgh, Bakermans-Kranenburg, Alink, & van Ijzendoorn, 2015; Stoltenborgh, Bakermans-Kranenburg, & Van Ijzendoorn, 2013) provided evidence that physical and emotional neglect are a global problem touching the lives of many children especially in low-resource countries. Moreover, a meta-analysis representing 15 studies from Sub-Saharan Africa reported that children and youth in many African countries such as Kenya, Uganda, Tanzania, Zimbabwe and Malawi had experiences of intra-household discrimination and material, psychological, and educational neglect (Morantz, et al., 2013). In addition, different forms of parental neglect were described in Kenya (Morantz, Cole, Ayaya, et al., 2013; Oburu & Palmérus, 2003). In Tanzania, only two studies (Hermenau, Eggert, et al., 2015; Lekule, 2014) investigated child neglect. However, these studies involved mainly orphans or children in alternative care settings. While neglect is globally relevant, no data from community-based or representative samples are available from Tanzania.

### 2.2.3 Associations between parental and familial risk factors, parental stress, and maltreatment

It is well known that parental behaviors towards their children are linked to their emotions and mental states, which are also associated with factors and conditions within the family. For example, the degree of parental warmth or violence towards their children was associated with personal burdens and stress and in turn stress was predicted by different familial risk factors, including social hardships, educational attainment, economic conditions and family size (Davis-Kean, 2005; Lansford & Deater-Deckard, 2012; Rossman & Rea, 2005). Many studies, mostly from high income countries, revealed different risk factors that predicted family violence and neglect by increasing the parental stress level, e.g., family income, family size and parent’s education attainment (Slack, 2004). Moreover, Lee, Bellamy and Guterman (2009) reported that parental economic conditions and income were highly predictive for psychological aggression, physical aggression and neglect. In line with this, previous studies provided evidence that family problems predicted parental stress and parental stress in turn predicted violence and neglect by parents (Clément & Chamberland, 2009; Tracy, 2014). Furthermore, parents’ traumatic experiences were associated with parental stress which in turn predicted child maltreatment in families (Catani et al., 2008; Sriskandarajah, Neuner, & Catani, 2015). A meta-analysis including studies from eight countries ranging from high to low resource countries (also including one study from Sub-Saharan Africa) indicated that parental and family conditions predicted child maltreatment in both high and low-income countries. However, in low-income countries more risk factors had been reported that predicted child maltreatment (Lansford et al.,
2014, 2015). In conclusion, one could hypothesize that various personal and family risk factors contribute to the level of parental stress, which in turn increases the risk for maltreatment and violent behavior against children.

2.2.4 Objectives

In contrast to the existing of prevalence estimations that were mainly based on non-representative samples (e.g., Feinstein & Mwahombela, 2010; Hecker et al., 2014), at-risk samples (Herrenau, Eggert, et al., 2015; Herrenau, Kaltenbach, et al., 2015; Lekule, 2014) or NGO-reports that lacked rigorous designs (e.g., UNICEF, 2011), the present study aimed at examining the prevalence of different forms of family violence and maltreatment in a nationwide representative sample of secondary school students. Furthermore, we aimed to include the perspective of both adolescents and their parents or guardians. Based on previous prevalence estimations, we expected a high prevalence of physical and emotional violence as well as of neglect in Tanzanian families. Furthermore, we aimed at investigating the association between different parental and familial risk factors and maltreatment. Based on previous findings (e.g., Clément & Chamberland, 2009; Tracy, 2014), we hypothesized that parental and familial risk factors, such as gender, number of children, family income, etc., would be related to parental stress and that parental stress would in turn be associated with maltreatment by parents.

2.3 Methods

2.3.1 Design and Sampling

The study included six (of 25) regions in Tanzania (i.e., excluding the partly autonomic Islands of Zanzibar due to limited comparability of cultural, educational and political background and systems). Five regions were selected randomly. Additionally, the largest city of the country Dar es salaam was purposefully selected due to its unique population characteristics and its large contribution to the total number of secondary school students in Tanzania (United Republic of Tanzania, 2014). In each region one mixed-day secondary school from the regional capital was randomly selected. Similarly, one rural district was randomly selected from which a single mixed-day secondary school was also randomly selected. In Dar es salaam, one of the cities' municipals was randomly chosen, from which one mixed-day secondary school was selected at random. We targeted mixed-day schools to include both girls and boys who have daily interactions with their families. Within each selected school, 120 students in the 8th and 9th year of formal schooling were stratified by gender and then randomly selected. According to Basic Education Statistics in Tanzania (United Republic of Tanzania, 2014) there are 1,804,056
secondary school children in Tanzania of which 939,191 (52%) are boys. The majority of these students (83%) are between 14 and 18 years old.

2.3.2 Participants
The participating students studied at eleven mixed secondary schools in six different regions in Tanzania. In total, we included 700 students (52% girls) with a mean age of 14.92 years (SD = 1.02, range: 12–17). In total, 350 (50% of 700) children were in 8th grade and 350 were in 9th grade. About 79% (n = 556) reported that both of their biological parents were alive, 17% (n = 120) that one biological parent was alive and 4% (n = 24) had lost both biological parents. In total, 54% (n = 376) of the students lived with both of their biological parents, 28% (n = 197) with one biological parent, 18% (n = 124) with other relatives or in other child care facilities. The sample also included 333 parents or primary guardians (53% females) with an average age of 43.47 years (SD = 9.02, range 19-71) and 7.69 years (SD = 2.66) of formal education. Parents’ or guardians’ employment types ranged from formal (13%, n = 42), non-formal but reliable (33%, n = 110), non-formal and unreliable (44%, n=146) to no employment (10%, n = 35). In total, 65% (n = 215) reported a low monthly household income (below 100 USD), 32% (n = 107) middle monthly household income (between 100 to 500 USD) and 3% (n = 11) a high monthly household income (600 USD and above).

2.3.3 Procedure
The questionnaires were translated from English to Swahili by a team of Swahili native speakers, in collaboration with the corresponding author who is also a native Swahili speaker, and then back to English in a blind written form. The back-translated questionnaires were then compared with the original questionnaires in order to ensure correct translation and equivalence of the content. Before data collection, the research team trained six research assistants in data collection. The training was conducted for one week. A standardized introduction and questionnaire administration procedures were developed at the end of the training. This ensured high objectivity and reliability during questionnaire administration among different research assistants. A pilot study at one mixed-secondary school in Dar es salaam was conducted to ensure the feasibility of the questionnaire administration. A letter explaining the study aims and procedures was sent together with an informed consent form to the parents or guardians of all randomly selected students to seek parental consent. In total, we sent 1,320 informed consents to parents and caregivers. Altogether, 830 (63%) informed consent forms were returned. At each school at least 60 students, whose parents or guardians provided consent and were able
to provide documented assent were included in the study, resulting in a total sample of 700 students. The remaining students who returned the informed consent sheets could not be included due to time restrictions. In addition, some students returned the informed consent in time but were not available for questionnaire completion. To ensure common and clear understanding of the relevant details of the study, the research team provided information to all selected participants in a formal information session. The schools provided rooms in which the completion of questionnaires in small groups (2-4 students) was conducted under supervision of the research team members. The average time for questionnaires completion was 45 minutes. The parents were contacted through letters and phone calls. Of the 700 parents contacted in all schools, 333 (48%) parents were willing and able to participate. Parents responded to the questionnaire in a 1:1 setting with a research team member on the school’s campus. The completion of questionnaires took on average 30 minutes. Ethical approval for the study was obtained from the Ethical Review Board of the University of Konstanz, Germany and of the University of Dar es salaam, Tanzania. Tanzanian government offices on a regional level (Dar es Salaam, Arusha, Kagera, Kigoma, Iringa and Lindi) granted the research permit. We then obtained permission from each respective District Education Officer to visit the schools. Other aspects of the data gathered during the extensive investigations will be subsequently presented in other publications.

2.3.4 Measures

Data assessment of students. The first part of the questionnaire for students consisted of socio-demographic information, including gender, grade, age, and living conditions. Child maltreatment in families was assessed using the Conflict Tactics Scale Parent-Child (CTSPC) version (Straus, HAmby, Finkelhor, Moore, & Runyan, 1998). This 27-item instrument measures the behavioral management strategies used by parents or guardians in dealing with children’s behavior in the past year. The possible answer categories for this scale ranged on a 7-point Likert scale from never (0) to more than 20 times (6). The CTSPC has also demonstrated good cross-cultural reliability and validity (Cui, Xue, Connolly, & Liu, 2016). The internal consistency properties of the CTSPC have been reported to be low to moderate with alpha coefficients ranging from .25 to .92, with a mean of .64. The mangling alpha coefficients relate to the CTSPC’s severe violence subscale, which reflects the reality of the events measured (Straus, 2007). The Cronbach’s alpha coefficient for the current student sample was .86 for the total score, .77 for the physical violence subscale, .64 for the emotional violence subscale, and .58 for the neglect subscale.
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**Data assessment of parents.** The questionnaire for parents consisted of socio-demographic information, including gender, age, marital status, number of children, and socio-economic status (e.g., household income, predictability of income, persons living in the household).

*Child maltreatment by parents* was assessed with CTSPC (Straus et al., 1998), too. The number of items and the answer categories are corresponding to those for students (see above). The Cronbach’s alpha coefficient for the sample of parents was at .82, which is higher than the average reliability properties reported for parents in previous studies (Straus et al., 1998). For sub-scales, the Cronbach’s alpha coefficient for parent sample was .66 for physical violence, .63 for emotional violence, .66 for child neglect. Parental stress was measured with the Copenhagen Burnout Inventory (CBI), (Kristensen, Borritz, Villadsen, & Christensen, 2005). This instrument assesses the individual risk and extent of stress and burnout related to work, family, and service provision. In this study, we considered the six items measuring the personal burnout of parents. The answer categories ranged from never (0) to always (4). Psychometric properties of the personal burnout subscale are reported to be good with the Cronbach’s alpha coefficient of .87 (Kristensen et al., 2005). The Cronbach’s alpha coefficient for our sample was .74.

### 2.3.5 Data analysis
We used descriptive statistics for the CTSPC items reported by both students and parents to present prevalence of various forms (item level) and types of maltreatment (subscale level: physical violence, emotional violence and child neglect). To test the relationship between personal and familial risk factors and parental stress as well as parental stress and child maltreatment, we first used Pearson’s correlation coefficients. Then, we tested the association using a path model applying maximum likelihood method of estimation; in instances of missing data, means and intercepts were estimated (Schumacker & Lomax, 2010). Goodness of fit was assessed using the following indices: \( \chi^2 \); confirmatory fit index (CFI), with values greater than .95 indicating good fit; and root mean square error of approximation (RMSEA), with values less than .05 indicating close fit (Hu & Bentler, 1999). The significance test for close fit is akin to that of the \( \chi^2 \): \( p < .05 \) signifies that the hypothesis of close fit is rejected. Akaike information criterion (AIC) is a comparative measure of fit. Lower values indicate better fit. Preliminary analyses confirmed that all statistical assumptions (normality, linearity, collinearity, reliability, and missing value analysis) for using path models were met. Neither univariate nor multivariate outliers could be detected. All analyses used a two-tailed \( \alpha = .05 \). Our metric for a small effect size was \( r \geq \ldots \)
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.10, for a medium effect $r \geq .30$, and for a large effect $r \geq .50$ (Cohen, 1992). Data was analyzed with IBM SPSS Statistics 23 and IBM SPSS Amos 23.

2.4 Results

2.4.1 Student's exposure to maltreatment in families

Only 2% of students involved in this study ($n = 16$) reported not having experienced any type of maltreatment in their families in the past year. The prevalence of physical violence in the past year reported by students was 94% ($n = 658$), of emotional violence 98% ($n = 683$) and of neglect 76% ($n = 532$ of 699). The most frequent type of physical violence was with 75% agreement ($n = 552$ of 700) hitting at the bottom with a belt, stick or other hard objects. In total, 14% ($n = 98$ of 700) of the participating students reported to have experienced this in their families more than 10 times in the past year. Other common forms of physical violence were hitting some other parts of the body with a belt, wooden spoon, a stick or some other hard object (61%, $n = 423$), as well as pinching (54%, $n = 378$), slapping on the face, head or ears (46%, $n = 320$) and slapping on hands, arm or leg (43%, $n = 304$). The most frequent type of emotional violence was shouting, yelling or screaming (89%, $n = 623$). About 22% ($n = 154$) of the students reported exposure to shouting, yelling or screaming of more than 10 times in the past year. Other common forms of emotional violence were threatening to be spanked (83%, $n = 581$), being called bad names such as dumb, lazy or other names (83%, $n = 582$) and being sworn or cursed (44%, $n = 310$). The most frequent types of neglect were that parents were so caught up with problems that they were not able to show love to their children (49%, $n = 342$), parents have been not able to make sure that their children got the food they needed (43%, $n = 299$) and that parent could not make sure that they took their children to the doctor or hospital when needed (41%, $n = 290$). The frequencies of various forms of exposure to physical violence, emotional violence and child neglect are presented in Table 2.1.
Table 2. 1 Student's report of exposure to violence and maltreatment in families

<table>
<thead>
<tr>
<th>How often in the past year have your parents...</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3-5</th>
<th>6-10</th>
<th>11-20</th>
<th>&gt; 20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical violence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... shaken you?</td>
<td>499 (71)</td>
<td>89 (13)</td>
<td>47 (7)</td>
<td>40 (6)</td>
<td>14 (2)</td>
<td>3 (&lt; 1)</td>
<td>6 (1)</td>
</tr>
<tr>
<td>... hit you on the bottom with a belt, a wooden spoon, a stick or some other hard object?</td>
<td>178 (25)</td>
<td>96 (14)</td>
<td>121 (17)</td>
<td>136 (19)</td>
<td>66 (9)</td>
<td>31 (4)</td>
<td>72 (10)</td>
</tr>
<tr>
<td>... slapped you on the hand, arm or leg?</td>
<td>396 (57)</td>
<td>107 (15)</td>
<td>84 (12)</td>
<td>52 (7)</td>
<td>20 (3)</td>
<td>14 (2)</td>
<td>25 (4)</td>
</tr>
<tr>
<td>... slapped you on the face, head or ears?</td>
<td>380 (54)</td>
<td>117 (17)</td>
<td>72 (10)</td>
<td>75 (11)</td>
<td>18 (3)</td>
<td>9 (1)</td>
<td>29 (4)</td>
</tr>
<tr>
<td>... hit you with a fist or kicked you hard?</td>
<td>445 (64)</td>
<td>80 (11)</td>
<td>84 (12)</td>
<td>44 (6)</td>
<td>19 (3)</td>
<td>8 (1)</td>
<td>20 (3)</td>
</tr>
<tr>
<td>... spanked you on the bottom with a bare hand?</td>
<td>480 (69)</td>
<td>71 (10)</td>
<td>68 (10)</td>
<td>44 (6)</td>
<td>16 (2)</td>
<td>7 (1)</td>
<td>14 (2)</td>
</tr>
<tr>
<td>... grabbed you around the neck and choked you?</td>
<td>614 (88)</td>
<td>34 (5)</td>
<td>26 (4)</td>
<td>18 (3)</td>
<td>4 (1)</td>
<td>0 (0)</td>
<td>4 (1)</td>
</tr>
<tr>
<td>... thrown or knocked you down?</td>
<td>577 (82)</td>
<td>62 (9)</td>
<td>40 (6)</td>
<td>13 (2)</td>
<td>3 (&lt; 1)</td>
<td>1 (&lt; 1)</td>
<td>3 (&lt; 1)</td>
</tr>
<tr>
<td>... beaten you up or hit you over and over as hard as they could?</td>
<td>468 (67)</td>
<td>88 (13)</td>
<td>68 (10)</td>
<td>47 (7)</td>
<td>11 (2)</td>
<td>6 (1)</td>
<td>12 (2)</td>
</tr>
<tr>
<td>... pinched you?</td>
<td>322 (46)</td>
<td>80 (11)</td>
<td>90 (13)</td>
<td>88 (13)</td>
<td>39 (6)</td>
<td>31 (4)</td>
<td>50 (7)</td>
</tr>
<tr>
<td>... burned or scalded you on purpose?</td>
<td>666 (95)</td>
<td>13 (2)</td>
<td>12 (2)</td>
<td>5 (1)</td>
<td>1 (&lt; 1)</td>
<td>1 (&lt; 1)</td>
<td>2 (&lt; 1)</td>
</tr>
<tr>
<td>... hit some other parts of your body with a belt, wooden spoon, a stick or some other hard object?</td>
<td>276 (39)</td>
<td>110 (16)</td>
<td>126 (18)</td>
<td>91 (13)</td>
<td>34 (5)</td>
<td>23 (3)</td>
<td>39 (6)</td>
</tr>
<tr>
<td>... threatened you with a knife or gun?</td>
<td>686 (98)</td>
<td>7 (1)</td>
<td>4 (1)</td>
<td>1 (&lt; 1)</td>
<td>2 (&lt; 1)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td><strong>Emotional violence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... shouted, yelled or screamed at you?</td>
<td>77 (11)</td>
<td>80 (11)</td>
<td>115 (16)</td>
<td>163 (23)</td>
<td>113 (16)</td>
<td>42 (6)</td>
<td>110 (16)</td>
</tr>
<tr>
<td>... threatened to spank or hit you but they did not actually do it?</td>
<td>119 (17)</td>
<td>113 (16)</td>
<td>142 (20)</td>
<td>124 (18)</td>
<td>73 (10)</td>
<td>42 (6)</td>
<td>86 (12)</td>
</tr>
<tr>
<td>... called you dumb or lazy or some other names?</td>
<td>118 (17)</td>
<td>126 (18)</td>
<td>138 (20)</td>
<td>151 (22)</td>
<td>65 (9)</td>
<td>29 (4)</td>
<td>73 (10)</td>
</tr>
</tbody>
</table>
### Violence and maltreatment in Tanzanian families

... said they would send you away or kicked you out of the house?

<table>
<thead>
<tr>
<th></th>
<th>579 (83)</th>
<th>51 (7)</th>
<th>33 (5)</th>
<th>18 (3)</th>
<th>10 (1)</th>
<th>4 (1)</th>
<th>5 (1)</th>
</tr>
</thead>
</table>

... sworn or cursed at you?

<table>
<thead>
<tr>
<th></th>
<th>390 (56)</th>
<th>101 (14)</th>
<th>70 (10)</th>
<th>78 (11)</th>
<th>30 (4)</th>
<th>10 (1)</th>
<th>21 (3)</th>
</tr>
</thead>
</table>

### Child neglect

... had to leave you at home alone even when they thought some adult should be with you?

<table>
<thead>
<tr>
<th></th>
<th>448 (64)</th>
<th>70 (10)</th>
<th>70 (10)</th>
<th>75 (11)</th>
<th>22 (3)</th>
<th>8 (1)</th>
<th>7 (1)</th>
</tr>
</thead>
</table>

... been so caught up with problems that they were not able to show or tell you that they love you?

<table>
<thead>
<tr>
<th></th>
<th>358 (51)</th>
<th>60 (9)</th>
<th>100 (14)</th>
<th>75 (11)</th>
<th>31 (4)</th>
<th>24 (3)</th>
<th>52 (7)</th>
</tr>
</thead>
</table>

... been not able to make sure that you got the food you needed?

<table>
<thead>
<tr>
<th></th>
<th>401 (57)</th>
<th>52 (7)</th>
<th>80 (11)</th>
<th>67 (10)</th>
<th>37 (5)</th>
<th>11 (2)</th>
<th>52 (7)</th>
</tr>
</thead>
</table>

... been not able to make sure that you got to a doctor or hospital when you needed it?

<table>
<thead>
<tr>
<th></th>
<th>410 (59)</th>
<th>71 (10)</th>
<th>83 (12)</th>
<th>58 (8)</th>
<th>38 (5)</th>
<th>11 (2)</th>
<th>29 (4)</th>
</tr>
</thead>
</table>

... been so drunk that they had a problem taking care of you?

<table>
<thead>
<tr>
<th></th>
<th>585 (84)</th>
<th>37 (5)</th>
<th>31 (4)</th>
<th>13 (2)</th>
<th>15 (2)</th>
<th>5 (1)</th>
<th>13 (2)</th>
</tr>
</thead>
</table>

Note. N = 700. Percentages might not add up to 100% due to approximation errors: Frequencies (percentage) = n (%)
2.4.2 Parent’s report of child maltreatment in families

Prevalence of violence and maltreatment reported by parents or guardians was very similar to the reports of the students. Only one percent \((n = 4)\) of the parents stated that they have not applied any type of maltreatment towards their children in the past year. In total, 88\% \((n = 293)\) of the parents reported to have applied physical violence, 99\% \((n = 330)\) emotional violence and 83\% \((n = 275)\) of the parents reported to have neglected their children. The most frequent type of physical violence was hitting children at the bottom with a belt, stick or other hard objects \((68\%, n = 225)\). Thirteen percent \((n = 43)\) reported having hit their children on the bottom with a belt, stick or other hard objects more than 10 times in the past year. Other frequent forms of physical violence that were hitting children on some other parts of the body with a belt, wooden spoon, a stick or other hard objects \((62\%, n = 207)\), pinching \((51\%, n = 171)\), slapping children on hands, arm or leg \((46\%, n = 152)\) and slapping children on the face, head or ears \((44\%, n = 148)\).

Emotional violence used by parents or guardians included acts of shouting, yelling or screaming \((93\%, n = 310)\). About 39\% \((n = 130)\) of the parents or guardians reported frequent shouting, yelling or screaming more than 10 times in the past year. In total, 92\% \((n = 308)\) of the parents reported that they have threatened to spank their children. Other common forms of emotional violence were calling their children names such as dumb, lazy or other names \((83\%; n = 278)\) and cursing at their children \((44\%, n = 147)\). Common forms of child were being so caught up with problems that they were not able to show love to their children \((61\%; n = 202)\), having no time to play together with children \((58\%, n = 192)\), being not able to make sure that they provide food to their children when needed \((54\%, n = 179)\) and having no time to ask their children whether they have a problem \((51\%, n = 170)\).

Table 2. 2 indicates the Frequencies of exposure to physical violence, emotional violence and neglect.
Table 2. Parent's report on the application of violence and maltreatment against their children in families

<table>
<thead>
<tr>
<th>How often in the past year have you…</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3-5</th>
<th>6-10</th>
<th>11-20</th>
<th>&gt;20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical violence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... shaken him/her?</td>
<td>242 (73)</td>
<td>37 (11)</td>
<td>32 (10)</td>
<td>10 (3)</td>
<td>6 (2)</td>
<td>3 (1)</td>
<td>3 (1)</td>
</tr>
<tr>
<td>... hit him/her on the bottom with a belt, a wooden spoon, a stick or some other hard object?</td>
<td>108 (32)</td>
<td>31 (9)</td>
<td>58 (17)</td>
<td>63 (19)</td>
<td>32 (10)</td>
<td>25 (8)</td>
<td>16 (5)</td>
</tr>
<tr>
<td>... pinched him/her?</td>
<td>162 (49)</td>
<td>18 (5)</td>
<td>28 (8)</td>
<td>43 (13)</td>
<td>34 (10)</td>
<td>27 (8)</td>
<td>22 (7)</td>
</tr>
<tr>
<td>... hit him/her with a fist or kicked him/her hard?</td>
<td>234 (70)</td>
<td>55 (17)</td>
<td>18 (5)</td>
<td>13 (4)</td>
<td>8 (2)</td>
<td>3 (1)</td>
<td>2 (1)</td>
</tr>
<tr>
<td>... spanked him/her on the bottom with your bare hand?</td>
<td>201 (60)</td>
<td>31 (9)</td>
<td>43 (13)</td>
<td>26 (8)</td>
<td>15 (5)</td>
<td>9 (3)</td>
<td>8 (2)</td>
</tr>
<tr>
<td>... grabbed him/her around the neck and choked him/her?</td>
<td>315 (95)</td>
<td>13 (4)</td>
<td>1 (&lt;1)</td>
<td>3 (1)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>1 (&lt;1)</td>
</tr>
<tr>
<td>... beaten him/her up or hit him/her over and over as hard as you could?</td>
<td>217 (65)</td>
<td>63 (19)</td>
<td>30 (9)</td>
<td>14 (4)</td>
<td>5 (2)</td>
<td>2 (1)</td>
<td>2 (1)</td>
</tr>
<tr>
<td>... burned or scalded him/her on purpose?</td>
<td>327 (98)</td>
<td>3 (1)</td>
<td>0 (0)</td>
<td>3 (1)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>... threatened him/her with a knife or gun?</td>
<td>328 (99)</td>
<td>2 (1)</td>
<td>1 (&lt;1)</td>
<td>0 (0)</td>
<td>1 (&lt;1)</td>
<td>1 (&lt;1)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>... thrown or knocked him/her down?</td>
<td>303 (91)</td>
<td>18 (5)</td>
<td>4 (1)</td>
<td>4 (1)</td>
<td>2 (1)</td>
<td>2 (1)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>... hit some other parts of his/her body with a belt, a wooden spoon, a stick or some other hard object</td>
<td>126 (38)</td>
<td>54 (16)</td>
<td>68 (20)</td>
<td>46 (14)</td>
<td>16 (5)</td>
<td>14 (4)</td>
<td>9 (3)</td>
</tr>
<tr>
<td>... slapped him/her on the hand, arm or leg?</td>
<td>181 (54)</td>
<td>78 (23)</td>
<td>38 (11)</td>
<td>19 (6)</td>
<td>12 (4)</td>
<td>5 (2)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>... slapped him/her on the face, head or ears?</td>
<td>185 (56)</td>
<td>91 (27)</td>
<td>26 (8)</td>
<td>21 (6)</td>
<td>7 (2)</td>
<td>1 (&lt;1)</td>
<td>1 (&lt;1)</td>
</tr>
<tr>
<td><strong>Emotional violence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... shouted, yelled or screamed at him/her?</td>
<td>23 (7)</td>
<td>20 (6)</td>
<td>36 (11)</td>
<td>55 (17)</td>
<td>70 (21)</td>
<td>59 (18)</td>
<td>70 (21)</td>
</tr>
<tr>
<td>... threatened to spank or hit him/her but you did not actually do it?</td>
<td>25 (8)</td>
<td>22 (7)</td>
<td>48 (14)</td>
<td>89 (27)</td>
<td>65 (20)</td>
<td>43 (13)</td>
<td>41 (12)</td>
</tr>
<tr>
<td>... called him/her dumb or lazy or some other names?</td>
<td>55 (17)</td>
<td>28 (8)</td>
<td>73 (22)</td>
<td>83 (25)</td>
<td>49 (15)</td>
<td>26 (8)</td>
<td>19 (6)</td>
</tr>
</tbody>
</table>
Violence and maltreatment in Tanzanian families

<table>
<thead>
<tr>
<th>Question</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>... said you would send him/her away or kicked him/her out of the house?</td>
<td>266 (80)</td>
<td>26 (8)</td>
</tr>
<tr>
<td>... sworn or cursed at him/her?</td>
<td>186 (56)</td>
<td>43 (13)</td>
</tr>
</tbody>
</table>

**Child neglect**

<table>
<thead>
<tr>
<th>Question</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>... had to leave him/her at home alone even when you thought some adult should be with him/her?</td>
<td>173 (52)</td>
<td>32 (10)</td>
</tr>
<tr>
<td>... you were caught up with problems that, you were not able to show or tell him/her that you love him/her?</td>
<td>131 (39)</td>
<td>46 (14)</td>
</tr>
<tr>
<td>... been not able to make sure that, he/she got the food he/she needed?</td>
<td>154 (46)</td>
<td>43 (13)</td>
</tr>
<tr>
<td>... been not able to make sure that, he/she got to a doctor or hospital when he/she needed it?</td>
<td>185 (56)</td>
<td>36 (11)</td>
</tr>
<tr>
<td>... been so drunk that they had a problem taking care of you?</td>
<td>260 (78)</td>
<td>24 (7)</td>
</tr>
</tbody>
</table>

Note. N = 333. Percentages might not add up to 100% due to approximation errors: Frequencies (percentage) = n (%)
2.4.3 Associations between parental and familial risk factors, parental stress, and maltreatment

As indicated in Table 2.3, maltreatment by parents was only associated with parental stress and female parental sex. Parental stress was significantly correlated with parent’s female sex, the number of own children, the number of people living in the household, lower household income and the unpredictability of income.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Maltreatment by parents</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Parental stress</td>
<td>.29***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Parent’s gender</td>
<td>-.14**</td>
<td>-.14**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Number of children</td>
<td>.05</td>
<td>.16**</td>
<td>.21**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. People in household</td>
<td>.11*</td>
<td>.17**</td>
<td>.18***</td>
<td>.58***</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Family income</td>
<td>-.07</td>
<td>-.13*</td>
<td>.05</td>
<td>.08</td>
<td>-.03</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7. Unpredictability of income</td>
<td>.09</td>
<td>.20***</td>
<td>-.19***</td>
<td>-.01</td>
<td>-.01</td>
<td>-.49***</td>
<td>1</td>
</tr>
</tbody>
</table>

Note. N = 333: Correlation coefficient: Pearson’s r; *p ≤ .05, **p ≤ .01, ***p ≤ .001

In our path model, we tested the hypothesis that parental and familial risk factors contribute to a higher level of parental stress, which in turn contributes to a higher level of maltreatment by parents. Our model indicated good model fit ($\chi^2[5, n = 333] = 7.38, p = .194$; RMSEA = .038 [90%-CI < .001–.091, PClose = .574]; CFI = 0.99; AIC = 67.38). As indicated in Table 2.4 and Figure 2.1, all included parental and familial risk factors, except low family income, were significantly correlated with parental stress and parental stress in turn predicted maltreatment by parents. All other models showed worse model fit. For example, also the model that tested the direct associations of the parental and familial risk factors and parental stress on maltreatment ($\chi^2[1, n = 333] = 5.60, p = .018$; RMSEA = .118 [90%-CI < .039–.220, PClose = .071]; CFI = 0.985; AIC = 73.60).
Table 2. Maximum likelihood estimates of the path model

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>SE of B</th>
<th>β</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maltreatment by parents a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent’s stress level</td>
<td>2.62</td>
<td>0.48</td>
<td>.29</td>
<td>5.51***</td>
</tr>
<tr>
<td>Parent’s stress level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-1.43</td>
<td>0.48</td>
<td>-.16</td>
<td>-2.95**</td>
</tr>
<tr>
<td>Number of children d</td>
<td>0.24</td>
<td>0.11</td>
<td>.14</td>
<td>2.08*</td>
</tr>
<tr>
<td>People in household</td>
<td>0.19</td>
<td>0.11</td>
<td>.11</td>
<td>1.76*</td>
</tr>
<tr>
<td>Family income</td>
<td>-0.40</td>
<td>0.47</td>
<td>-.05</td>
<td>-0.86</td>
</tr>
<tr>
<td>Unpredictability of income</td>
<td>0.78</td>
<td>0.32</td>
<td>.15</td>
<td>2.43**</td>
</tr>
<tr>
<td>Covariances</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender &lt;--&gt; Number of children</td>
<td>0.27</td>
<td>0.07</td>
<td>.21</td>
<td>3.82***</td>
</tr>
<tr>
<td>Gender &lt;--&gt; People in household</td>
<td>0.24</td>
<td>0.08</td>
<td>.18</td>
<td>3.17**</td>
</tr>
<tr>
<td>Gender &lt;--&gt; Family income</td>
<td>0.02</td>
<td>0.02</td>
<td>.05</td>
<td>0.96</td>
</tr>
<tr>
<td>Gender &lt;--&gt; Unpredictability of income</td>
<td>-0.08</td>
<td>0.02</td>
<td>-.19</td>
<td>-3.32***</td>
</tr>
<tr>
<td>Number of children &lt;--&gt; People in household</td>
<td>4.02</td>
<td>0.44</td>
<td>.58</td>
<td>9.18***</td>
</tr>
<tr>
<td>Number of children &lt;--&gt; Family income</td>
<td>0.11</td>
<td>0.08</td>
<td>.08</td>
<td>1.38</td>
</tr>
<tr>
<td>Number of children &lt;--&gt; Unpredictability of income</td>
<td>-0.01</td>
<td>0.12</td>
<td>-.01</td>
<td>-0.05</td>
</tr>
<tr>
<td>People in household &lt;--&gt; Family income</td>
<td>-0.04</td>
<td>0.09</td>
<td>-.03</td>
<td>-0.47</td>
</tr>
<tr>
<td>Family income &lt;--&gt; Unpredictability of income</td>
<td>-0.24</td>
<td>0.03</td>
<td>-.49</td>
<td>-7.98***</td>
</tr>
</tbody>
</table>

Notes: B: unstandardized regression weight; SE: standard error; β: standardized regression weight; CR: critical ratio; *p ≤ .05. **p ≤ .01. ***p ≤ .001.
Path model (N = 333) testing the hypothesis that parental and familial risk factors contribute to a higher level of parental stress, which in turn contributes to a higher level of maltreatment by parents. The model indicated good model fit ($\chi^2[5, n = 333] = 7.38, p = .194$; $RMSEA = .038 [90\%-CI < .001−.091, PClose = .574]$; $CFI = 0.99$; $AIC = 67.38$). Standardized regression weights are depicted; all continuous lines are significant beyond .05, dashed lines indicate that the relationship is not significant. Error variables and covariance estimates are omitted for clarity. For more details see also Table 2.4.

Figure 2.1 Path model testing the correlation between familial risk factors, parental stress and child maltreatment
2.5 Discussion
2.5.1 Violence and maltreatment in Tanzanian families

Unlike the previous studies in Tanzania, our findings are based on a large, nationwide, representative sample and our study followed a rigorous and a priori determined sampling approach. To our knowledge, this is the first research study that systematically investigated the prevalence of different types of maltreatment in Tanzanian families. The fact that only 2% of the students reported not having experienced any type of violence or maltreatment in the past year and only 1% of the parents reported not having applied any type of violence or maltreatment in the past year, underline previous findings regarding the high prevalence of family violence and maltreatment in Tanzania. In this study, we found this high prevalence for different types of maltreatment, i.e., physical violence, emotional violence and neglect. For example, 94% of the participating students and 88% of the participating parents reported physical violence at least once in the past year. Furthermore, 98% of the students and 99% of the parents or guardians stated experiences or application of emotional violence at least once in the past year. Frequently reported reasons by parents and guardians were that violent forms of behavioral management approaches helped parents to save time and to immediately stop misbehavior or that it is impossible to teach children good behavior without a stick.

Furthermore, we found high levels of neglect in the current study reported by both parents (83%) and students (76%) in the past year. Previous studies that investigated the prevalence of neglect in Tanzania and elsewhere in Sub-Saharan Africa studied it mainly in at-risk groups, e.g. in orphans and other vulnerable children (Hermenau, Eggert, et al., 2015; Lekule, 2014; Morantz, Cole, Vreeman, et al., 2013). The high prevalence of neglect in our study — that focused on adolescent that were living mainly in families together with their parents or guardians — suggests that not only orphans or other vulnerable children may experience some form of neglect but that it is also common in Tanzanian families. These findings are consistent with other studies in Sub-Saharan Africa (Morantz, Cole, Vreeman, et al., 2013; Morantz, Cole, Ayaya, et al., 2013; Oburu & Palmérus, 2003). However, it is important to note that neglect may occur for a variety of reasons and parents or guardians often do not intend to endanger the children but rather do not have the necessary resources, do not recognize the potential danger, or suffer from stress burden (Dubowitz & Bennett, 2007). This needs to be considered particularly in low-resource countries, such as in most countries in Sub-Saharan Africa. Furthermore, it should be noted that the consequences of neglect for health, well-being and functioning are most serious when it occurs in early childhood (Hildyard & Wolfe, 2002). Though serious forms of neglect, particularly of physical neglect such as not providing enough food,
adequate clothes, or access to medical care, also occurs in adolescence, the differentiation between emotional neglect and a feeling of not being understood as a result of physical and emotional changes due to puberty may be difficult at times.

In sum, our current findings indicate high prevalence rates of different types of maltreatment and are in concordance with previous studies and reports in Sub-Saharan Africa (GIEACPC, 2015; 2016a; Straus, 2010; UNICEF, 2014). Generally, our current data from both adolescents and parents provide insights from two perspectives with a similar direction of findings. This multi-informant approach strengthens the reliability of our findings. Furthermore, our findings from a nationally representative sample further supports previous findings mainly from NGO reports, non-representative or at-risk samples and indicate that the application of violent discipline in managing children's behaviors is not an exception but the norm in Tanzanian families. Our findings also align with the notion that many parents and guardians in Tanzania believe that violent discipline strategies do not harm the children (Hecker, Hermenau, et al., 2016). As a consequence, the population at large and particularly parents need to be informed about the potentially adverse consequences for children associated with different types of child maltreatment, e.g. mental health problems, aggressive behavior or impaired cognitive functioning (Gershoff, 2010, 2013).

2.5.2 Associations between child maltreatment, parental stress and family risk factors

In our study, we also examined the association between child maltreatment by parents and parental stress, as well as between parental stress and parental and familial risk factors. Consistent with our hypothesis, we found a significant correlation between maltreatment by parents and parental stress. Moreover, parental stress correlated with a number of parental and familial risk factors, such as female parental sex, number of children, number of people in families, and unpredictability of income. These findings imply that various parental and familial risk factors increase the level of parental stress, which is in turn associated with violent discipline and maltreatment in Tanzanian families. These findings are in line with the scientific literature on the link between parental stress and parental and familial risk factors (Clément & Chamberland, 2009; Tracy, 2014) and the fact that stressed parents are more likely to act violently towards their children (Catani et al., 2008; Sriskandarajah et al., 2015). This is also in concordance with other studies conducted in both high- and low-income countries (Lansford et al., 2014, 2015).
2.5.3 Implications and future research
Our findings underline the need to design and implement interventions that prevent children from experiencing violence at home. Reducing parental stress levels or helping parents to deal with stressful situations may be a starting point for intervention. While our study provides the first empirical evidence from a nationwide representative sample of secondary school students concerning the prevalence of violence and maltreatment in Tanzanian families, future studies that replicate our findings and examine the consequences of violence and maltreatment for the affected children are highly important. Furthermore, it remains unclear whether similar findings would be reported in a sample of younger children, e.g. in pre- and primary school age. However, studies including primary school students indicated similar prevalence rates in non-representative samples (Hecker et al., 2014). Nevertheless, large-scale longitudinal and prospective studies will be helpful to understand the interaction between exposure to maltreatment as a child and application of violence and maltreatment as a parent.

2.5.4 Limitations
Beside the strength of the study (e.g., nationwide representative sample, multi-informant approach), there are some limitations that should be noted: the cross-sectional study design does not allow for the establishment of causality. Cultural bias might have influenced the findings, as questions might not always reflect typical life realities of a Tanzanian child. However, the study was designed and implemented by a Tanzanian researcher and research assistants exclusively coming from the same cultural background as the participants administered the questionnaires. This facilitated the understanding and disclosure on sensitive topics. The applicability of the instruments is further supported by the fact that our results were consistent with previous findings in Tanzania and Sub-Saharan Africa in general.

Although information from both children and parents or guardians was targeted, only little more than half of the parents or guardians of the participating students were willing and able to participate themselves. While this study provides detailed information about the prevalence of violence and maltreatment for students of governmental secondary schools, further research is needed to investigate adolescents in other school forms (e.g. private schools) or who dropped out of school at an earlier stage. Neglect is often assessed in younger children. As a consequence, the assessment of neglect may be biased by the age of participants (puberty). This may be particularly the case for emotional neglect. Therefore, the findings on neglect should be interpreted with additional consideration. A recent study by Hecker, Radtke, Hermenau, Papassotiropoulos, and Elbert (2016) support that children are capable of
communicating their maltreatment experiences. Generally, children and parents shared openly their experiences and feelings about violence and maltreatment, however, potential biases, such as social desirability, cannot be ruled out for subjective reports.

2.6 Conclusions
The present study suggests that physical and emotional violence as well as neglect are highly prevalent in Tanzanian families. Given the high rates of violence and maltreatment, our findings emphasize the need to inform the population at large about the potentially adverse consequences for children associated with different types of child maltreatment. There is also a need to design and implement interventions that prevent children from experiencing violence at home. Reducing parents’ stress levels may be a starting point for intervention. Yet, due to the high levels of violent discipline, societal beliefs need also to be considered.

2.7 Acknowledgements
We are grateful to all children and parents who participated in this study. We also wish to thank all head of schools and the school counselors for their support during data collection for this study. We are also grateful to our research team, including: Getrude Mkinga, Andrew Mtitu, Gloria Mushi, Suzan Ngahyoma, Moyo Osiah Mwaihola, Rehema Mdoe, Simeon Mgode, Sophia Backhaus and Katharina Zepf. In a special way, we are grateful to Thomas Elbert for his support and supervision throughout the project.
3 Mental health and its association to violence and maltreatment in a nationally representative sample of Tanzanian secondary school students

3.1 Abstract
Little is known about the prevalence of mental health problems among adolescents in Sub-Saharan Africa. Research stems mainly from the United State and Europe and consistently determined violence and maltreatment to be important risk factors. In this study, we examined the prevalence of mental health problems among adolescents in Tanzania, as well as the association with exposure to violence and maltreatment. We administered a set of questionnaires (e.g., Strength and Difficulties Questionnaire; Conflict Tactic Scale) to a nationally representative sample of 700 Tanzanian secondary school children (52% girls; age: 14.92 years, SD = 1.02, range: 12–17) and 333 parents or primary caregivers (53% females; age: 43.47 years, SD = 9.02, range: 19-71). Forty-one percent of the students reported an elevated level of mental health problems (emotional problems: 40%, peer problems: 63%, conduct problems: 45%, hyperactivity: 17%) in the past six months. Concordantly, 31% of parents reported observing an elevated level of mental health problems in their children (emotional problems: 37%, peer problems: 54%, conduct problems: 35%, hyperactivity: 17%). After controlling for other risk factors, we found significant associations between physical violence by parents and adolescent’s mental health problems reported by student’s ($\beta = .15$) and their parents ($\beta = .33$). Our findings suggest a high prevalence of mental health problems among secondary school students in Tanzania as well as an association between physical violence by parents and adolescents’ mental health problems. Our findings emphasize the need to inform the population at large about the potentially adverse consequences associated with violence against children and adolescents.

Keywords: mental health, violence, prevalence, Sub-Saharan Africa
3.2 Background
3.2.1 Mental health problems among children and adolescents in low-income countries
Mental health problems are the leading cause of behavioral adjustment difficulties among children worldwide (Ferguson, 2013; Steel et al., 2014; United Nations, 2014). The World Health Organization explains that mental health problems can result in a child being unable to successfully perform mental functions, possibly resulting in reduced productivity, reduced success in developing fulfilling relationships with others, and an inability to change or cope with adversity (World Health Organization, 2001, 2004). The symptoms of mental health problems can culminate in depression, anxiety disorders, attention deficit hyperactivity, mood disturbances, or aggressiveness (World Health Organization, 2005, 2012). Approximately 10 to 20 per cent of the world’s children and adolescents experience mental health problems each year (Crocetti et al., 2015; World Health Organization, 2013). However, most of the findings on the prevalence of child mental health problems have been reported for high-income countries (e.g., Durrant & Ensom, 2012; Gilbert et al., 2009; Savina, Coulacoglou, Sanyal, & Zhang, 2012).

The few cross-cultural studies available indicate that mental health problems in children across low- and middle-income countries are prevalent. For example, a study by Patel et al (2007) indicated that mental health problems were common in 27% of minors in Brazil, 21% in the US, 18% in Ethiopia, 15% in South Africa and, 8% in Netherlands. A meta-analysis by Kieling et al (2011) reported mental health problems in children to range between 10% and 20% in the US, Brazil, and Mauritius. From Sub-Saharan Africa, a meta-analysis of ten studies with a sample of 9713 children from Nigeria, Ethiopia, Uganda, the Democratic Republic of Congo, and Kenya indicated that one in seven children and adolescents reported significant mental health difficulties, with one in ten children having a specific psychiatric disorder (Cortina, Sodha, Fazel and Ramchandani, 2012). A study by Ndetei et al (2008) among 3775 students from public secondary schools in Kenya reported significant prevalence rates of anxiety disorders (13%) and depression (44%). Furthermore, Kinyanda, Kizza, Abbo, Ndyanabangi, and Levin (2013) reported a prevalence of depressive disorders of about 9% in sampled children and adolescents in Uganda.

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school children. Studies from secondary school children (e.g., Semali & Vumilia, 2016; Yaghambe & Tshabangu, 2013) also indicated prevalence of delinquent behavior, aggression and, conduct problems. However, these findings are based on at-risk or non-representative samples, and there is to date no nationally representative prevalence data of mental health problems of children available.

3.2.2 Risk factors for mental health problems of children and adolescents
Research findings worldwide have linked mental health problems in children and adolescents with different risk factors inside and outside the family (Harden et al., 2010; Infurna et al., 2016; Menesini & Salmivalli, 2017; Neece, Green, & Baker, 2012; Saputra, Yunibhand, & Sukratul, 2017; Tracy, Zimmerman, Galea, McCauley, & Stoep, 2008). However, a large body of literature, mostly from high income countries, indicated maltreatment by parents or caregivers as one of the main predictors of mental health problems in children (Gould et al., 2012; Herrenkohl, Klika, & Russo, 2013; Norman et al., 2012). Studies emphasized that elements of maltreatment and violence, such as physical violence, emotional violence, or neglect, are associated with aggression, delinquent behavior, conduct disorder, anxiety disorders, depression, reduced self-esteem, and suicidal ideation (Durrant & Ensom, 2012; Holden, Hawk, Smith, Singh, & Ashraf, 2017; Larzelere, Cox, & Smith, 2010; Young & Widom, 2014). For example, early physical violence in children was highly associated with externalizing behavior outcomes both in toddlerhood and in later ages (Lansford, Sexton, Davis-Kean, & Sameroff, 2012; Mulvaney & Mebert, 2007). Furthermore, Weaver, Borkowski, and Whitman (2008) added that experiencing physical violence by age 10 predicted violent behavior and delinquency in adolescence ages. In Sub-Saharan Africa, studies from Burkina Faso (Ismayilova, Gaveras, Blum, To-Camier, and Nanema, 2016) and from Uganda (Kinyanda et al., 2013) found a significant relation between mental health problems (e.g., suicide tendencies, anxiety disorders, eating disorders, depressive disorders, and lowered self-esteem) and parental violence in school-aged children. Furthermore, physical violence by parents has been associated with mental health problems among children in Ethiopia, the Democratic Republic of Congo, Uganda, Cameroon and Tanzania (Ashenafi et al., 2001; UNICEF, 2014).

In Tanzania, studies by Hermenau et al (2011, 2014) reported that physical and emotional violence in orphaned children was associated with mental ill-health and aggressive behavior problems. Moreover, Hecker et al (2014, 2016) reported strong associations between harsh discipline, internalizing problems and externalizing problems in school children. Furthermore, Hermenau, Eggert, et al (2015) reported positive relationships between neglect and depression
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among orphaned children. However, all these findings are based on at-risk samples or non-representative samples. In sum, a number of studies in both high- and low-income countries provide evidence for the strong association between the exposure to violence and maltreatment with mental health problems among children.

Nonetheless, there is no doubt that also many other factors contribute to the development of mental health problems in children, including biological factors (e.g., genetic, epigenetic), familial factors (e.g., attachment style) or social factors (influences of peers or of the school). For example, peer violence (e.g., bullying) is said to have strong associations with different mental health problems (e.g., feelings of sadness, hopelessness and suicidal ideation) in minors (Menesini & Salmivalli, 2017; Wareham & Boots, 2012). Moreover, children’s age and gender seem also to contribute to the degree of mental health problems in minors (Pankhurst, Negussie, & Mulugete, 2016; Wu, Abdullah, & Mofrad, 2012). Also, parental age and gender are reported in different studies to be associated with behavior problems in children (Hultman, Sandin, Levine, Lichtenstein, & Reichenberg, 2011; Tearne et al., 2016). Furthermore, other studies reported strong associations between parental stress, household income, and other familial factors to mental health problems of children (e.g., Neece et al., 2012; Saputra et al., 2017; Tracy, Zimmerman, Galea, McCauley, & Stoep, 2008).

3.2.3 Objectives

Little is known about the prevalence of mental health problems among adolescents in Sub-Saharan Africa, because many studies so far either used at-risk or non-representative samples. In this study, we assessed Tanzanian secondary school students and their parents in a nationally representative sample. Our first aim was to examine the prevalence of mental health problems of secondary school students in Tanzania. Based on the previous findings from at-risk (Hermenau et al., 2011; 2014) and non-representative samples (Hecker et al 2014; Hecker, Hermenau, et al., 2016), we expected a high prevalence of mental health problems (i.e., conduct problems, hyperactivity, emotional symptoms, peer problems) among Tanzanian secondary school students.

We already know that violence and maltreatment against children is highly prevalent in Sub-Saharan Africa (GIEACPC, 2015, 2016; UNICEF, 2014) and particularly in Tanzania (Hecker et al., 2014; UNICEF, 2011; Nkuba, Hermenau, & Hecker, 2017.). While the consequences of violence and maltreatment have been repeatedly demonstrated, these findings come mainly from high-income countries (Gilbert et al., 2009; Norman et al., 2012). Less is known about this association in low-income countries. Therefore, our second aim was to investigate the
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association between violence and maltreatment by parents (physical violence, emotional violence, and neglect) and mental health problems of adolescents. We hypothesized that physical violence, emotional violence, and neglect by parents would be associated with adolescents’ mental health problems. We controlled for other potential influential factors, including personal factors (i.e., students’ and parents’ age and gender, parental stress), family factors (whether parents are alive or not, household income), and violence outside of the family (i.e., peer violence, violence by teachers).

3.3 Methods
3.3.1 Design and sampling
The study included six (of 25) regions in Tanzania (i.e., excluding the partly autonomic Islands of Zanzibar due to limited comparability of cultural, educational, and political background and systems). Five regions were selected randomly. Additionally, the largest city of the country, Dar es Salaam, was intentionally selected due to its unique population characteristics and its large contribution to the total number of secondary school students in Tanzania (United Republic of Tanzania, 2014). In each region one mixed-day secondary school from the regional capital was randomly selected. Similarly, one rural district was randomly selected from which a single mixed-day secondary school was also randomly selected. In Dar es Salaam, one of the cities’ municipals was randomly chosen, from which one mixed-day secondary school was selected at random. We targeted mixed-day schools to include both girls and boys who have daily interactions with their families. Within each selected school, 120 students in the 8th and 9th year of formal schooling were stratified by gender and then randomly selected. According to Basic Education Statistics in Tanzania (United Republic of Tanzania, 2014) there are 1,804,056 secondary school children in Tanzania of which 939,191 (52%) are boys. The majority of these students (83%) are between 14 and 18 years old.

3.3.2 Procedure
Prior to data collection, ethical approval was obtained from the Ethical Review Board of the University of Konstanz, Germany and the University of Dar es Salaam, Tanzania. In-country research permits were granted by Tanzanian government offices at the regional level for each of the six regions (Dar es Salaam, Arusha, Kagera, Kigoma, Iringa and Lindi). Thereafter, research clearance to visit schools was obtained from each regional District Education Officer. Data collection was performed by a Tanzanian researcher with support of pedagogically and psychologically educated interview assistants who were trained for one week in data collection.
skills and supervised questionnaire administration prior to investigations. The entire research project included inquiries of students, parents, and teachers from each school. At each school, the study objectives were explained by the project leader to all school members at the beginning of the data collection week. A letter explaining the study’s aims and procedures was sent together with an informed consent form to the parents or caregivers of all randomly selected students to seek parental consent. In total, we sent 1,320 informed consent forms to parents and caregivers, and 830 (63%) of the forms were returned. At each school, at least 60 students, whose parents or caregivers provided consent and were able to provide documented assent, were included in the study, resulting in a total sample of 700 students. Students signed also an informed consent form for themselves. They filled out questionnaires in groups of 3 to 5 on the school grounds under close supervision of a research assistant. The completion of questionnaires took an average of 45 minutes. The parents were contacted through letters and phone calls. Of the 700 parents contacted in all schools, 333 (48%) parents were willing and able to participate. Parents were invited to come to the respective schools on weekend days during data collection week. They were asked to sign an informed consent document and each parent filled out the questionnaire in a one-on-one interview setting within an average completion time of 30 minutes. A compensation of approximately three USD was given to each attending parent. Whenever necessary, psychological support was offered to participants.

3.3.3 Participants
A total sample of 700 students (52% girls) participated in the study, with a mean age of 14.92 years ($SD = 1.02$, range: 12–17). Exact one half of the students were in 8th year of schooling and the other in the 9th year. About 79% ($n = 556$) reported that both their parents were alive, 17% ($n = 120$) that one parent was alive and 4% ($n = 24$) had lost both parents. In total, 54% ($n = 376$) of the students lived with both parents, 28% ($n = 197$) with one parent, 18% ($n = 124$) with other relatives and/or in other facilities. The 333 participating parents or primary caregivers (53% females) had an average age of 43.47 years ($SD = 9.02$, range 19-71) and a mean of 7.69 years ($SD = 2.66$) of formal education. Parent or caregiver types of employment ranged from formal 13% ($n = 42$), non-formal but reliable 33% ($n = 110$), non-formal and unreliable 44% ($n = 146$) to no employment 10% ($n = 35$). In total, 65% ($n = 215$) reported a low monthly household income (below 100 USD), 32% ($n = 107$) middle monthly household income (between 100 to 500 USD) and 3% ($n = 11$) a high monthly household income (600 USD and above). The majority of parents reported a low monthly household income pursuant to the government
analysis of monthly household income for Tanzanian families which was around 25 USD as per year 2001 to 2007 (United Republic of Tanzania-Repoa, 2009).

3.3.4 Measures
Questionnaires were administered in Swahili language. Following established international guidelines (Brislin, Lonner & Thorndike, 1973) all instruments were translated into Swahili and back translated to English in a blind written form. Parents answered the questions regarding their participating child, whereas students answered for themselves. The first part of the questionnaire gathered demographic information such as age, gender, and living conditions of students and parents, respectively.

Exposure to violence. Students’ experiences of violent punishment both at home and at school in the year preceding the investigation were assessed with items from the parent-child version of the Conflict Tactics Scale (CTSPC; Straus, Hamby, Finkelhor, Moore, & Runyan, 1998) which were filled out by both students and parents. The original scale designed for children and their parents consists of 30 items covering four types of disciplining behaviors: 1) physical violence, 2) emotional violence, 3) neglect, and 4) nonviolent discipline. For the purpose of the present study, participating students completed this questionnaire twice: first referring to the disciplining strategies and neglect they experienced from their parents or caregivers (categories 1), 2), and 3) of the CTSPC), and second referring to the disciplining strategies by teachers (categories 1) and 2) of the CTSPC). Parents filled out the categories 1), 2), and 3) in respect to disciplining strategies they apply to their participating child. The items of the scales are rated on seven answer categories from “never” (0) to “more than 20 times” (25) and are then summed up to one score per sub-scale (Straus et al., 1998) resulting in sum scores ranging from 0 to 325 for physical violence, to 125 for emotional violence, and from 200 for neglect. The CTSPC comes with low to moderate psychometric properties for the two subscales of interest, indicating Cronbach’s alpha coefficients of $\alpha = .55$ for physical violence and $\alpha = .60$ for emotional violence and the mangling alpha reliability can be explained by the fact that the items of the scale measure rather rare events, and that the correlation between items, which is the basis of alpha, are low due to extreme skewness (Straus et al., 1998). Nonetheless, CTSPC has been used worldwide and its validity has been underscored by numerous studies (e.g., Straus, 2007). Furthermore, the students’ sample of our study showed moderate to good alpha coefficients regarding violence by primary caregivers, with $\alpha = .77$ for physical violence, $\alpha = .64$ for emotional violence, and $\alpha = .63$ for neglect. The reliability coefficients regarding violence by
teachers were equally acceptable, with $\alpha = .70$ for physical violence and $\alpha = .66$ for emotional violence. The parents’ sample also showed an acceptable Cronbach’s alpha coefficients for the CTSPC subscales with $\alpha = .66$ for physical violence, $\alpha = .63$ for emotional violence, and $\alpha = .68$ for child neglect.

In addition, we assessed peer violence using three items of the Maltreatment and Abuse Chronology of Exposure (MACE-20-I; Teicher & Parigger, 2015). The items in this sections were: Has any peer in your whole life ever … (1) “called you names or said hurtful things more than a few times a year?”, …(2) “said things behind your back, posted derogatory messages about you, or spread rumors about you?”, …(3) “hit you so hard or intentionally harmed you in such a way that you were injured?” These items were answered in two categories which are Yes (1) or No (0).

**Adolescents’ mental health.** Adolescents’ mental health problems were assessed using the Strengths and Difficulties Questionnaire (SDQ; Goodman, Meltzer, & Bailey, 1998) for parents and the SDQ self-report version for children. The SDQ consists of five subscales (conduct problems, hyperactivity, emotional symptoms, peer problems, and prosocial behavior) of five items each, which are answered in three categories from “not true” (scoring 0), “somehow true” (1) to “certainly true” (2). The sum of all items except the ones from the prosocial behaviour subscale represents a total difficulty score (SDQ score; range 0 – 40). Values of 17 or higher on the SDQ score indicate severely elevated levels of mental health problems (Goodman, 2001). Cut-off values for the four subscales of interest can be found in Table 2. Reversed statements were recorded prior to computing subscales. The SDQ comes with good psychometric properties (SDQ score: $\alpha = .83$) and has been repeatedly used in different countries (Goodman, 2001), including Tanzania (Hermenau et al., 2011; Hermenau et al., 2015). Reliability coefficient in the present children sample was $\alpha = .76$ and $\alpha = .57$ in the parents’ sample. The heterogeneity of the total score in this parents’ sample may explain the low to moderate level of Cronbach’s Alpha coefficient.

### 3.3.5 Data analysis

To test the hypothesis that violence and neglect by parents are associated with mental health problems among adolescents, hierarchical multiple regression analysis was carried out. Age, gender, and whether parents were alive or not predicted the SDQ score in the first model (step 1). Then peer violence (step 2), and physical and emotional violence by teachers (step 3), and
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finally physical violence, emotional violence, and neglect by parents were added to the model (step 4). To replicate the findings of the students’ self-reports, we tested our hypothesis by using the data of the reports of the parents. Again, a hierarchical multiple regression was carried out. Parents’ age, gender, and household income predicted the SDQ score in the first model (step 1). Then parental stress (step 2), and finally physical violence, emotional violence, and neglect (step 3) were added to the model.

Preliminary analyses confirmed the tenability of all assumptions for linear regression models. Students sample (N = 700) was an appropriate sample size for a regression model with nine predictor variables and the parents’ sample size (N = 333) was appropriate for a regression model with seven predictor variables (Tabachnick & Fidell, 2014). Missing values made up 0.07% (n = 26) of the children’s data and 0.01% (n = 2) of the parents’ data, and were deleted listwise. The assumption of normal distribution of the residuals of the dependent variable (Skewness (S) < |2|, Kurtosis (K) < |7| following West, Finch, and Curran, 1995) could be upheld in both samples (students: S = -.12, K = -.11; parents: S = .35, K = .40). Multicollinearity between predictor variables could be ruled out, as their intercorrelations did not exceed the critical value of .80 in both children and parents (Tabachnick & Fidell, 2014). No outliers were detected (Cook’s distance: 0.0 – 0.03). Linearity, homoscedasticity, and independence of residuals were tenable (Durbin-Watson: 1.77 for students and 1.74 for parents). Effect sizes were calculated using Cohen’s $\hat{r}$, with $\hat{r} \geq .02$ indicating a small effect, $\hat{r} \geq .15$ a medium effect, and $\hat{r} \geq .35$ a large effect. Analyses were performed with IBM SPSS Statistics Version 23. Level of significance was set to an alpha of .05 and analyses were calculated one-tailed in case of directional hypotheses.

3.4 Results
3.4.1 Descriptive results
Table 3.1 displays children and parents’ descriptive statistics. These include age, gender, whether parents were still alive or not’, parental stress, and monthly household income.
Table 3.1 Descriptive statistics of personal and family factors and maltreatment types

<table>
<thead>
<tr>
<th></th>
<th>Students’ Self-Report (N = 700)</th>
<th>Report of Parents (N = 333)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M or n</td>
<td>SD or %</td>
</tr>
<tr>
<td>Age</td>
<td>14.92</td>
<td>1.02</td>
</tr>
<tr>
<td>Gender (Male)</td>
<td>335</td>
<td>48</td>
</tr>
<tr>
<td>Both parents alive</td>
<td>556</td>
<td>79</td>
</tr>
<tr>
<td>Peer violence (at least once in lifetime)</td>
<td>449</td>
<td>64</td>
</tr>
<tr>
<td>Emotional violence by teachers</td>
<td>20.46</td>
<td>21.16</td>
</tr>
<tr>
<td>Physical violence by teachers</td>
<td>31.24</td>
<td>30.82</td>
</tr>
<tr>
<td>Physical violence by parents</td>
<td>23.10</td>
<td>30.39</td>
</tr>
<tr>
<td>Neglect by parents</td>
<td>11.48</td>
<td>15.05</td>
</tr>
<tr>
<td>Parental stress</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Household income per month (&lt; 100 US $)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Note. M = mean; SD = standard deviation; N = total number of respondents; % = percentage; n = number of responses in a particular category

Table 3.2 displays the prevalence of mental health problems of both students’ self-report and the reports of their parents. Forty-one percent (n = 276) of children reported elevated levels of mental health problems in the past six months.

Moreover, 31% (n = 103) of parents reported elevated levels of mental health problems of their children. Considering the SDQ subscores, which captured different aspects of mental health problems in children, it was shown that peer problems were highly prevalent with 63% of the children reporting elevated levels (54% reported by their parents), emotional symptoms was at a rate of 40% of children (37% reported by their parents), conduct problems at 45% of children (35% reported by parents) and hyperactivity was reported by 17% of the children (17% reported by parents) for the past six months.
Table 3. 2 Prevalence of students’ mental health problems (SDQ) reported by students and parents

<table>
<thead>
<tr>
<th>Score or subscale</th>
<th>Cut-off&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Students’ self-report&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Report of parents&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDQ Total difficulties score</td>
<td>≥ 17</td>
<td>40.8%</td>
<td>31.2%</td>
</tr>
<tr>
<td>Conduct problems</td>
<td>≥ 4</td>
<td>45.0%</td>
<td>34.5%</td>
</tr>
<tr>
<td>Hyperactivity</td>
<td>≥ 6</td>
<td>16.7%</td>
<td>16.5%</td>
</tr>
<tr>
<td>Emotional symptoms</td>
<td>≥ 6</td>
<td>39.6%</td>
<td>36.6%</td>
</tr>
<tr>
<td>Peer problems</td>
<td>≥ 3</td>
<td>63.0%</td>
<td>53.8%</td>
</tr>
</tbody>
</table>

<sup>Note.</sup> Total number of students reported (N) = 676; total number of parents reported (N) = 333; SDQ = Strengths and Difficulties Questionnaire; M = mean; SD = standard deviation.

<sup>a</sup>Cut-off value for clinically relevant mental health problems according to Goodman (2001).

<sup>b</sup>Percentages of students (reported by students themselves and parents, respectively) with values above the cut-off point.

3.4.2 Association between exposure to violence and maltreatment and mental health problems

**Students’ self-reports.** The first step of the regression analysis showed that children’s demographic variables age, gender, and whether their parents were still alive or not (step 1) were significantly related to students’ self-reported mental health, adj. \( R^2 = .05, \) SE = 5.24, \( F(3, 656) = 13.38, p < .001, \) \( f^2 = .06. \) Adding peer violence (step 2) improved the model further, \( \Delta R^2 = .06, \) \( F(1, 655) = 20.30, p < .001, \) \( f^2 = .06. \) Also, adding physical and emotional violence by teachers (step 3) improved the model significantly, \( \Delta R^2 = .10, \) \( F(2, 653) = 28.06, p < .001, \) \( f^2 = .10. \) By adding physical and emotional violence, and neglect (step 4), the model was further improved, \( \Delta R^2 = .02, \) \( F(3, 650) = 21.04, p < .001, \) \( f^2 = .02. \) The full model explained 22% of the variability of students’ mental health problems. As indicated in Table 3. 3, students’ gender, exposure to peer violence, to emotional violence by teachers, and to physical violence by parents were positively related to students’ self-reported mental health problems.
**Table 3. Regression analysis predicting self-reported mental health problems of students**

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Mental health problems (SDQ score)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE of B</td>
<td>β</td>
<td>T</td>
</tr>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.28</td>
<td>0.21</td>
<td>.05</td>
<td>1.36</td>
</tr>
<tr>
<td>Gender</td>
<td>-2.58</td>
<td>0.42</td>
<td>-.24</td>
<td>-6.21***</td>
</tr>
<tr>
<td>Student’s parents alive</td>
<td>0.55</td>
<td>0.41</td>
<td>.05</td>
<td>1.34</td>
</tr>
<tr>
<td><strong>Step 2</strong>a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.27</td>
<td>0.20</td>
<td>.05</td>
<td>1.32</td>
</tr>
<tr>
<td>Gender</td>
<td>-2.47</td>
<td>0.41</td>
<td>-.23</td>
<td>-6.12***</td>
</tr>
<tr>
<td>Student’s parents alive</td>
<td>0.45</td>
<td>0.40</td>
<td>.04</td>
<td>1.12</td>
</tr>
<tr>
<td>Peer violence</td>
<td>1.27</td>
<td>0.20</td>
<td>.23</td>
<td>6.22***</td>
</tr>
<tr>
<td><strong>Step 3</strong>b</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.19</td>
<td>0.19</td>
<td>.04</td>
<td>0.98</td>
</tr>
<tr>
<td>Gender</td>
<td>-2.52</td>
<td>0.38</td>
<td>.23</td>
<td>-6.58***</td>
</tr>
<tr>
<td>Student’s parents alive</td>
<td>0.38</td>
<td>0.38</td>
<td>.04</td>
<td>1.01</td>
</tr>
<tr>
<td>Peer violence</td>
<td>0.95</td>
<td>0.20</td>
<td>.17</td>
<td>4.84***</td>
</tr>
<tr>
<td>Emotional violence by teachers</td>
<td>0.06</td>
<td>0.01</td>
<td>.22</td>
<td>5.31***</td>
</tr>
<tr>
<td>Physical violence by teachers</td>
<td>0.02</td>
<td>0.01</td>
<td>.13</td>
<td>3.08**</td>
</tr>
<tr>
<td><strong>Step 4</strong>c</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.32</td>
<td>0.19</td>
<td>.06</td>
<td>1.66</td>
</tr>
<tr>
<td>Gender</td>
<td>-2.46</td>
<td>0.38</td>
<td>.23</td>
<td>-6.45***</td>
</tr>
<tr>
<td>Student’s parents alive</td>
<td>0.32</td>
<td>0.38</td>
<td>.03</td>
<td>0.85</td>
</tr>
<tr>
<td>Peer violence</td>
<td>0.90</td>
<td>0.20</td>
<td>.16</td>
<td>4.56***</td>
</tr>
<tr>
<td>Emotional violence by teachers</td>
<td>0.05</td>
<td>0.01</td>
<td>.20</td>
<td>4.37***</td>
</tr>
<tr>
<td>Physical violence by teachers</td>
<td>0.01</td>
<td>0.01</td>
<td>.07</td>
<td>1.62</td>
</tr>
<tr>
<td>Emotional violence by parents</td>
<td>0.01</td>
<td>0.01</td>
<td>.04</td>
<td>0.80</td>
</tr>
<tr>
<td>Physical violence by parents</td>
<td>0.03</td>
<td>0.01</td>
<td>.15</td>
<td>3.24***</td>
</tr>
<tr>
<td>Neglect by parents</td>
<td>-0.02</td>
<td>0.01</td>
<td>-.04</td>
<td>-1.09</td>
</tr>
</tbody>
</table>

**Note.** N = 659. B: unstandardized regression weight, SE: standard error, β = standardized regression weight, \( T \): t-test statistics;  * \( p < .05 \), ** \( p < .01 \), *** \( p < .001 \).

\( a \) Test statistics: adj. \( R^2 = .11 \), SE = 5.10, \( F(1, 655) = 20.30, p < .001, f^2 = .12 \).

\( b \) Test statistics: adj. \( R^2 = .20 \), SE = 4.83, \( F(2, 653) = 28.06, p < .001, f^2 = .25 \).

\( c \) Test statistics: adj. \( R^2 = .22 \), SE = 4.78, \( F(3, 667) = 21.04, p < .001, f^2 = .27 \).
Mental health and its association to violence and maltreatment

**Report of parents.** Parents’ demographic factors age, gender, and household income (step 1) were not significantly associated with students’ mental health problems, adj. $R^2 = .01$, $SE = 5.36$, $F(3, 322) = 2.18$, $p = .09$, $f^2 = .01$. Adding parental stress (step 2) improved the model significantly, $\Delta R^2 = .08$, $F(1, 321) = 8.64$, $p < .001$, $f^2 = .09$. Adding the emotional and physical violence applied by parents (step 3) improved the model further, $\Delta R^2 = .12$, $F(3, 318) = 12.61$, $p < .001$, $f^2 = .14$. The full regression model of reports of parents explained 20% of the variance of students’ mental health problems. As indicated in Table 3.4, parents’ stress and physical violence by parents were strongly related to children’s mental health problems.

**Table 3.4 Regression analysis predicting students’ mental health problems reported by parents**

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Mental health problems (SDQ score)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>$SE$ of $B$</td>
<td>$\beta$</td>
<td>$T$</td>
</tr>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.04</td>
<td>0.04</td>
<td>.07</td>
<td>1.18</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.17</td>
<td>0.62</td>
<td>-.02</td>
<td>-0.28</td>
</tr>
<tr>
<td>Household income per month</td>
<td>-1.17</td>
<td>0.52</td>
<td>-.13</td>
<td>-2.26</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.02</td>
<td>0.03</td>
<td>.03</td>
<td>0.59</td>
</tr>
<tr>
<td>Gender</td>
<td>0.33</td>
<td>0.61</td>
<td>.03</td>
<td>0.55</td>
</tr>
<tr>
<td>Household income per month</td>
<td>-0.84</td>
<td>0.50</td>
<td>-.09</td>
<td>-1.68</td>
</tr>
<tr>
<td>Parental stress</td>
<td>0.36</td>
<td>0.07</td>
<td>.29</td>
<td>5.24***</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.02</td>
<td>0.03</td>
<td>.03</td>
<td>0.60</td>
</tr>
<tr>
<td>Gender</td>
<td>1.00</td>
<td>0.58</td>
<td>.09</td>
<td>1.74</td>
</tr>
<tr>
<td>Household income per month</td>
<td>-0.89</td>
<td>0.47</td>
<td>-.09</td>
<td>-1.88</td>
</tr>
<tr>
<td>Parental stress</td>
<td>0.32</td>
<td>0.07</td>
<td>.25</td>
<td>4.77***</td>
</tr>
<tr>
<td>Emotional violence by parents</td>
<td>0.02</td>
<td>0.02</td>
<td>.06</td>
<td>1.03</td>
</tr>
<tr>
<td>Physical violence by parents</td>
<td>0.09</td>
<td>0.01</td>
<td>.33</td>
<td>6.03***</td>
</tr>
<tr>
<td>Neglect by parents</td>
<td>-0.03</td>
<td>0.02</td>
<td>-.07</td>
<td>-1.39</td>
</tr>
</tbody>
</table>


*Test statistics: adj. $R^2 = .09$, $SE = 5.16$, $F(1, 321) = 8.64$, $p < .001$, $f^2 = .09$.  
**Test statistics: adj. $R^2 = .20$, $SE = 4.82$, $F(3, 318) = 12.61$, $p < .001$, $f^2 = .25$.  
* $p<.05$. ** $p<.01$. *** $p<.001$.  

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3.5 Discussion

3.5.1 Prevalence of mental health problems among Tanzanian adolescents

Based on our nationally representative sample of secondary school students, we found a prevalence rate of self-reported elevated mental health problems of 41% in the past six months using the SDQ as screening tool. The report of their parents found a prevalence rate of 31%. With 65% (self-report) or 54% (report of others) peer problems were most prevalent, whereas with 17% (self-report and report of others) the prevalence of hyperactivity was least prevalent. Generally, the self-report of the students and the report of their parents were broadly consistent. Our findings are in line with our hypothesis and previous studies in Sub-Saharan Africa (Cortina, Sodha, Fazel, & Ramchandani, 2012; Kinyanda et al., 2013; Ndetei et al., 2008). Furthermore, our findings extend previous findings from Tanzania (e.g., Hecker et al., 2014, 2016; Hermenau et al., 2014), as these were based on at-risk groups or specific non-representative samples. In contrast, our study is the first to examine the prevalence of mental health problems in Tanzanian adolescents using a nationally representative sample. Our findings imply that mental health problems are a matter of concern among secondary school students in Tanzania.

Though a previous study from Tanzania reported lower clinically relevant levels of peer problems (8%) and emotional problems (9%) in a sample of primary school children (Hecker et al., 2016), these findings may be explained by two main reasons: first, data were assessed via structured interviews and prevalence rates using structured interviews which are generally lower than prevalence rates based on self-administered questionnaires. Second, the sample was assessed in the very specific context of a private primary school that may not be representative for Tanzanian primary schools in general. None the less, it is important to consider that the SDQ was selected as a screening tool to determine the prevalence of mental health problems. Per definition, screening tools have a high sensitivity but a lower specificity. Thus, our findings should be considered as an approximation. Future studies using structured clinic interviews are needed to replicate our findings. Notwithstanding, the high rate of mental health problems among secondary students in Tanzania as reported in this study calls – at least – for further attention for research and child protection programs in future.
3.5.2 Association between exposure to violence, maltreatment and mental health problems

The second aim of this study was to investigate the association between exposure to violence and maltreatment, and mental health problems. After controlling for the potential influences of students’ age, gender, whether their parents are alive or not, peer violence and violence by teachers, we found an incremental influence of physical violence by parents or primary caregivers on the self-reported mental health problems of adolescents. Yet, emotional violence by parents was not significantly associated with students’ mental health problems. In addition, peer violence and emotional violence by teachers were found to be associated with mental health problems of adolescents. In second step, we aimed to replicate these findings using the report of the students’ parents or primary caregivers. After controlling for the influence of parents’ age, gender, household income, and parental stress, we found a strong association between physical violence (but not emotional violence) by parents and mental health problems of adolescents reported by their parents. In addition, there was a significant association between parental stress and adolescents’ mental health problems. Our findings indicate an agreement between the reports of students and their parents regarding the effects of physical violence applied by parents on adolescents’ mental state, underlining the strong association between physical – but not emotional violence – by parents or caregivers in Tanzanian families with mental health problems among adolescents.

The findings of this study are partly consistent with previous studies, which found associations between physical violence, emotional violence, peer violence, and parental stress and mental health problems in children in different countries (Infurna et al., 2016; Ismayilova et al., 2016; Menesini & Salmivalli, 2017; Neece et al., 2012). However, in contrast to previous findings we only found a positive association between physical but not emotional violence by parents and adolescents’ mental health problems. One explanation could be that physical violence by parents is often accompanied by emotional violence and students may remember and report physical violence rather than emotional violence when they occur together. In addition, those parents using physical violence may also use more severe forms of emotional violence but the affected students may be more likely to report physical forms of violence, whereas those parents who only use emotional forms of violence may be using less violence in general. As a consequence, parts of the effect of physical violence may be also attributed to emotional violence. However, our findings need to be replicated and the above-mentioned hypotheses to be tested in future studies. Interestingly, regarding violence by teachers, we
found the opposite: We found a significant association only for emotional violence but not physical violence.

Considering the previous findings in Tanzania (e.g., Hecker et al., 2014; Hermenau et al., 2011, 2014), the current study points in a similar direction but is based on a nationally representative sample of adolescents and include their self-reports as well as the reports of their parents. Moreover, findings in this study support the recent findings by Hecker, Hermenau, et al (2016) that found a significant association between harsh discipline strategies and mental health problems in children (e.g., peer problems, emotional problems). Previous findings supported the notion that many parents in Tanzania consider harsh discipline as effective in children’s behavioral management (Hecker et al., 2014; M. Nkuba et al., 2017). As a consequence, parents continue to use violence when raising their children under the assumption that they are not harming their children – an assumption that does not hold when considering the findings of our study as well as previous findings from other settings (e.g., Gilbert et al., 2009; Norman et al., 2012), which indicate, that physical violence and corporal punishment may have detrimental consequences for the children’s or adolescents mental health.

3.5.3 Implications and future research

The findings of this study underline the prevalence of mental health problems of adolescents in Tanzania as well as its association with exposure to violence and maltreatment in different settings. Besides the detrimental consequences for the children affected, high costs for the health care system could potentially be avoided (Maher, Corwin, Hodnett, & Faulk, 2012). when people and institutions become aware of the major possible consequences of violence and maltreatment. This is of special importance with regard to low-resource countries with high prevalence rates of violence and maltreatment. A first step will be to inform parents, caregivers, social workers, institutions, governmental organizations, and the population at large about the potentially deleterious consequences of violence and maltreatment in education. Associated therewith and in line with the United Nations’ Convention on the Rights of the Child (UN General Assembly, 1989a) that claims the protection of the physical and mental integrity of all children as well as the United Nation’s Sustainable Development Goal Nr. 16.2 (United Nations, 2015) that aims to end all forms of violence against children, there is a strong need to design and implement interventions that prevent children from exposure to violence and maltreatment by parents or primary caregivers. Parents’ awareness about effective non-violent discipline strategies may be a starting point for interventions. While this study provides first empirical evidence from a nationwide representative sample on the prevalence of mental health problems
and the association between violence and maltreatment and mental health problems in Tanzanian adolescents, future studies that replicate our findings in younger children are also important. Furthermore, large-scale longitudinal and prospective studies will be helpful in understanding the causal relations between violence and maltreatment and mental health problems across the lifespan.

3.5.4 Strengths and limitations

Beside the strength of the study (e.g., nationwide representative sample, multi-informant approach), there are some limitations that should be noted: first, the cross-sectional study design does not allow for the establishment of causality, however, the consistency with previous findings on the link between exposure to violence and maltreatment and mental health problems (Hecker et al., 2014; Hecker, Hermenau, et al., 2016) suggests that mental health problems can be the consequence of violence and maltreatment in families and elsewhere (Infurna et al., 2016; Norman et al., 2012). Cultural bias might have influenced the findings, as questions might not always reflect typical life realities of a Tanzanian child. However, the study was designed and implemented by a Tanzanian researcher and research assistants exclusively coming from the same cultural background as the participants. This facilitated the understanding and disclosure on sensitive topics. The applicability of the instruments is further supported by the fact that the results were consistent with previous findings in Tanzania and Sub-Saharan Africa. Although information from both children and parents or primary caregivers was targeted, only just over half of the parents or primary caregivers of the attending students were willing or able to participate. While this study provides detailed information about the prevalence of mental health problems and the relation between violence and maltreatment, and mental health problems for students of governmental secondary schools, further research is needed to investigate adolescents in other school forms (e.g., private schools) or who dropped out of school at an earlier stage. It should be noted that we used the SDQ as a screening tool to determine the prevalence of mental health problems. Since these screening tools have a high sensitivity but a lower specificity, we caution that our findings should be considered as an approximation. Future studies using structured clinic interviews are needed to replicate our findings. Generally, adolescents and parents were open to speak about their experiences; however, potential biases, such as social desirability, may not be ruled out for subjective reports.
3.6 Conclusions
The present study suggests that mental health problems are prevalent among secondary school students in Tanzania and that there is a strong association between physical violence by parents and mental health problems in children. Moreover, in this study peer violence, emotional violence by teachers and parental stress contributed to mental health problems in children. Our findings emphasize the need to inform the population at large about the potentially adverse consequences associated with violence against children and adolescents. There is a need to design and implement interventions that protect children from violence inside and outside family settings while at the same time helping parents in managing personal stress. Educating parents, caregivers, and teachers about effective non-violent discipline strategies might be a starting point. Due to the fact that child violence among society members in Tanzania is normed, societal awareness need to be emphasized.

3.7 Acknowledgements
We are grateful to all of the children and parents who participated in this study. We also wish to thank all head of schools and the school counselors for their support while conducting this study. We are very grateful to our research team, including: Getrude Mkinga, Andrew Mtitu, Gloria Mushi, Suzan Ngahyoma, Moyo Osiah Mwaihola, Rehema Mdoe, Simeon Mgode, Sophia Backhaus and Katharina Zepf. In a special way, we are grateful to Thomas Elbert for his support and supervision throughout the project.
4 Preventing violence by teachers using the intervention approach: Interaction Competencies with Children for Teachers (ICC-T): A cluster randomized controlled trial at secondary schools in Tanzania

4.1 Abstract

Background: The high global prevalence of school violence and the associated mental health problems indicate the need for preventive interventions. However, there are few scientifically evaluated intervention programs to date that aim at preventing violence by teachers in Sub-Saharan African countries.

Objective: We evaluated the feasibility and efficacy of the preventive intervention Interaction Competencies with Children for Teachers (ICC-T) at secondary schools in Tanzania.

Methods: In a cluster randomized controlled trial we assessed attitudes towards and use of violence by teachers (self-reported by teachers and reported by students) at eight schools in four regions (one rural and one urban school per region) in Tanzania. Two regions were randomly assigned as intervention regions. Data were assessed in intervention and control schools in the months before intervention and three months after intervention. In total, 158 teachers (58% females; age: 32.08 years, SD = 5.65, range: 22–59) and 486 students (54% females; age: 15.61 years, SD = 0.89, range: 13–17) participated in this study. We conducted the ICC-T intervention with 73 teachers at four schools. The intervention workshop lasted for 5.5 days.

Results: The feasibility of the ICC-T intervention was very good: Participants’ acceptance was high and they reported a good integration of the training sessions’ core elements in their daily working routine. Moreover, the significantly stronger decrease in the use of emotional and physical violence reported both by teachers and students in intervention schools as well as the stronger decrease in positive attitudes towards physical and emotional violence in teachers of the intervention schools three months after the ICC-T intervention provide initial evidence of the efficacy of ICC-T in the prevention of violence by teachers.

Conclusions: The preventive intervention ICC-T proved to be a promising approach to reduce school violence at Tanzanian secondary school. However, further evidence for the sustainability of its effect within other settings is needed.

Keywords: school violence, prevention, teacher, intervention, Sub-Saharan Africa
4.2 Introduction

Violence by teachers in schools continues to be prevalent across the globe, despite international efforts to protect children from all forms of violence through legislative reforms and preventive programs (Global Initiative to End All Corporal Punishment of Children (GIEACPC), 2015a, 2016a; UNICEF, 2014). We describe both physical and emotional violence against children as any act that is intended to cause some degree of pain for the purposes of correction or controlling children’s behavior (Antonowicz, 2010; Straus, 2010; United Nations-Committee on the Rights of the Child, 2007). In schools, teachers continue to use violent discipline methods in their attempt to correct or control students’ misbehavior (Gershoff & Font, 2016; Global Advocacy Team, 2012). Globally, findings indicate that teachers in schools use violent approaches such as hitting with hard objects, slapping, insulting, or forcing students to kneel on small stones, in their attempt to control students misbehaviors (Ba-Saddik & Hattab, 2013; Baker-Henningham, Meeks-Gardner, Chang, & Walker, 2009; Devries et al., 2014). Violence against children does not only violate the fundamental rights, dignity and integrity of children, but also negatively impacts the children’s self-esteem and achievement (Gershoff, Purtell, & Holas, 2015; Hecker, Hermenau, Salmen, Teicher, & Elbert, 2016). Therefore, the prevention of school violence might create a safe, supportive and enabling school environment in which children can easily flourish.

4.2.1 The global status of violence by teachers in schools

Schools violence is still prevalent worldwide especially in middle- and low-income countries, despite the availability of legal regimes that strive to prevent childhood violence (Gershoff, 2017; GIEACPC, 2016b; Pinheiro, 2006). Article 19 of the United Nations Convention on the Rights of the Child calls for the protection of children from all forms of physical or emotional violence, injury or abuse by any person in any setting and Article 28 requires state parties to take all appropriate measures in ensuring that the behavior of children in schools are managed in a manner consistent with the child’s human dignity (UN General Assembly, 1989). Despite the emphasis on the universal ratification of the Convention on the Rights of the Child, only 8 percent of children worldwide live in countries that have fully prohibited physical or corporal punishment in all settings. School corporal punishment is legally prohibited in 128 countries, while 69 countries accept the use of physical violence in schools, leaving slightly more than 2 billion children without full legal protection (GIEACPC, 2016b; UNICEF, 2014).
In fact, accepting violence as a means of managing discipline in schools is an obstacle to the successful implementation of the goal No.16.2 of the 2030 Agenda for Sustainable Development, which emphasize the need to end all forms of violence against children (United Nations, 2015). Due to paucity in laws, strong societal beliefs in the use of violent disciplining methods for correcting and controlling children’s misbehaviors, violence by teachers in schools continues to be prevalent throughout the world even for minor offences (Aras, Ozan, Timbil, Semin, & Kasapci, 2016; Gershoff et al., 2015). For example, school violence was reported to be prevalent at different levels in different parts of the world, such as 34% to 93% in India, 7% to 51% in Peru, 1% to 50% in Vietnam, 12% to 76% in Ethiopia, 58% in Jamaica and 56% in Yemen (Ba-Saddik & Hattab, 2013; Baker-Henningham et al., 2009; Ogando Portela & Pells, 2015). Moreover, Gershoff (2017) reported a current global prevalence of school violence ranging from 13% in Kazakhstan to 97% in Cameroon.

4.2.2 Violence by teachers in schools in Sub-Saharan Africa
Twenty-five out of the 71 countries worldwide, in which corporal punishment is lawful in schools are found in Sub-Saharan Africa (GIEACPC, 2015a). As a consequence, the use of violence as a disciplining approach in schools has been persistently documented to be high (Devries et al., 2014; Feinstein & Mwahombela, 2010). For example, reports by GIEACPC (2015b) indicated high prevalence of school violence in Botswana (92%), Gambia (70%) and Uganda (79%). Furthermore, school violence by teachers was indicated to be highly prevalent in many Sub-Saharan African countries, such as 75% in Ethiopia, 65% in Zimbabwe and 55% in Benin and in Senegal (Antonowicz, 2010; Pankhurst, Negussie & Mulugete, 2016; Tshabangu, 2008). In a cross-country analysis of school-girls, Parkes and Heslop (2013) showed that school violence by teachers was reported by 86% of the girls in Kenya, 82% in Ghana and 66% in Mozambique.

Though the nation is a signatory to the United Nations Convention on the Rights of the Child (UN General Assembly, 1989), violence by teachers is still legal and prevalent in Tanzanian schools (Research and Analysis Working Group. Republic of Tanzania., 2008; United Republic of Tanzania, 2009). Under the National Corporal Punishment Regulation of 1979 pursuant to article 60 of the National Education Act of 1978, corporal punishment is cited as a tool to curb students' misdemeanors (United Republic of Tanzania, 1978). Together with the amendments of this Act in the year 2000, the Act still emphasize administration of corporal punishment to school children in handling misbehaviors (GIEACPC, 2016c, 2017a). Due to the legalized use of violent disciplining strategies in Tanzanian schools, the prevalence of school violence remained
Preventing violence by teachers using ICC-T intervention approach

high in Tanzanian schools (Feinstein & Mwahombela, 2010; Hecker, Hermenau, Isele, & Elbert, 2014; Hecker et al., 2016). For example, Hecker et al (2014) reported a prevalence of violence by teachers of about 95%. In a study of secondary school students by Yaghambe & Tshabangu (2013), the use of violent approaches, such as caning and manual works (which does not consider the ages of children) was reported by 74% and 50% of the students, respectively. Current studies in Tanzanian secondary schools also indicated that teachers support the use of violent disciplining methods as a necessary means of disciplining and controlling the misbehavior of children (Kaltenbach, Hermenau, Nkuba, Goessmann, & Hecker, 2017; Semali & Vumilia, 2016).

4.2.3 Factors influencing the use of violent discipline methods in schools

Teachers’ professional training. Findings in different studies (Cheruvalath & Tripathi, 2015; Cooper & Yan, 2015) have showed that using violent discipline strategies in schools was associated with a lack of proper training in managing students and a poor understanding of the consequences of violence to school children. More so, teachers lacked an awareness of alternative and effective non-violent discipline management strategies that are useful in managing students' behaviors and promoting positive teacher-students interactions in school settings (Greydanus et al., 2003; Mweru, 2010). These findings were supported by Yaghambe and Tshabangu’s (2013) study on disciplinary networks in Tanzanian secondary schools. They observed that most teachers lacked knowledge of how to handle students' misbehaviors in non-violent ways. Additionally, teachers lacked skills that promote positive teacher-student interaction, which might also be linked to the deficit in teachers’ professional training (Nkuba & Kyaruzi, 2015).

Societal norms and beliefs. Many people in different cultures and societies, including school teachers regardless of their professional training, still hold the belief that corporal punishment is an effective means of instilling discipline, respect and obedience in children (Durrant, 2008; Durrant & Ensom, 2012; Sogul, 2009). Reports from countries, such as South Korea, Indonesia, South Africa, Ethiopia, Kenya, and Uganda indicated that school corporal punishments was a norm and that teachers strongly believed its use to be necessary to maintain discipline (Beazley, Bessell, Ennew, & Waterson, 2006; Mweru, 2010; Stavropoulos, 2006). Furthermore, Hermenau et al (2011) emphasized that children are more subjected to violent discipline methods in schools and homes due to the facts that violent disciplining is an accepted norm in many Sub-Saharan African societies.
Preventing violence by teachers using ICC-T intervention approach

In a study of Tanzanian secondary schools by Semali and Vumilia (2016), findings indicated that teachers used violent discipline because of their belief that it was a useful method for creating an orderly learning environment (48%), developing good conduct (27%), maintaining safe school behaviors (15%), enforcing discipline (10%) and improving academic performance (16%). Beside cultural orientations and beliefs, the use of violent disciplining methods by teachers is also associated with stressful working conditions, such as insufficient resources, overcrowded classrooms and poor students-teacher ratio in schools (Barrett, 2005; Bennell & Akyeampong, 2007; Greydanus et al., 2003).

4.2.4 Interventions targeting prevention of child violence in school settings

The high prevalence of school violence underlines the need to prevent children from violence in the school setting (Covell & Becker, 2011; Gershoff, 2017). This may be possible through legislative reforms, banning corporal punishment in schools, highlighting the negative effects of violence and educating teachers about alternative discipline methods (GIEACPC, 2017b; Pinheiro, 2006). However, only few interventions that aim at altering violent disciplinary styles by school teachers in Sub-Saharan Africa have been conducted (Global Advocacy Team, 2012; Parkes & Heslop, 2013), and even fewer have been scientifically evaluated (Bonell et al., 2013; Devries et al., 2015). For example, in Ghana, Kenya and Mozambique, Action Aid implemented the intervention Stop Violence Against Girls in Schools that was designed to reduce violence across multiple settings, including schools (Parkes & Heslop, 2013). The program was implemented simultaneously from 2007 to 2013 and yielded significant results such that in Mozambique, the percentage of caning dropped from 52% to 29% and girls’ enrollment increased by 14% in Ghana, 17% in Kenya and 10% in Mozambique. Moreover, teachers reported that the use of caning dropped drastically.

Another preventive intervention is the Good Schools Toolkit that was evaluated in a cluster randomized controlled trial in Uganda (Devries et al., 2015). The intervention included classroom activities that focused on reducing the use of violent discipline methods while increasing positive teacher-student relationship. At the evaluation stage, there was a 42% reduction in the number of students reporting violence at school. In line with that, the application of non-violent discipline strategies in intervention schools did not result in any increase in behavior problems nor did it lower children's academic performance.

In Tanzania, the feasibility of the preventive intervention approach Interaction Competencies with Children for Teachers (ICC-T) was tested in a primary school (Kaltenbach et al., 2017). A training workshop with the aim of preventing corporal punishment and improving the teacher-
student relationship was conducted. The findings indicated a good feasibility. Moreover, teachers reported a good integration of the core elements of training in their daily work and an improvement in teacher-student relationships at a three-months follow-up.

4.2.5 Objectives
School violence is a worldwide phenomenon, yet very few school-based violence prevention interventions have been empirically evaluated (Devries et al., 2015; Parkes & Heslop, 2013). The high prevalence of school violence and the lack of interventions in Sub-Saharan Africa underline the need to implement and test intervention approaches that aim to reduce violent disciplining and provide teachers with non-violent and effective action alternatives. To address these needs, we evaluated the feasibility and efficacy of ICC-T as a preventive intervention of violence by teachers in governmental secondary schools in Tanzania.

4.3 Method
4.3.1 Design and sampling
The study included four randomly selected regions of the 25 regions in Tanzania (excluding the partly autonomic Islands of Zanzibar). In each region, one mixed-day secondary school from the regional capital and one rural district were randomly selected. From each rural district, one mixed-day secondary school was randomly selected. In a two-arm cluster randomized controlled trial, two regions (with two secondary schools each) were randomly assigned to the intervention group that received the ICC-T intervention, and two regions (also with two secondary schools each) to the control group that did not receive any intervention. Data were collected twice: at pre-assessment (t1) prior to intervention and three months after intervention at the follow-up assessment (t2). In addition, feasibility data from trained teachers were assessed at the beginning and at the end of the intervention as well as at follow-up assessment. The flowchart in Figure 4.1 provides further details on sampling and the course of the trial.

4.3.2 Participants
**Teachers.** In total, 158 (58% females) teachers with an average age of 32.08 years (SD = 5.65; range: 22 – 59) were included. The majority (68%, n = 107) had a bachelor’s degree, 28% (n = 44) had a two-years diploma teaching qualification, and 4% (n = 7) had other qualifications. They reported on average 5.99 years of working experience with a current average class size of 60.53 (SD = 21.31; range: 25–135) students.
**Students.** We also included 486 students (54% girls) with a mean age of 15.61 years (SD = 0.89, range: 13–17). In total, 247 (51%) students were in their 8th year and 239 were in their 9th year of formal schooling. About 84% (n = 406) reported that both of their biological parents were alive and 15% (n = 74) that one biological parent was alive and 1% (n = 6) had lost both biological parents. In total, 58% (n = 283) of the students lived with both of their biological parents, 27% (n = 130) with one biological parent, 15% (n = 73) with other relatives or in other child care facilities.

**4.3.3 Procedure**

Prior to the investigation, ethical approval was obtained from the Ethical Review Board of the University of Konstanz, Germany and the University of Dar es Salaam, Tanzania. An in-country research permit was granted by the Tanzanian government offices at a regional level for each of the four regions (Arusha, Lindi, Iringa and Kagera) and subsequent districts and schools. Prior to data collection the project leader visited the selected schools and explained the study details to the school authorities. The research team trained six research assistants for one week, who were then involved in different stages of the project.

**Assessment of teachers.** After introducing the project’s objectives to the headteachers and to teachers, they were invited to participate in the study. Teachers willing to participate signed an informed consent form and were asked to fill out a questionnaire in their free time between lessons under the guidance of an assessor in a one-to-one setting. The questionnaires were in English and completion took on average 25 minutes at pre-assessment and at follow-up. The flowchart in Figure 4.1 provides details on drop out rates.

**Assessment of students.** The questionnaires for students were translated from English to Swahili by a team of Swahili native speakers and then back to English in a blind written form. The back-translated questionnaires were then compared with the original questionnaires in order to ensure correct translation and equivalence of the content. Before embarking on questionnaire administration in the sampled schools, a pilot study at one mixed-day secondary school in Dar es Salaam was conducted to ensure the objectivity, reliability and feasibility of the questionnaires. Prior to data assessment, letters explaining the study’s purpose were sent together with an informed consent form to the parents or guardians of students in order to seek parental consent. Students who were able to provide the consent of parents were included in the study and signed another informed consent form themselves before completing the
questionnaires. During data collection, schools provided rooms in which the completion of questionnaires in groups of two to four students was conducted under the supervision of the research team members. The average time of completion of the questionnaire was 45 minutes both at pre-assessment and follow-up assessment. The flowchart in Figure 4.1 provides details on drop out rates.

**Intervention procedures.** To implement the ICC-T intervention in the selected schools, one Tanzanian psychologist conducted the ICC-T training workshop with the help of three assistant facilitators. The materials used for the training and the presentations were in English; the discussion with participants was conducted both in English and Swahili. The training workshop was held during school holidays. The teachers participated at no charge and received free beverages and food. A transport compensation of 2.5 USD was provided to each participant per day. At the beginning of the training workshop, an introductory statement was offered, informing teachers that participation in the training was voluntary and participants were free to end their participation at any time without consequences. Furthermore, all participants were requested and agreed that the information and quotes gathered during the intervention might be published for scientific purposes in an anonymous form. They were assured that personal information would be kept strictly confidential. The flowchart in Figure 4.1 provides details on drop out rates.
Preventing violence by teachers using ICC-T intervention approach

<table>
<thead>
<tr>
<th>Timing</th>
<th>Students</th>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>t1</td>
<td>t1: n = 486 students in 8 schools</td>
<td>t1: n = 158 teachers in 8 schools</td>
</tr>
<tr>
<td></td>
<td>Control group: 4 schools; n = 240</td>
<td>Control group: 4 schools; n = 76</td>
</tr>
<tr>
<td></td>
<td>t2: n = 209</td>
<td>Intervention group: 4 schools; n = 246</td>
</tr>
<tr>
<td>3 MONTHS</td>
<td>n = 31 dropped</td>
<td>n = 82</td>
</tr>
<tr>
<td></td>
<td>t2: n = 191</td>
<td>t2: n = 158 teachers in 8 schools</td>
</tr>
<tr>
<td></td>
<td>t2: n = 75</td>
<td>Intervention group: 4 schools; n = 246</td>
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<tr>
<td></td>
<td>t2: n = 65</td>
<td>t2: n = 209</td>
</tr>
<tr>
<td></td>
<td>n = 9 dropped</td>
<td>n = 1 dropped</td>
</tr>
<tr>
<td></td>
<td>n = 6 dropped</td>
<td>n = 2 dropped</td>
</tr>
</tbody>
</table>

Figure 4.1 Students and teachers participation in the ICC-T evaluation
4.3.4 Intervention

In the four selected intervention schools, the ICC-T intervention was conducted for 5.5 days (8 hours on a full day). The ICC training concept follows the childcare guidelines of The American Academy of Pediatrics (1999) and is available for different target groups. The feasibility and initial evidence of its effectiveness in Tanzania have already been found for caregivers working in institutional care settings (Hermenau, Kaltenbach, et al., 2015) and for primary school teachers (Kaltenbach et al., 2017). ICC-T aims at preventing violent discipline and at improving teacher-student relationships by introducing essential interaction competencies in the daily works of teachers with children. To accomplish these objectives, the key principles that guide the implementation of ICC-T were employed as follows:

(a) Participative approach: Participants were encouraged to participate actively and to strategize on how to implement ICC-T components in their daily work.

(b) Practice: Theory and practice were combined to enable participants to use the acquired ICC-T skills in everyday school life.

(c) Trustful atmosphere: Confidentiality was assured and participants were invited to talk openly about work problems, their needs, and experiences with corporal punishment in order to create a trusting and open atmosphere.

(d) Sustainability: Intensive practicing, reinforcement and repetition of the content, self-reflection on one's own behavior, team-building measures, and the organization of a peer consulting system were emphasized to ensure the sustainability of the ICC-T training workshop.

Furthermore, the ICC-T intervention components were adequately used to guide the implementation of training. These components include:

(a) The sessions about teacher-student interaction aimed at fostering empathy and understanding for the students’ behavior, raise awareness of the responsibility of being a role model for students, creating a good learning atmosphere, and improving the teacher-student interaction.

(b) The sessions on maltreatment prevention aimed at raising the awareness of the negative consequences of corporal punishment for the children’s well-being. Teachers reflected on their own experiences of corporal punishment as a child and on their use of corporal punishment as a teacher with the aim of connecting their own experiences and feelings to their current behavior and its consequences. These sessions were closely linked to the sessions about effective discipline strategies aiming to reduce the teachers’ use of corporal punishment and other forms of emotional and physical maltreatment.
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(c) The introduction and practice of different effective discipline strategies aimed at providing the teachers with tools on how to maintain and reinforce desired behavior, and how to change or improve undesired behavior, thereby dealing with misbehavior by giving non-violent alternatives to violent disciplining and reducing feelings of helplessness.

(d) Identifying and supporting burdened students aimed at raising the awareness of common emotional and behavioral problems of students and showed how to identify and support these students in the context of school.

(e) The sessions on implementation aimed at ensuring the realization of the ICC-T components in everyday school life and were thereby essential for the sustainability and efficacy of the ICC-T approach. Furthermore, establishing support strategies such as a peer consulting system and collaboration with school-counselors and parents aimed at improving the working atmosphere for teachers.

Control. The four secondary schools that were randomly allocated to the control group did not receive any intervention.

4.3.5 Outcome measures

The outcome measures included teachers’ self-reported use of physical and emotional violence, and their attitudes towards physical and emotional violence as well as students’ exposure to physical and emotional violence by teachers. Measures selected for this study had already been used in East Africa and their psychometric properties in those studies were acceptable (Devries et al., 2015; Hecker, Goessmann, Nkuba & Hermenau, 2017; Hecker et al., 2014; Hermenau, Hecker, Elbert, & Ruf-Leuschner, 2014; Nkuba, Hermenau & Hecker, 2017). Demographic information was gathered first: for teachers (e.g., age, gender, qualification, work experience, average class size) and for students (e.g., age, gender, grade, whether or not parents’ were still alive).

Violent discipline by teachers. We measured teachers’ use of violent disciplining methods by using the parent-child version of the Conflict Tactics Scale (CTSPC; Straus & Hamby, 1997). This standardized self-report instrument allows comparability across studies and its approach of recognition rather than recall facilitates participants’ memory when reporting incidences of violence (Lee, Lansford, Pettit, Bates & Dodge, 2012). For the purpose of the present study, only the scales for physical violence (13 items) and emotional violence (5 items) were analyzed. The items of the scales are rated on a 7-point Likert scale ranging from “never” (0) to “more than 20 times” (6) and the sum score ranges from 0 to 78 for physical violence and 0 to 30 for
emotional violence (Straus, Hamby, Finkelhor, Moore, & Runyan, 1998). The original CTSPC comes with low to moderate psychometric properties for instance with Cronbach’s alpha coefficients of $\alpha = .55$ for physical violence and $\alpha = .60$ for emotional violence. The mangling alpha reliability can be explained by the fact that the items of the scale measure rather rare events, and that the correlation between items, which is the basis of alpha, are low due to extreme skewedness. Reliability coefficients for our sample were also low to moderate, with $\alpha = .65$ for physical violence and $\alpha = .59$ for emotional violence.

**Teachers’ positive attitude towards violent disciplining.** For this purpose, the scales for physical violence (13 items) and emotional violence (5 items) from the parent-child version of the Conflict Tactics Scale (CTSPC; Straus & Hamby, 1997) were adapted. The items of the scales were modified and ranged on a 4-point Likert scale from; "never OK (0), rarely OK (1), usually OK (2) and, always or almost always OK” (3) and were then summed up to one score for physical and one for emotional violence. Reliability coefficients for our sample were low to moderate, at $\alpha = .65$ for physical violence and $\alpha = .46$ for emotional violence.

**Students’ exposure to school violence.** Students’ exposure to school violence was assessed using items from the parent-child version of the Conflict Tactics Scale (CTSPC; Straus et al., 1998). Similar to teachers, they only completed the sections on physical and emotional violence (see above). The reliability coefficients regarding violence by teachers were $\alpha = .67$ for physical violence and $\alpha = .67$ for emotional violence.

**Purpose-built measures for ICC-T training evaluations.** The purpose-built measures adapted from Kaltenbach et al (2017) and Hermenau et al (2015) were used. We followed the guidelines for feasibility studies by Bowen et al (2009) in assessing the demand, applicability, acceptability and, integration of ICC-T training in teachers’ daily work. The demands were assessed through examination of teachers’ positive attitudes towards violent disciplining before and directly after training. The applicability of the training (e.g., expectations about the workshop, relevance of the workshop) was measured before the intervention, directly after the intervention and at the follow-up assessment. Furthermore, we examined the acceptability of the training (e.g., satisfaction with the training, evaluation of new knowledge) directly after the intervention and at follow-up assessment. Finally, we assessed the integration of the ICC-T core elements in teachers' daily work at school directly after the intervention and at the follow-up assessment.
4.3.6 Data analysis

The feasibility of ICC-T was tested on a descriptive level.

To test the efficacy of ICC-T, we conducted two multivariate repeated-measures analyses of variance (MANOVA). The small number of schools did not allow for testing multi-level effects (Mass & Hox, 2005; Meuleman & Billiet, 2009). Furthermore, as the Intra-Class Correlations (ICC) did not exceed 0.10, we did not need to take potential cluster effects at the level of schools into account. As sample sizes are equal between groups, robustness of significance tests is expected (Tabachnick& Fidell, 2006), and reporting Pillai’s trace for multivariate tests and applying Greenhouse–Geisser correction for univariate tests is recommended (Fidell, 2009). Due to missing data and listwise deletion procedures ten teachers of the control and one teachers of the intervention groups as well as five students from intervention and four students from control schools were excluded from the analysis. Regarding the teachers’ self-report, we tested the effect of the ICC-T on the use of emotional and physical violence as well as positive attitudes towards emotional and physical violence. Regarding the reports of students, we tested the effect of the ICC-T on the exposure to emotional and physical violence. We first tested the multivariate interaction effect and then the univariate interaction effect of each outcome variable. Furthermore, we used paired t tests to test a change from pre- to follow-up assessment in the intervention group and independent t tests to test differences between groups at follow-up assessment. Due to the directional hypotheses, analyses were computed one-tailed at an alpha level of α = .05. Concerning the effect size, η ≥ 0.01 indicates a small effect, η ≥ 0.06 a moderate effect and η ≥ 0.14 a large effect. Cohen’s d was considered small at d ≥ 0.20, moderate at d ≥ 0.50, and large at d ≥ 0.80. Data were analyzed with IBM SPSS Statistics 24.

4.4 Results

4.4.1 The feasibility of the ICC-T intervention

Demand. Before the ICC-T training workshop, teachers' positive attitudes towards violent disciplining strategies at school were examined. We found mainly positive attitudes towards the use of violent disciplining and particularly caning among the participating teachers. For example, teachers strongly agreed to the following statements as follows: a) caning teaches respect (77%), b) caning builds the character (85%), c) children get uncontrollable without caning (74%), d) caning is time efficient (82%) and e) caning addresses the misbehavior directly (78%).

The participating teachers confirmed the usefulness and their interest in the preventive intervention by strongly agreeing as follows to the following questions: a) the topics of the workshop are related to my daily work (83%), b) many of the workshop’s topics are of interest to
me (80%), c) I am motivated to participate in the workshop (91%), d) I think this workshop as it is planned is highly needed for teachers in Tanzania (92%), e) I have the feeling that I will not learn many new things in this workshop (0%), f) If I would have the choice I would decide not to participate in this workshop (0%), g) I am looking forward to participating in this workshop (86%).

Applicability. Directly after training, the relevance of the training workshop was examined. For example, the teachers' response indicated a high relevance in aspects, such as a) the relevance of the workshop’s content for the daily work (very good: 39%, excellent: 40%), b) the applicability of the workshop’s content (very good: 42%, excellent: 22%), c) the possibility of using the knowledge obtained from this workshop (very good: 37%, excellent: 34%) and d) the usefulness of the workshop for Tanzanian teachers in general (very good: 26%, excellent: 45%). Three months after the training workshop, teachers maintained this positive evaluation: a) relevance of the workshop's content for the daily work (very good: 49%, excellent: 35%), b) the applicability of the workshop’s content (very good: 39%, excellent: 31%), c) the possibility of using the knowledge obtained from this workshop (very good: 54%, excellent: 20%) and d) the usefulness of the workshop for Tanzanian teachers in general (very good: 34%, excellent: 42%).

Acceptability. On a 5-point Likert scale ranging from 0 (not at all) to 4 (very much), teachers expressed a high level of satisfaction concerning the training workshop (M = 16.79; SD = 2.83; possible range = 0–20) directly after training. Specifically, teachers responded to the five areas: a) the workshop in general (M = 3.57; SD = 0.79), b) the content (M = 3.45; SD = 0.83), c) the teaching methods (M = 3.47; SD = 0.73), d) the trainers (M = 3.74; SD = 0.54), e) and, the training period (M = 2.55; SD = 1.02). The moderate rating of the training period may imply a recommendation for more training periods as this was indicated as an additional explanation by several workshop participants. Three months after the training workshop, teachers’ satisfaction with the intervention remained very high (M = 16.82; SD = 1.78). The acceptability was also supported by the strong agreement to the following statements directly and three month after the intervention (FU): a) the topics of the workshop related to my daily work (88%, FU: 82%), b) many of the workshop’s topics were of interest to me (82%, FU: 77%), c) I think that this workshop is highly needed for teachers in Tanzania (95%, FU: 88%) and d) I enjoyed participating in this workshop (92%, FU: 86%). Furthermore, teachers’ positive attitudes towards caning dropped from the average score of 11.75 (SD = 4.61) before the training workshop to 6.02 (SD = 2.88) after the training workshop. More encouragingly, all participating teachers
indicated that they would be willing to contribute money in order to participate in the ICC-T training.

**Integration of ICC-T in teachers’ daily work.** After training, teachers reported that they transferred newly obtained knowledge from the ICC-T intervention to their daily work. For example, directly after and three months after the intervention (FU) they agreed as follows to the following questions: a) *Did the workshop change your understanding of student’s problems in relation to their behavior?* (much = 26%, very much = 68%; FU: much = 55%, very much = 42%); and b) *Do you think this workshop will influence your previous strategies in dealing with disciplining students?* (much = 35%, very much = 60%; FU: much = 35%, very much = 51%).

Moreover, at follow-up, the majority of the teachers (71%) reported the frequent use of non-violent discipline strategies and that the use of sensitive communication skills with students improved (40%). However, 11% of the teachers stated that it was unrealistic and difficult to stop using violent disciplining strategies in Tanzanian schools. The reasons provided in support of this argument were the high number of students per class. The second stated reason was that many students experience violent disciplining at home and that they would not react to non-violent alternatives.

**4.4.2 The efficacy of the ICC-T intervention**

Teachers’ self-reports. Using Pillai’s trace, we found a multivariate *time X intervention* interaction effect: \( V = 0.19, F(4, 124) = 7.08, p < .001, \) with a large effect of \( \eta = .19 \). The emotional violence score varied between groups from pre-assessment to the follow-up assessment: \( F(1, 127) = 7.75, p = .003, \) with a moderate effect of \( \eta = .06 \). A *t* test comparing pre-assessment and follow-up emotional violence scores within the intervention group revealed a significant decrease from pre-assessment to follow-up, \( t(64) = 9.24, p < .001. \) Cohen’s *d* indicated a large effect with \( d = 1.51. \)

A *t* test comparing follow-up scores between intervention and control group revealing a significant difference, \( t(116.41) = 9.19, p < .001. \) As Table 4.1 shows, the intervention group reported a lower use of emotional violence than the control group. Cohen’s *d* indicated with \( d = 1.56 \) a large effect.

The physical violence score varied between groups from pre-assessment to follow-up assessment: \( F(1, 127) = 22.51, p < .001, \) with a large effect of \( \eta = .15. \) A *t* test comparing pre-assessment and follow-up physical violence scores within the intervention group revealed a significant decrease from pre-assessment to follow-up, \( t(64) = 10.88, p < .001. \) Cohen’s *d*
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indicated with $d = 1.28$ a large effect for the decrease in the intervention group. A $t$ test comparing follow-up scores between intervention and control group revealed a significant difference, $t(123.35) = 8.07, p < .001$. As Table 4.1 shows, the intervention group reported lower use of physical violence than the control group. Cohen’s $d$ indicated with $d = 1.38$ a large effect. The positive attitudes towards emotional violence score varied between groups from pre-assessment to follow-up assessment: $F(1, 127) = 13.87, p < .001$, with a moderate effect of $\eta = .10$. A $t$ test comparing pre-assessment and follow-up scores within the intervention group revealed a significant decrease from pre-assessment and follow-up, $t(64) = 8.46, p < .001$. Cohen’s $d$ indicated with $d = 1.44$ a large effect. A $t$ test comparing follow-up scores between intervention and control group revealed a significant difference, $t(122.31) = 6.82, p < .001$. As Table 4.1 shows, the intervention group reported less positive attitudes towards emotional violence than the control group. Cohen’s $d$ indicated with $d = 1.17$ a large effect.

The positive attitudes towards physical violence score varied between groups from pre-assessment to follow-up assessment: $F(1, 127) = 3.87, p = .027$, with a small effect of $\eta = .03$. A $t$ test comparing pre- and follow-up scores within the intervention group revealed a significant decrease from pre- and follow-up, $t(64) = 6.36, p < .001$. Cohen’s $d$ indicated with $d = 1.18$ a large effect for the decrease in the intervention group. A $t$ test comparing follow-up scores between intervention and control group revealed a significant difference, $t(113.27) = 5.57, p < .001$. As Table 4.1 shows, the intervention group reported less positive attitudes towards physical violence than the control group. Cohen’s $d$ indicated with $d = 0.96$ a large effect. Figure 4.2 summarizes the results.
### Table 4.1 Teachers' descriptive statistics and use of violent disciplining methods

<table>
<thead>
<tr>
<th></th>
<th>Intervention schools</th>
<th>Control schools</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M or n</td>
</tr>
<tr>
<td>Age (years)</td>
<td>65</td>
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</tr>
<tr>
<td>Gender (Male)</td>
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<td>33</td>
</tr>
<tr>
<td>Qualification (bachelor degree)</td>
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<td>44</td>
</tr>
<tr>
<td>Average teaching experience (years)</td>
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</tr>
<tr>
<td>Average working hours (per week)</td>
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<td>40.02</td>
</tr>
<tr>
<td>Average number of students per class</td>
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<td>68.05</td>
</tr>
<tr>
<td>Other sources of income (no)</td>
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<td>52</td>
</tr>
<tr>
<td>Household income /month (100-500USD)</td>
<td>65</td>
<td>40</td>
</tr>
<tr>
<td>Attitude towards emotional violence (PA)</td>
<td>64</td>
<td>3.53</td>
</tr>
<tr>
<td>Attitude towards emotional violence (FU)</td>
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<td>64</td>
<td>3.28</td>
</tr>
<tr>
<td>Attitude towards physical violence (FU)</td>
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<td>0.81</td>
</tr>
<tr>
<td>Use of emotional violence (PA)</td>
<td>64</td>
<td>7.39</td>
</tr>
<tr>
<td>Use of emotional violence (FU)</td>
<td>64</td>
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</tr>
<tr>
<td>Use of physical violence (PA)</td>
<td>64</td>
<td>9.59</td>
</tr>
<tr>
<td>Use of physical violence (FU)</td>
<td>64</td>
<td>1.17</td>
</tr>
</tbody>
</table>

*Note. M = mean; SD = standard deviation; N = total number of respondents; % = percentage; n = number of responses in a particular category; PA = pre-assessment; FU = follow-up assessment*
Figure 4. 2 Intervention effects in the four outcome variables measured in teachers
Reports of students. Using Pillai’s trace, we found a multivariate *time X intervention* interaction effect: $V = 0.06$, $F(2, 388) = 12.27$, $p < .001$, with a moderate effect of $\eta = .06$. The emotional violence score varied between groups from pre-assessment to follow-up assessment: $F(1, 389) = 21.74$, $p < .001$, with a small effect of $\eta = .05$. A t test comparing pre-assessment and follow-up emotional violence scores within the intervention group revealed a significant decrease from pre- to follow-up, $t(207) = 7.12$, $p < .001$. Cohen’s $d$ indicated with $d = 0.67$ a moderate effect. A t test comparing follow-up emotional violence scores between intervention and control group revealed a significant difference, $t(379.64) = 9.34$, $p < .001$.

As Table 4.2 shows, the intervention group reported lower exposure to emotional violence than the control group. Cohen’s d indicated with $d = 0.94$ a large effect.

The physical violence score did not vary between groups from pre-assessment to follow-up assessment: $F(1, 389) = 1.08$, $p = .300$, $\eta < .01$. However, a t test comparing pre-assessment and follow-up physical violence scores within the intervention group revealed a significant decrease from pre-assessment and follow-up, $t(204) = 8.31$, $p < .001$. Cohen’s $d$ indicated with $d = 0.73$ a moderate effect for the decrease in the intervention group. As the physical violence score differed already significantly between intervention and control group at pre-assessment $t(396) = 3.56$, $p < .001$, $d = 0.36$), we conducted an ANCOVA to assess effects between groups at follow-up while controlling for pre-assessment scores. The results revealed that the groups differed significantly in their follow-up scores, $F(1, 390) = 23.88$, $p < .001$, with a moderate effect of $\eta = .06$. As Table 4.2 shows, the intervention group reported lower exposure to physical violence than the control group. Figure 4.3 summarizes the results.
Table 4. 2 Students' descriptive statistics and exposure to violent disciplining methods

<table>
<thead>
<tr>
<th></th>
<th>Intervention schools</th>
<th>Control schools</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M or n</td>
</tr>
<tr>
<td>Age (years)</td>
<td>209 14.83</td>
<td>1.06</td>
</tr>
<tr>
<td>Gender (Male)</td>
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<td>45</td>
</tr>
<tr>
<td>Grade (8th grade)</td>
<td>209 116</td>
<td>56</td>
</tr>
<tr>
<td>Students’ parents alive (both parents alive)</td>
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<td>76</td>
</tr>
<tr>
<td>School location (rural)</td>
<td>209 98</td>
<td>47</td>
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<tr>
<td>Exposure to emotional violence (PA)</td>
<td>204 9.13</td>
<td>6.28</td>
</tr>
<tr>
<td>Exposure to emotional violence (FU)</td>
<td>204 5.40</td>
<td>4.12</td>
</tr>
<tr>
<td>Exposure to physical violence (PA)</td>
<td>204 12.21</td>
<td>9.21</td>
</tr>
<tr>
<td>Exposure to physical violence (FU)</td>
<td>204 6.22</td>
<td>6.80</td>
</tr>
</tbody>
</table>

Note. M = mean; SD = standard deviation; N = total number of respondents; % = percentage; n = number of responses in a particular category: PA = pre-assessment; FU = follow up assessment.
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Figure 4. 3 Intervention effects in the two outcome variables measured in students
4.5 Discussion

4.5.1 The feasibility of ICC-T intervention

As indicated by previous studies (e.g., Bonell et al., 2013; Devries et al., 2015), scientifically evaluated interventions that aim at preventing children from experiencing violence are lacking in Sub-Saharan Africa, especially in light of the high prevalence of violence against children. In the current study, we tested the feasibility (i.e., demand, motivation, satisfaction, acceptability, applicability and integration of the knowledge from the intervention) of the preventive intervention approach Interaction Competencies with Children for Teachers (ICC-T) in a cluster randomized controlled trial with secondary school teachers in Tanzania. Concordant to previous work on the feasibility of ICC-T intervention among primary school teachers in Tanzania (Kaltenbach et al., 2017), we also found a good feasibility of the ICC-T intervention. In the current study, trained teachers reported a high demand for the intervention and motivation to participate in the training. Moreover, teachers reported a good satisfaction of the training and that the content of the intervention is applicable in the context of their daily routine in Tanzanian schools. Furthermore, teachers reported a very good integration of the new knowledge and skills obtained in the intervention into their daily work. These findings imply that the knowledge obtained in the training was relevant for the trained teachers and may foster the use of non-violent discipline strategies in schools. This may reduce the prevalence of violence by teachers in Tanzanian schools as indicated in previous studies (e.g., Hecker et al., 2014; Semali & Vumilia, 2016).

Our findings provide further evidence for the feasibility of the ICC-T intervention in Tanzania. In Tanzania, this preventive intervention for teachers is highly important, since teachers’ regular training as reported by different studies (e.g., Nkuba & Kyaruzi, 2015; Yaghambe & Tshabangu, 2013) has not been able to provide the adequate skills for using effective but non-violent discipline management strategies in schools. Regardless of limited resources and poor working conditions in Tanzanian schools, trained teachers reported a very good applicability and usefulness of ICC-T skills. This finding is consistent with previous findings (Hermenau, Kaltenbach, et al., 2015; Kaltenbach et al., 2017) evaluating ICC-T and ICC for caregivers. Considering the cultural background and the experience of many teachers in Tanzania, we expected some resistance from the participants during training regarding the practicability of certain elements of the training. During the training, a minority of teachers maintained their view that the non-violent education of children was not practical in Tanzanian school settings. The reasons provided by participants was that students come to schools with
high exposure to violence in their families and thus refraining from the use of corporal punishment would be perceived as negligence to manage misbehavior at school. However, these concerns were well addressed during the self-reflection session in the training workshop, in which teachers were given an opportunity to reflect on their own experience and feelings about corporal punishment in their childhood and later on as adults. At this point many teachers realized the threatening experience that they went through in their childhood. This approach helped teachers to re-consider their beliefs and practice in dealing with students’ discipline at school. In sum, ICC-T intervention indicated a good feasibility in Tanzania, which may be the starting point to contribute to changes in teachers’ attitudes and behavior.

4.5.2 The efficacy of the ICC-T intervention

Regarding teachers’ self-reports, we found an intervention effect in all four outcome variables. Teachers in the intervention group reported a stronger decrease in positive attitudes towards emotional and physical as well as a stronger decrease in the self-reported use of emotional and physical violence as compared to the control group. Effect sizes indicate moderate effects. In other words, our findings indicate both a change of attitudes and of behavior potentially as a result of the ICC-T intervention. These findings were supported by the reports of the students. In line with the findings of teachers, students reported a stronger decrease in exposure to emotional violence in the intervention schools as compared to the control schools. We found similar results for students’ exposure to physical violence. Though the interaction effect was not significant, we found a significant difference between students of intervention schools compared to students of control schools, when controlling the for the pre-assessment scores. All in all, five of the six outcome variables supported our hypothesis that ICC-T is not only feasible in reducing violent discipline but is also effective. The last outcome variable, i.e. student’s exposure to physical violence, at least partially supported our hypothesis. Our findings are in line with the previous studies on ICC-T by Hermenau, Kaltenbach, et al (2015) and Kaltenbach et al (2017). The current study extended the previous study on ICC-T (Kaltenbach et al., 2017) to teachers in secondary schools. The uniqueness and strength of the current study is that it was conducted in a large sample of secondary school teachers and used cluster randomized controlled design.

In general, our findings are consistent with findings from previous intervention studies in Sub-Saharan African countries (e.g., Devries et al., 2015; Parkes & Heslop, 2013) and other settings (Global Advocacy Team, 2012), which also reported changes in teachers’ attitude, discipline management practice and improved teacher-student relationships. In regard to students’ reports of violence in schools, the reported changes are similar to changes after
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school-based intervention in Sub-Saharan Africa (e.g., Devries et al., 2015) as well as in high-income countries (e.g., Bonell et al., 2013). In Tanzania, this is – to our knowledge – the first study that evaluated the effect of a school-based intervention targeting teachers that also included the student’s perspectives.

4.5.3 Strengths and limitations
Despite the strength of the study (e.g., multi-informant approach, cluster randomized controlled study design.), there are certain limitations that should be noted: first, the few schools included do not allow for generalizations to other schools in other settings and countries. The follow-up assessment was only three months after the intervention, therefore, the reported improvement in disciplining approaches, teacher-student relationships and changes in attitude should be taken as preliminary. In general, children and teachers openly shared their experiences about violence in schools. However, with the use of questionnaires, potential biases, such as social desirability, may not be ruled out.

4.6 Conclusion
The present study provides initial evidence for the feasibility of ICC-T intervention in Tanzanian secondary schools. Furthermore, the changes in teachers’ attitudes towards and use of violent disciplining methods indicate the efficacy of the ICC-T intervention at Tanzanian schools. This was further supported by the decrease in exposure to experience of physical and emotional violence reported by students. Given the promising findings in this study, we recommend replicating our study and extending the evaluation of ICC-T to other school types in Tanzania and other Sub-Saharan African countries. Importantly, the involvement of governments, institutions and other members of the public should be emphasized in the process of disseminating the findings from this study to gain more support from different players in an attempt to prevent children from different forms of violence.

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in data analysis. In a special way, we are grateful to Thomas Elbert for his support and supervision throughout the project.
General discussion

Child maltreatment remains a matter of concern in various countries worldwide (Gershoff, 2010; Norman et al., 2012; Schilling et al., 2007). Reports from high-income countries revealed that different forms of child maltreatment including physical violence, emotional violence and neglect, are highly prevalent and are associated with various mental health problems such as hyperactivity, conduct problems and peer problems (Berlin et al., 2009; Gilbert et al., 2009). On the other hand, studies from low-income countries particularly in Sub-Saharan Africa have revealed even more prevalent rates of child maltreatment that are also linked to a high level of mental health problems in children (Hecker, Hermenau, et al., 2016; Hermenau et al., 2011; Ndetei et al., 2008; UNICEF, 2014). However, the vast majority of research from Sub-Saharan Africa has reported a prevalence of child maltreatment and associated mental health problems from either at-risk groups such as orphans (Lekule, 2014; Morantz, Cole, Ayaya, et al., 2013) from non-representative samples (Feinstein & Mwahombela, 2010; Hecker et al., 2014), resulting in a failure to address the magnitude of child maltreatment and its consequences in regular families or schools and to gain findings from representative populations. Hence, the present thesis examined the prevalence of child maltreatment and mental health problems as well as the association between child maltreatment and mental health problems among Tanzanian secondary school students in a nationally representative sample. The thesis included the perspectives of both students and their parents. Specifically, the thesis focused on the prevalence of physical violence, emotional violence and child neglect in families. Moreover, the association between parental stress, familial risk factors and parental physical violence, emotional violence and neglect were examined. Furthermore, the thesis examined the prevalence of mental health problems in secondary school students. In line with that, the association between child maltreatment (i.e., physical violence, emotional violence and child neglect) by parents and mental health problems in children were investigated. Additionally, the contribution of violence against children outside of families (e.g., violence by teachers, peer violence) to mental health problems in children was also examined. Following the findings from the indicated objectives, an intervention aimed at preventing children from school violence by teachers was implemented and evaluated. The main focus of the intervention was to prevent secondary school students from violence by teachers. To accomplish the intervention, a training workshop for teachers (ICC-T) was conducted with a focus on providing regarding the use of non-violent discipline strategies and improving teacher-student relationships in school settings.
5.1 Discussion of the results

5.1.1 Prevalence of violence and child maltreatment in Tanzanian families

Results showed a high prevalence of family violence and maltreatment in Tanzania, with only 2% of the students reporting not having any experience of maltreatment in the past year and only 1% of the parents reporting not having applied any type of maltreatment in the past year. Findings from both students and their parents indicated that physical violence, emotional violence and child neglect were very common in Tanzanian families. Moreover, parents and guardians disclosed that they use violent disciplining methods as a means of controlling children's misbehavior. On the other hand, parents and guardians emphasized their opinion that it is rather difficult or almost impossible to teach children good behavior without using a stick. Furthermore, the findings of this thesis indicates significant correlations between familial factors (e.g., parental gender, family size, and unpredictability of income) and parental stress, and in turn parental stress was highly associated with parental child maltreatment. These findings indicate that familial risk factors contributed to making parents feel burdened and stressed, the conditions that subsequently influenced their approaches towards children's misbehaviors in families. In general, the high prevalence of child maltreatment found in this study is concordant with previous studies in Sub-Saharan Africa (GIEACPC, 2015b; 2016a; Straus, 2010). Similarly, findings in this study are consistent with other studies conducted in both high- and low-income countries which reported strong associations between familial factors, parental stress and child maltreatment (Lansford et al., 2014, 2015; Tracy, 2014). Thus, the present findings extend the evidences for the prevalence of child maltreatment in Sub-Saharan African countries and Tanzania in particular. Remarkably, the present study sought the viewpoints of both students and parents thus increasing the strength and the reliability of the results. Furthermore, the present study using a nationally representative sample design supports the previous findings of NGO reports (e.g., GIEACPC, 2016c), non-representative sample studies (Hecker et al., 2014) and other research that included mainly children from at-risk samples (Hermenau et al., 2015). The present findings are also in line with the common notion of many parents and guardians in Tanzania who strongly believe that violent disciplining strategies do not harm the children, but rather make them well behaved members of society (Hecker et al., 2016). This emphasizes the importance of informing parents and caregivers in Tanzania about the potential consequences of maltreatment in children’s health and dignity.
Therefore, the present study findings emphasize on the need to educate society members in Tanzania and Sub-Saharan Africa countries in general about the extent of child maltreatment and the associated consequences in children. Subsequently, more and effective interventions that prevent children from violence must be designed and implemented.

5.1.2 Child maltreatment and mental health problems among Tanzanian children
In line to previous research findings from Sub-Saharan Africa, the present study found mental health problems in 41% of students' self-reports in the past six months. Correspondingly, the students' parents reported mental health problems for about 31% of their participating children. Both self-reports from students and parents’ reports about their children cited peer problems as the most prevalent mental health complication. This implies that mental health problems are prevalent among secondary school students in Tanzania and can be clearly be seen even at the family level. The findings are in agreement with previous studies that reported a high prevalence of mental health problems among children and adolescents in both high and low income countries including Sub-Saharan African countries (Kieling et al., 2011; Cortina, Sodha, Fazel and Ramchandani, 2012; Hermenau et al., 2015). Moreover, the findings further indicated the contributions of physical violence by parents, parental stress, peer violence and emotional violence by teachers on the mental health problems of students. On top of that, the findings indicate an agreement between the reports of students and their parents regarding the strong association between physical violence by parents and the mental health problems of students. These results are consistent with previous findings from global research studies which indicated the contributions of physical violence, emotional violence, peer violence, and parental stress to mental health problems in children (Fleming & Jacobsen, 2009; Infurna et al., 2016; Ismayilova et al., 2016; Kinyanda et al., 2013; Neece et al., 2012; Ashenafi, Kebede, Desta, & Alem, 2001; UNICEF, 2014). In agreement with previous studies on associations between types of maltreatments and mental health problems in children, the current study indicates a significant association between physical (but not emotional) violence by parents and mental health problems in children. In addition to that, a significant association was found for emotional (but not physical) violence by teachers. These findings also partly relate with previous findings in Tanzania (e.g., Hecker et al., 2014, 2016; Hermenau et al., 2011, 2014) which indicated strong links between the different forms of violence and mental health problems in children. In sum, the findings in this study emphasize that child maltreatment and mental health problems are problems of great concern in Tanzania and that there is a need to protect children from these
risks by educating parents, teachers and other members of the public on the consequences of violence for children's health and dignity.

5.1.3 Evaluation of the ICC-T violence prevention intervention in Tanzanian schools

The present study also evaluated the feasibility and efficacy of the ICC-T intervention program in preventing violence against children by teachers at secondary schools in Tanzania. This was implemented in four randomly selected intervention schools while four other schools were considered as a control and did not receive any intervention. In intervention schools, the ICC-T training workshop was carried out and an evaluation of this was conducted before, immediately after and three months following the workshop. Subsequently, a broader assessment of the ICC-T training intervention efficacy was conducted prior to training and three months after training. Following the evaluations at different points, the results indicated a very good feasibility of the ICC-T training intervention in Tanzania. In fact, teachers indicated a very high demand for training workshop prior to the training. Furthermore, teachers reported good levels of acceptance of the training content and applicability of the knowledge obtained from the training intervention. At the follow-up evaluation, teachers acknowledged that the training intervention was relevant to their daily work in schools and that they were able to integrate a large part of the knowledge and skills obtained from the training.

Considering the efficacy of the ICC-T intervention, a significant decrease in teachers' attitude and use of violent disciplining methods was noted in intervention schools as compared to control schools three months after the implementation of the training intervention. This was further supported by the decrease in the students' exposure to physical and emotional violent disciplining experience in intervention schools as opposed to control schools as indicated in students' self-reports three months following teachers training. These findings suggest that ICC-T knowledge obtained from the training helped teachers to understand the nature of students' misbehavior and the appropriate methods to deal with them without resorting to violence. This understanding resulted in a change in teachers' attitudes towards violence, and in turn reduced the use of violent disciplining methods in schools. Therefore, the study emphasizes that ICC-T as an intervention approach was useful in promoting the use of non-violent disciplining methods and improving teacher-student relationships. The findings support the previous studies of ICC-T intervention in Tanzania that indicated a change in attitudes and beliefs towards violence by primary school teachers (Kaltenbach et al., 2017).
Due to promising levels of feasibility and efficacy found in this trial, the ICC-T intervention is likely to be applicable to other Sub-Saharan Africa countries with similar settings in which violence against children by teachers is common. This might be of great importance due to the fact that school violence is consistently prevalent in various countries in Sub-Saharan Africa and this reflects a widespread norm in the use of violent disciplining methods in children’s behavioral management (Mweru, 2010; Semali & Vumilia, 2016). In general, evaluating the feasibility and efficacy of the ICC-T intervention in Tanzanian secondary school settings helped to provide initial evidence that violence against children can be reduced regardless of the challenges related to working conditions in schools and teachers’ stress. Further evaluations in larger-scale settings and with longitudinal designs are recommended so as to bring about more understanding and improvement of the approach.

5.2 Implications for the future

5.2.1 Future research

In considering the findings of this thesis, further studies using large-scale longitudinal designs are needed in order to assess and examine the prevalence, consequences and possible preventive approaches of child maltreatment. Also, future research should replicate the present study with younger children samples at lower level of education such as at pre-primary and primary schools. Moreover, future research is also needed to investigate secondary school adolescents in other settings such as at private schools, or adolescents who dropped out of school at an earlier stage. As the influence of familial factors and parental stress on child maltreatment was clearly indicated among the studied secondary school adolescents, future studies can investigate the influence of these factors on maltreatment in younger children in Tanzanian families and in other Sub-Saharan African countries. Furthermore, evaluations of the ICC-T violence prevention interventions and other related programs should be conducted in large school samples in Tanzania and other Sub-Saharan African countries so as to improve the scientifically evaluated violence prevention programs and increase the chance of reducing violence against children in different settings. In summary, research focusing on preventing violence against children in Sub-Saharan African settings is encouraged in order to provide evidence about the proper ways of protecting children from different forms of violence and the risks of mental health problems.
5.2.2 Future practice and actions
According to the findings presented in this study, there is a need to educate parents, caregivers, teachers, and policy makers on the potential consequences of child maltreatment in families and education settings in Tanzania. This action will help to increase awareness among experts and increase the sphere of supports for the prevention of violence against children in all settings, as emphasized by the United Nations’ Convention on the Rights of the Child (UN General Assembly, 1989). Moreover, designing and implementing interventions that prevent violence against children by parents, guardians and other caregivers in families are recommended. On the other hand, interventions are necessary to target teachers of lower education levels such as pre-primary and primary schools with the aim of protecting children from violence by teachers starting from the early years of schooling. Furthermore, teachers' professional training should address the issue of non-violent disciplining strategies as well as the previously reported deficit (Nkuba & Kyaruzi, 2015) in terms of teachers' skills and ability to handle misbehaviors in schools in various Sub-Saharan African countries. This can be done through improving the teachers’ regular training programs in aspects such as the psychology of adolescents, communication skills with students, effective discipline strategies and reward systems. On the other hand, due to the high prevalence of students’ exposure to maltreatment and mental health problems identified in this and previous studies, future actions should focus on identifying the psychological and behavioral problems in children and offering psychological supports in different settings. In sum, there is a need to raise the awareness of the prevalence of child maltreatment and mental health problems among children, and of the association between maltreatment and mental health problems among children in Tanzania.

5.3 Overall conclusion
In order to be able to grow and reliably contributes to society later on in life, children require good care and proper parenting from their caregivers and educators within and outside the family. Unfortunately, exposure to maltreatment and mental health problems among the children highlighted in the present study might diminish their expected contributions to society. In fact, the present study indicated a high prevalence of mental health problems among secondary school students in Tanzania and a significant association between physical violence by parents and mental health problems in children. In line with this, mental health problems in children were associated with peer violence, emotional violence by teachers and parental stress.
General discussion

These facts emphasize the need for educating parents, caregivers, and teachers on the importance to use non-violent discipline strategies in families and schools so as to prevent children from mental health problems. On top of that, reducing parents' stress may be a necessary action so as to reduce violence which might contribute to the use of violent disciplining strategies by parents. Due to reported high exposure to violence among children, societal beliefs about violent disciplining strategies in all settings should be addressed in order to prevent children's health and dignity.
6 References


Global Initiative to End All Corporal Punishment of Children(GIEACPC). (2016c). Corporal


References


Savina, E., Coulacoglou, C., Sanyal, N., & Zhang, J. (2012). The study of externalizing and
References

http://doi.org/10.1177/0143034311406821

http://doi.org/10.1186/1471-2458-7-30


http://doi.org/10.5430/wje.v6n1p50

http://doi.org/10.1177/1077559504269193


http://doi.org/10.1186/s12888-015-0583-x


http://doi.org/10.1093/ije/dyu038

http://doi.org/10.1080/10926771.2012.708014

http://doi.org/10.1002/car.2353


(MACE) scale for the retrospective assessment of abuse and neglect during development. 


