

**LEARNERS' ATTITUDE TOWARDS PHYSICAL PUNISHMENT
AS A MEDIATOR BETWEEN PHYSICAL PUNISHMENT AND ACADEMIC
PERFORMANCE IN KCPE IN SHINYALU SUB-COUNTY, KENYA**

BY

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DECLARATION

Declaration by the Candidate:

This thesis is my original work and has not been presented for the award of a degree to any other university.

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This thesis has been submitted for examination with our approval as university supervisors.

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DEDICATION

To my beloved parents, Mr and Mrs Owade, my wife Modesta, my dear sons Austen and Modestefan, and to my loving daughters Stephanie and Angeleve.

ABSTRACT

Children's academic performance is reportedly linked to exposure to physical punishment. In 2015, a presumed link between academic performance and physical punishment was notable in Shinyalu sub-county. Only 24.31% of the candidates scored above average in KCPE. There were 311 reported cases of physical punishment from 34 schools (53%) in Shinyalu sub-county between 2013 and 2014. Whereas physical punishment has negative effects on academic performance, these effects might be influenced by learners' attitudes. Therefore, the purpose of this study was to investigate learners' attitude as a mediator between physical punishment and academic performance in KCPE in Shinyalu Sub-county, Kenya. The objectives of this study were to find out the prevalence of physical punishment; to determine the relationship between learners' experiences of physical punishment and academic performance; and to investigate the mediating effects of attitude on the link between physical punishment and academic performance. A conceptual framework based on Functional Attitude Theory (FAT) and Baron and Kenny mediation model guided the study. Descriptive survey and correlational research designs were adopted. Data was collected using a Likert-type scale with internal consistency coefficient, $\alpha = 0.8$. Two experts in Educational Psychology reviewed the questionnaire to ascertain its content validity. Stratified sampling was used to select 22 county and sub-county schools. Simple random sampling was then used to select 323 students from the selected schools to represent a target population of 2,017 form one students. Krejcie and Morgan (1970) formula was used to calculate a proportionate sample size at 95% CI and 0.05 error margin. Correlation and regression analyses were conducted using SPSS PROCESS macro to examine the relationship between physical punishment and academic performance. Both severe and moderate physical punishment had significant effects on learners' academic performance. Academic performance was reportedly lower in children with positive attitude towards physical punishment ($M = 272, SD = 0.9$) than those with negative attitude ($M = 291, SD = 0.6$), $t(2, 321) = -4.613, p < .01$. Learners' attitude towards physical punishment was found to mediate the link between severe physical punishment and academic performance ($\beta_1 = .0321$, Boot LLCI = $-.0700$, Boot ULCI = $-.0500, p < .001$). The researcher recommends the development of stricter and enforceable mechanisms to monitor the implementation of laws prohibiting physical punishment in schools. The TSC and MOE should sensitize teachers on negative effects of physical punishment on academic performance. This study contributes more knowledge on differential effects of discipline strategies on learners.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANPPCAN	African Network for the Prevention and Protection against Child Abuse and Neglect
GIEACPC	Global Initiative to End All Physical Punishment of Children
GPA	Grade Point Average
KCPE	Kenya Certificate of Primary Education
KNBS	Kenya National Bureau of Statistics
MOE	Ministry of Education
MUERC	Maseno University Ethics Review Committee
NACOSTI	National Council for Science, Technology and Innovation
PAN	Parenting in Africa Network
PSRI	Population Studies and Research Institute
SID	Society for International Development - East Africa
TSC	Teachers Service Commission
UNCRC	United Nations Convention on the Rights of the Child
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children's Fund

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Physical punishment refers to any punishment that involves the use of physical force with the intention to cause some degree of pain or discomfort (PAN, 2013). Common forms of physical punishment includes lapping, boxing, caning, strapping or inflicting pain using any physical object or legs, pushing, pulling or making scratches on skin, pulling one's hair, forcing one into prolonged discomfort postures, detention or chaining, inflicting burns, scolds or forcing to eat or swallow or put something in the mouth”(GIEACPC, 2015, p. 2).Parents, teachers, and caregivers use physical punishment with the intention of correcting or punishing misbehavior (Legal Assistance Center, 2010).

Researchers often categorize physical punishment into different forms. Lansford et al. (2010b) distinguishes between mild and severe physical punishment. Mild physical punishment includes spanking, hitting, or slapping with the bare hand; hitting or slapping on the hand, arm, or leg; shaking; or hitting with an object (Lansford et al, 2010b). Severe physical punishment, as defined by Lansford et al. (2010a) involves hitting or slapping on the face, head, or ears, or beating repeatedly with an implement. Similarly, GIEACPC (2016) defines severe physical punishment to include hitting a child on the head, face or ears, or hitting hard and repeatedly. Moderate physical punishment (GIEACPC, 2016) includes spanking a child or pulling them up by the arm. Bordin, Duarte, Paula, Nascimento, Curto and Cristiane (2009, p.337) define severe physical punishment “as the child being hit with an object (e.g. a stick, broom, cane or belt); being kicked, choked, smothered, burnt, scalded, branded, beaten (i.e. hit repeatedly with an object or fist) or threatened with a weapon (such as a knife or gun).”Kesner and Stenhouse (2018) classifies physical punishment as mild (gently taking a child by the arm), moderate (spanking a child with a bare hand), and severe (slapping in the face with a bare hand).

Physical punishment is a global phenomenon, affecting individuals of all gender, socio-economic status, and academic levels (GIEACPC, 2019). For example, physical punishment is legal in nineteen states in the United States of America (Han, 2017). However, there are significant differences in cases of physical punishment among nations, with reports of such cases being minimal in Sweden and most prevalent in Kenya (Rimal & Pokharel, 2013). Physical punishment is prevalent in most learning institutions in India (95%) even though the practice is illegal in most states in the country (Jyoti & Neetu, 2013).

Physical punishment is the most controversial method used by both parents and teachers alike to instill discipline and to manage unwanted behavior among children (Lansford, Tapanya & Oburu, 2011). The United Nations Convention on the Rights of the Child (UNCRC) prohibits physical punishment in all settings including schools (GIEACPC, 2016). However, this practice is still legal in many countries (Akmatov, 2010; Cappa & Khan, 2011; Straus, 2010), including the nineteen states in the USA (Center for Effective Discipline, 2012; Han, 2017). Physical punishment elicits conflicting views among researchers and education stakeholders to an extent that no clear line has ever been drawn about its overall effects on children (Lansford et al., 2011; Peterson & O'Connor, 2014). Further research is necessary in order to understand the overall effects of physical punishment on academic performance.

According to opponents of physical punishment such as the Legal Assistance Center (2010), there is sufficient evidence to show that physical punishment causes enormous negative effects on minors. A survey conducted in Chinaby Yudan (2013) suggests that children whose parents heavily rely on physical punishment to manage their behavior perform poorly in academics and are less socially skilled and competent than their peers. On the contrary, other studies suggest that children who perform poorly in academics and are less socially skilled and competent might attract physical punishment (Lansford et al., 2011). There is need

for further research to clarify the direction of effects in the relationship between physical punishment and academic performance.

Short-term and long-term effects of physical punishment on children's development are highly contentious (Ogando-Portela & Pells, 2015). Straus (2010), for instance, contends that a significant majority of Americans maintain a belief in the positive value of physical punishment as an effective tool for molding children into successful and responsible adults. Studies suggest that 84% of American parents (Legal Assistance Center, 2010) believe that spanking children is, in some cases, both necessary and inevitable in order to instill discipline. Teachers, parents and even some pupils attribute better academic performance to physical punishment (Marcus, 2014; Morrow & Singh, 2014; Nguyen & Tran, 2013; Parkes & Heslop, 2011). Generally, it is normal for adults, including parents and teachers, to inflict pain on children as punishment (Rimal & Pokharel, 2013) although such actions towards an adult are both unacceptable and criminal.

Results of studies on children's attitudes towards physical punishment raise more controversies regarding the need for and effectiveness of physical punishment. In one Mississippi school survey (Smith & Harper, 2015), majority of the students preferred alternative forms of discipline although 42% claimed that their behavior had significantly changed following physical punishment. The students alleged that following the experience of physical punishment, they had resolved to shun all forms of inappropriate behavior. According to findings by Smith and Harper (2015), it is not clear whether children consider physical punishment as beneficial or not. The study suggests that whereas learners prefer alternative forms of punishment, they acknowledge that physical punishment contributes positively to their behavior in school. This suggests a need for further research on learners' attitudes towards physical punishment and its possible effects on their academic performance.

Studies on parental discipline strategies suggest that the effects of physical punishment on children might be related to the context under which it is administered (Lansford, 2019; Lansford et al., 2010a; Lansford et al., 2011). A meta-analysis of several global studies by Durrant and Ensom (2012) found that there is a relationship between normative physical punishment and negative behavior outcomes. On the contrary, Larzelere, Cox and Smith (2010) in their study found no evidence that children who are subjected to physical punishment suffer any developmental or behavioral problems in later life. The disagreements in these studies (Durrant & Ensom, 2012; Lansford, 2019; Lansford et al., 2010a, Lansford et al., 2011; Larzelere et al., 2010) further escalate the controversy in research regarding the effects of physical punishment and learners' attitude towards it on academic performance. Further research may help explain these controversies in research relating to physical punishment.

Physical punishment is associated with poor academic performance and cognitive development across different ages and ethnicities (Durrant & Ensom, 2012). A review of several European studies conducted by Rajalakshmi (2018) found no evidence to suggest that physical punishment either enhances or promotes learning. Studies on parental discipline strategies (e.g. Lansford et al., 2011) suggest that physical punishment might have positive results if its recipients consider it to be appropriate and acceptable. On the contrary, there are assertions that the negative effects of physical punishment are independent of its context (Anand, 2014; Jaghoory, Bjorkqvist & Osterman, 2015). This raises concerns about its continued use in schools as a means of enhancing learners' discipline and academic performance. The lack of consensus among researchers points to the need for further research to find out whether attitudes learners hold towards physical punishment have any effect on the link between physical punishment and academic performance.

Studies on indirect paths linking physical punishment to learners' academic performance are both limited and scanty. However, research studies on effects of physical punishment on children's behavior point towards attitude as a significant mediator on this link. Additionally, studies on parental discipline strategies (e.g. Lansford, 2019; Lansford et al., 2010a) suggest an indirect link between exposure to physical punishment and child outcomes.

Many of the studies on effects of physical punishment on children, according to Yudan (2013), are based on opinions of parents and teachers. To understand the effects of physical punishment on children, it is necessary to investigate physical punishment from the perspective of the child rather than an adult's perspective (Yudan, 2013). In societies where physical punishment of children by parents is a cultural norm, the very children on whom it is meted may not perceive its use as indicative of parental rejection (Lansford, 2019). However, children in societies where the practice is not normative, even if it is legal in those societies, hold negative attitudes towards physical punishment. In Mississippi, for example, a student who had been paddled by a teacher described physical punishment as creating hatred, degrading, humiliating and impairing healthy communication between the teacher and students (Human Rights Watch, 2010). Students with such attitudes may have difficulty with concentration and poor academic performance (Jyoti & Neetu, 2013) if subjected to physical punishment.

Results of a study conducted in China by Yudan (2013) show that the interpretations children give to physical punishment by their teachers might alter the impact of physical punishment on their behavioral development. One of the key mechanisms in which physical punishment affects children's future adjustment is through the ways in which they perceive parental actions as either warm and accepting or hostile and rejecting (Lansford, 2019). The meaning a child gives to specific forms of punishment, according to Yudan (2013), significantly influence the link between those forms of punishment and the child's adjustment. Yudan

(2013), therefore, agrees with Lansford et al. (2013) that when children perceive physical punishment as being normative, the tendency to associate it with parental hostility will be minimal. In order to eliminate or minimize physical punishment in school settings and apply effective alternatives, it is necessary to examine and understand its contextual factors (Khuwaja et al., 2018). One such factor is learners' attitudes towards physical punishment.

Although studies on attitude towards physical punishment are scanty, research on general attitude (e.g. Khamari & Guru, 2013; Peteros, Columna, Etcuban, Almerino & Almerino, 2019; Veresova & Mala, 2016) demonstrate that attitudes either positively or negatively affect academic performance. In an empirical study on attitude and mathematics achievement of Philippine high school students, Peteros et al. (2019) found a positive correlation between attitude towards mathematics and academic achievement. Veresova and Mala (2016) also suggests that learner's attitude towards school and learning accounts for 9.8% change in GPA scores. Awang et al. (2013) also reiterates the association between physical punishment and academic performance in Malaysian studies. On the other hand, a study conducted in India by Samit, Ujjwal, Bapi and Debabrata (2014) found no significant correlation between attitude towards education and academic achievement of minority students. Consequently, it is not yet clear whether learners' attitudes have a correlation with academic performance. The need for more research studies on the relationship between attitudes towards physical punishment and academic performance is evident.

The principal factor that determines children's attitude towards physical punishment seems to be the actual exposure to it (Vittrup & Holden, 2010). Children who have experienced physical punishment tend to accept it as normative while those with little or no experience of physical punishment regard it as unacceptable (Carter-Davies & Bristow, 2018). In Ghana, the use of physical forms of punishment to discipline children is permissible, not only for parents but neighbors, relatives, friends and teachers alike (Afua, 2010). The irony is that not only

parents and teachers but also children themselves endorse physical punishment in Ghana (Afua, 2010).

Administration of physical punishment, according to responses from parents and teachers in Lagos, Nigeria (Ehiane, 2014), enhances academic performance. Results of the survey conducted in Ghana by Afua (2010) show that most children believe that physical punishment is important to the socialization process to mold them into responsible and well-mannered adults. These results are consistent with results of a survey among Cameroonian, Ethiopian, Senegalese, Ugandan and Zambian children (African Child Policy Forum, 2010). However, a study conducted in Uganda by ANPPCAN and Makerere University (2013) found that nearly half (45%, N = 400) of Ugandan youth disapprove of physical punishment at school, contradicting earlier findings by African Child Policy Forum (2010).

Findings of a nation-wide survey in Tanzania suggest that 75% of teachers had used physical punishment at least once prior to the study (Feinstein & Mwachombela, 2010), hitting with a stick being the most prevalent. Similarly, a survey of both national and international schools in Uganda conducted by Mbikyo (2012) found that majority of parents (60%) and pupils from both national (74.3%) and international (52%) schools supported the use of physical punishment in school.

Research findings suggest that physical punishment in schools “undermines children’s security and safety, and inflicts physical, psychological and emotional pain and fear, thereby undermining the child’s potential to take advantage of existing learning opportunities” (Republic of Uganda, 2017, p. 4). This hinders learning and, according to Ndembu (2013), may contribute to school dropout.

Several qualitative studies conducted in Kenya (e.g. Kaguamba & Muola, 2010; Khatete & Matanda, 2014; Kimani et al., 2012; Musungu, 2014; Mweru, 2010) reported high prevalence

of physical punishment and its effects in Kenyan schools, albeit controversial. Kaguamba and Muola (2010) and Musungu (2014), for example, found that the use of physical punishment was associated with poor academic performance. On the contrary, opinions of teachers and students in other Kenyan studies (e.g. Kimani et al., 2012; Khatete & Matanda, 2014) suggest a positive relationship between physical punishment and academic performance. Respondents in Khatete and Matanda (2014), for instance, suggest that a ban on physical punishment in school led to increased cases of learners' failure to complete academic tasks. Khatete and Matanda (2014) hence suggest that the ban on physical punishment negatively affected academic performance. Results of these studies are based on qualitative data and, hence may not justify cause-effect relationship between physical punishment and academic performance. Additionally, there is lack of consensus on whether physical punishment has negative or positive effects on academic performance. This indicates that physical punishment might differentially affect children, suggesting possible indirect effects of physical punishment on academic performance.

In a survey involving 267 respondents in Kenya, majority (62.2%) of the children interviewed wanted the use of physical punishment abolished (GIEACPC, 2010), suggesting a negative attitude towards physical punishment. However, 54% of parents in the same study preferred upholding of physical punishment, their attitude contradicting that of pupils. Findings of a study by Kimani et al. (2012) raises even more concerns, suggesting that 60% of Kenyans, including children themselves, support reintroduction of physical punishment in schools. Additionally, findings by Mweru (2010) show that teachers in secondary schools in Kenya approve the continued use of physical punishment despite its ban. Mweru (2010) found that teachers in Kenya believe that physical punishment is the most effective discipline strategy; it does no harm to pupils; and that it is done in the best interest of the learners. Since attitudes of teachers and parents are not mostly consistent with those of pupils, researching on

the learners' attitudes could provide a better understanding of the effects of physical punishment on academic performance.

That notwithstanding, physical punishment is reportedly a common form of discipline management strategy in most secondary schools in Kenya (Kindiki, 2015). In the disguise of pushing learners to attain higher grades, teachers often punish students for failing to attain expected scores in examinations (GIEACPC, 2015). Most schools in Kenya continue use physical punishment as a disciplinary tool many years after its ban in 2001, and its consequent abolishment in the 2010 constitution (Ajowi & Simatwa, 2010; Kimani et al. 2012; Kiprop, 2012; Mweru, 2010).

According to Kenya National Bureau of statistics 2013/2014 report (KNBS, PSRI, & UNCEF, 2016), the prevalence of physical punishment in Kakamega County was 82%, against a national average of 76%. Although there is no research data on prevalence of physical punishment for Shinyalu sub-county, cases of physical punishment were reported in 34 schools (53%) between the years 2013 and 2014 (Kakamega County Children's Department, 2016). Over the same period, Shinyalu sub-county seemed to perform poorer in academics than her neighbors did. Her primary school pass rate in 2013/2014 was 51% against national and county averages of 76.0% and 55.4% respectively (Uwezo, 2014). According to Kakamega County survey report published by KNBS and SID (2013), Isukha East Ward of Shinyalu sub-county has the highest number of people (66%) with primary education only. This was five percentage points higher than the county average (61%), and 20 points higher than Mumias North that had the highest primary to secondary school transition rate. This suggests poor academic performance in Shinyalu sub-county in relation to other sub-counties in Kakamega County. Similarly, only 24.31% (918) out of the 3,776 KCPE 2015 examination candidates scored above average (Kakamega County Education Office, 2016).

Literature reviews suggest a high prevalence of physical punishment in Kakamega county and Shinyalu sub-county (KNBS et al., 2016; Kakamega County Children's Department, 2016). Additionally, there is low academic performance among primary school pupils in Shinyalu sub-county (KNBS & SID, 2013; Uwezo, 2014), suggesting a link between physical punishment and academic performance. There is need to investigate the link between low academic performance in Shinyalu sub-county and physical punishment, and the mechanisms by which physical punishment and academic performance might be related.

On the basis of the presumed indirect link between physical punishment and academic performance in Shinyalu sub-county, this study investigated the possible mediation role of attitude on the link between physical punishment and academic performance. Previous studies, however, suggest that a myriad of other factors may affect academic performance. These factors include parental involvement (Ashiono, 2013; Rafiq, Fatima, Sohail, Saleem & Khan, 2013), parental marital status (Chalachew & Lakshmi, 2013), parenting styles (Fakeye, 2014), child's anxiety profile (Carey, Devine, Hill & Szucs, 2017) and personality of the child (Ashiono, 2013). In Shinyalu sub-county, three studies were recently conducted to investigate the effects of curricular activities (Maluti, 2014); management of instructional personnel (Burema & Ndiku, 2016) and head teachers' management skills (Shigami, 2012) on academic performance. There have been efforts by the Ministry of Education to address these concerns through increased infrastructural development and professional teacher development programs. Academic performance among primary school pupils in Shinyalu sub-county, however, remains dismal despite these efforts.

The factors investigated by Maluti (2014), Burema and Ndiku(2016), and Shagami (2012), and which the government has made efforts to address, are all school factors. These studies focused primarily on the learning environment, giving little attention to the learner and learner-related factors. Studies conducted in Kenya, both nationally and within Shinyalu sub-

county, have for a long time sidelined learners' attitudes when investigating factors that influence academic performance. The current study, therefore, investigated the possible effects of attitude towards physical punishment on learners' academic performance.

1.2 Statement of the Problem

Performance in KCPE examinations determines Form one placement. Performance in KCPE by learners from Shinyalu sub-county is notably low in relation to both county and national performance. The average KCPE mark for the 2013- 2015 was 258.83 against a county average of 261. In 2015, only 24.31% of the more than 3,700 candidates scored above average in KCPE. Primary school pass rate in 2013 - 2014 was 51% against national and county averages of 76.0% and 55.4% respectively.

Persistently poor academic performance among learners in Shinyalu sub-county, in relation to both county and national results call for an inquiry into the factors responsible for poor academic performance in Shinyalu sub-county. Despite there being numerous studies on possible causes of poor academic performance, the role of physical punishment is the least investigated. This led to the need to investigate the link between physical punishment and academic performance, and the possible mechanisms through which they are linked.

Findings of research studies on effects of physical punishment lack consensus on the overall effects of physical punishment on academic performance. This suggests that learners may be affected differentially by physical punishment. Whereas literature suggests that attitude towards physical punishment may influence its effect on children, there is lack of sufficient data to explain how attitude influences the effect of physical punishment on learners' academic performance. This study, therefore, sought to investigate the mediation effect of attitude towards physical punishment on the link between physical punishment and academic performance.

1.3 Purpose of the Study

The purpose of this study was to investigate learners' attitude as a mediator between physical punishment and academic performance in KCPE in Shinyalu Sub-county, Kenya.

1.3.1 Objectives of the Study

The specific objectives for this study were;

- (i) To find out the prevalence rate of physical punishment among learners in Shinyalu sub-county.
- (ii) To determine the relationship between learners' experiences of physical punishment and academic performance.
- (iii) To investigate the mediating effects of attitude towards physical punishment on the link between physical punishment and academic performance.

1.3.2 Research Questions

The study aimed at answering the following research questions:

- (i) What is the prevalence rate of physical punishment among learners in Shinyalu sub-county?
- (ii) What is the relationship between learners' experiences of physical punishment and their academic performance?
- (iii) What are the mediating effects of attitude towards physical punishment on the link between physical punishment and academic performance?

1.4 Scope of the Study

This study examined the mediating effects of attitude on the link between physical punishment and academic performance in KCPE among Form one students in Shinyalu sub-county. Form one students provided a better comparison of academic performance based on standardized aggregate scores attained in KCPE examinations. Despite there being a myriad of factors that influence academic performance, there exists sufficient research findings on

these factors with the exception of attitude. This study, therefore, focused primarily on the relationship between learners' attitudes towards physical punishment and academic performance. Lastly, this study excluded the two extra-county schools in Shinyalu sub-county since these schools admit only 20% of their student population from Shinyalu sub-county. Their student population is, therefore, not a representation of learners in primary schools in Shinyalu sub-county.

1.5 Limitations of the Study

Data on learners' attitudes towards physical punishment was collected using an attitudinal scale. According to McLeod (2019), Cengage (2021), Sanders (2018), and Khatete and Matanda (2014), attitudinal scales might be subject to socially desirable responding. This might have affected the accuracy of responses obtained. However, this was minimized through the use of indirect questions. Another limitation was related to the tendency of attitudes to change over time and change in social environment. To minimize the possible effects of time on attitudes, data was collected within two months of learners leaving primary school. This meant that the time between their experiences of physical punishment at primary school and data collection about those experiences was as short as possible. Lastly, results of this study provided cross-sectional data since its sample was drawn from Form one students only. Although not adequate to obtain longitudinal data, this study included respondents with different ages although they were all at same learning level.

1.6 Significance of the Study

Findings of this study may be significant to Ministry of Education and school Boards of Management in formulating policies and measures to eliminate physical punishment in schools. The study also adds more knowledge to existing literature on the indirect effects of physical punishment on learners. It particularly gives insight into the differential effects of

discipline strategies on learners' academic performance. The study may be significant to teachers who use physical punishment as a means of improving performance.

1.7 Conceptual Framework

A conceptual framework based on Functional Attitude Theory (Carpenter, Boster & Andrews, 2013) and the Causal Steps Mediation Model (Baron & Kenny, 1986) guided the study. Functional Attitudes Theory (FAT) suggests that different individuals might have similar attitudes towards an attitude object, but those attitudes might serve different functions (Carpenter et al, 2013). Attitudes, according to the ABC model, consists of affective, behavioral, and cognitive components (Veresova & Mala, 2016). In view of the ABC model of the FAT, learners' attitude is conceptualized as beliefs, thoughts, and opinions about school, emotions and relationships towards school and learning, and the tendency to behave in line with pleasant and unpleasant school experiences (Veresova & Mala, 2016).

Learners' attitudes may determine the overall effects of physical punishment on their academic performance. Actual experience of physical punishment (Lansford, 2019) or the perceived effects of a possible encounter with physical punishment could influence development of attitudes towards physical punishment. Legal Assistance Center (2010) notes that children are capable of thinking rationally and often act in ways that are consistent with their own perceptions of their environment. Their attitudes towards physical punishment hence greatly affect their motivation and classroom learning. These attitudes may mediate the link between physical punishment and academic performance as indicated in Figure 1. The arrows labeled 'a' and 'b' represent indirect paths while 'c' represents the direct path between physical punishment and academic performance.

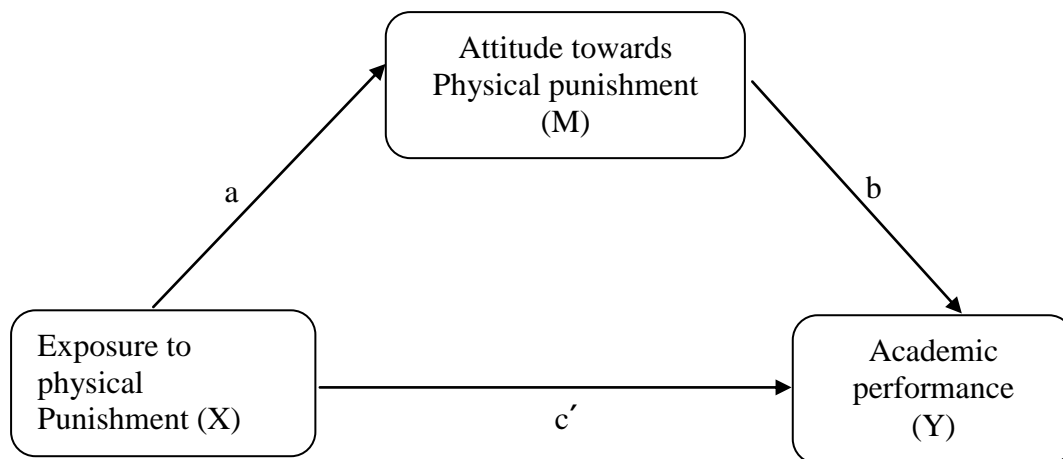


Figure 1.1: Conceptual framework

The causal steps model of mediation analysis, popularized by Baron and Kenny (1986) suggests that for mediation effects to occur, the independent variable (physical punishment) must have significant causal effects on the mediator (attitude towards physical punishment). The mediator, in turn, should have significant causal effects on the independent variable (academic performance).

High frequency of exposure to physical punishment might elicit negative attitudes. On the contrary, low frequency of exposure to physical punishment might elicit more favorable or positive attitudes towards physical punishment. These attitudes might be directed towards physical punishment itself; towards the teachers who perpetrate the punishment; towards the subjects taught by the teachers perpetrating punishment; or towards the entire school system. Negative attitudes may result to lack of interest in class, poor attention to class work and assignments, decreased participation in class activities, poor student-teacher relationships, and truancy. Such behavior, as suggested by Asiyai (2014), Maulana, Opdenakker, Stroet, and Bosker (2013), Rimm-Kaufman and Sandilos (2012), Sauer (2012) and Varga (2017) are likely to have negative effects on academic performance.

Learners who regard physical punishment as both necessary and acceptable may, on the contrary, maintain positive attitudes towards its use. Such positive attitudes may result to a liking for the school and teachers and active participation in learning activities. This might culminate in better academic performance by the learners. Alternatively, learners in schools where physical punishment is prevalent may work harder on their learning tasks to attain better scores for fear of being punished.

The conceptual framework above suggests that learners' attitudes towards physical punishment mediates the effects of physical punishment on academic performance. Indirect effect of physical punishment on academic performance is the product of 'a' and 'b' (Rucker, Preacher, Tormala & Petty, 2011) i.e. $a*b$. Consequently, indirect effect is also equivalent to the difference between total effect, 'c' and direct effect, 'c' ', i.e.

$$a*b = c - c'$$

Where $a*b$ = indirect effect of X on Y.

c = total effect of X on Y in absence of attitude towards physical punishment.

c' = direct effect of X on Y in presence of attitude towards physical punishment.

1.8 Operational Definition of Terms

Academic performance	Learner's aggregate score attained in KCPE examination.
Learners' attitude	Learners' beliefs, thoughts, and opinions about teachers' use of physical punishment at school, and the tendency to behave in line with their experiences with physical punishment at school.
Mediator	A variable that is affected by independent variable and in turn, affects the dependent variable.
Mild physical punishment	Grabbing, shaking, pushing away and tying or locking up in a room.
Moderate physical punishment	Pinching, pulling hair, slapping or hitting on the hand.
Paddling	Hitting a child on the buttocks with a piece of wood, usually 15 inches long, 2-4 inches wide and 1½ inches thick with a 6-inch handle at the end.
Physical punishment	Intentional application of physical pain to a child in an attempt to change his/her behavior.
Severe physical punishment	Kicking, caning or hitting repeatedly with an implement or slapping on the head, face or ears.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of literature related to the current study. The literature reviewed relates to prevalence of physical punishment, link between physical punishment and academic performance, and the relationship between attitude towards physical punishment and academic performance.

Physical punishment, according to PAN(2013), involves employing physical force against an individual with the aim of inflicting some form of pain or deprive comfort, regardless of the degree to which it is done. Although this practice is legally outlawed in many countries, physical punishment of children remains a prevalent form of discipline management strategy around the globe (Devries et al., 2014; Devries et al., 2015; Font & Gershoff, 2017; Gershoff, 2017). Physical punishment is the most popular form of discipline in most Kenyan schools (GIEACPC, 2016). According to the 2010 Kenya violence against children study report (Republic of Kenya, 2012), teachers account for 99% of authority figures who administer physical punishment towards female learners below 18 years, and 96% of authority figures who administer physical punishment towards male learners.

The Constitution of Kenya 2010 outlaws physical punishment of children in all settings (GIEACPC, 2016). However, there is persistent use of physical punishment in most basic learning institutions in Kenya (GIEACPC, 2016). A survey involving teachers, deputy head teachers and head teachers in Bondo district (Ajowi & Omboto, 2013) suggests that physical punishment remains the most preferred discipline strategy despite its ban. The continued use of physical punishment is probably underlined by its controversial nature and opposing views held by both its proponents and opponents. Mugambi (2013) notes that even studies conducted by psychologists on the effects of administration of physical punishment end in

unclear stands depending on whether they are conducted by proponents or anti-physical punishment crusaders. These variations in research findings suggest that physical punishment could affect children differently. There is need, therefore, to explore not just the direct links, but also the possible indirect links between physical punishment and academic performance.

Review of literature presented for this study focuses primarily on the direct link between physical punishment and academic performance and the indirect link between the two variables, with learners' attitude towards physical punishment as the mediator on this link.

2.2 Prevalence of Physical Punishment

Perpetration of physical punishment in schools is most likely to reflect in a variety of societal problems (Mncube & Harber, 2013). Makhasane and Chikoko (2016) suggest that to bring about a change in social problems, it is essential to first change the strategies of enforcing discipline in schools. The need for child discipline, according to UNICEF (2010) is generally recognized, but there is considerable discussion and debate concerning violent physical and psychological disciplinary practices.

Administration of physical punishment in all settings, including schools, is prohibited under the United Nations Convention on the Rights of the Child (GIEACPC, 2016). Despite this, children continue to receive physical punishment in many countries around the world (Akmatov, 2010; Cappa & Khan, 2011; Straus, 2010). In the United States of America, physical punishment is still legal in 19 states (Center for Effective Discipline, 2012; Han, 2017; Hunt, 2014). Studies in the USA further suggest that African Americans and boys receive more physical punishment than white Americans and girls respectively (Hunt, 2014). Supporters of physical punishment dismiss children's opinion about it, arguing that children are young and cannot understand that perpetrators of physical punishment have good intentions for them (Chemhuru, 2010).

Findings of a longitudinal study commissioned by UNICEF and conducted by Ogando-Partela and Pells (2015) in Ethiopia, India, Vietnam, and Peru suggest a high prevalence of physical punishment in these countries. This high prevalence is against a ban on physical punishment in these countries. In South Africa, physical punishment remains a highly contested issue, despite the practice being illegal under the South African constitution (Makhasane & Chikoko, 2016). The situation is similar in Zimbabwe, which has a ban on physical punishment in all settings, but it continues to be a familiar discipline strategy in most schools (Shumba, Ndofirepi, & Musengi, 2012). Results of a survey conducted in Nigeria by Arigbo and Adeogun (2018) indicate that physical punishment is not only prevalent but most parents in Nigeria advocate for its use in schools.

In 2014, a nationwide survey was conducted in Uganda to assess various issues relating to protection, safety and security of children (Nyatiko & Allida, 2018). This survey, according to Nyatiko and Allida (2018), found high incidences of physical punishment in schools, with 70% of children receiving physical punishment as a means of making them perform better in examinations. Moreover, an earlier study in Ugandan public and private primary schools (ANPPCAN Uganda, 2011) had found that 81% of children had experienced physical punishment at school.

Physical punishment is prohibited in all settings in Kenya under the 2010 constitution, including home and school (Mweru, 2010). The prohibition is confirmed in the Basic Education Act 2013 (GIEACPC, 2016). With regard to implementation of this, GIEACPC (2016, p. 6) notes that it is “concerned at the continued use of corporal punishment in practice by certain schools and the lack of measures to enforce the prohibition of this practice.” According to the Multiple Indicator Cluster Survey for 2013/2014, the average national prevalence of violent forms of discipline in Kenya is 76% (KNBS et al., 2016). Kakamega County has a prevalence of 82% with a 12% prevalence for severe physical

punishment. Although KNBS et al. (2016) present valuable information on prevalence of physical punishment in Kakamega County, the study does not provide data for individual sub-counties and communities. There is need to find out the prevalence rate of physical punishment in Shinyalu sub-county and how this compares with county, national and global rates.

A review of literature on prevalence of physical punishment found limited research data for Shinyalu sub-county. However, cases of physical punishment were reported in 34 schools (53%) in Shinyalu sub-county in 2013/2014 (Kakamega County Children's Office, 2016), suggesting widespread use of physical punishment in schools. Despite this suggestion, it is necessary to investigate and quantify prevalence of physical punishment in schools using a scientific research approach. Some physical punishment cases may not be reported hence reliance on reports received by children's officers may not depict the actual prevalence. Evidence for high prevalence rates for Kenya and Kakamega county (KNBS et al., 2016), and absence of such data for Shinyalu sub-county raises the need for a study to find out the prevalence of physical punishment in Shinyalu sub-county.

2.3 Relation between Physical Punishment and Academic Performance

According to UNICEF (2010), there is need to initiate mechanisms to foster discipline among children, but the desire for nonviolent discipline strategies is greatly recognized. Yudan (2013) suggests that an appropriate and effective corrective discipline strategy should help its recipient to acquire a set of positive behaviors. Parents and teachers have numerous alternatives for maintaining child discipline (Lansford et al., 2011). These options, according to Lansford et al. (2011), range from guidance prior to misbehavior, to preventing the misbehavior in the first place, to post-behavior strategies that seek to extinguish the observed misbehavior. The use of physical punishment as a discipline strategy is, however, marred with many controversies (Lansford et al., 2011). For example, Larzelere et al. (2010) posits

that non-abusive forms of physical punishment may be beneficial to children, or at least have no significant negative effects.

Research studies on impacts of physical punishment in school settings are limited (Heekes & Kruger, 2018) and controversial. Available studies, however, suggests that effects of physical punishment on children in school are consistent with those of physical punishment in the home (Afifi, Mota, Dasiewicz, MacMillan, & Sareen, 2012; Gershoff, 2017; Gershoff et al., 2010; Gershoff & Grogan-Kaylor, 2016; Merrick et al., 2017). School physical punishment, according to Heekes and Kruger (2018), is reportedly associated with both behavioral and discipline problems that might significantly deter effective teaching and learning. However, these studies (Afifi et al., 2012; Gershoff, 2017; Gershoff et al., 2010; Gershoff & Grogan-Kaylor, 2016; Merrick et al., 2017) did not directly investigate the effects of physical punishment in school on academic performance. They rather make inference from results on studies on physical punishment at home. Studies on the link between physical punishment in the school setting and its effects on learners' academic performance are not only limited but also necessary.

Evidence from research shows that physical punishment has both immediate and long-term effects on children (Miller-Perrin & Perrin, 2018). A report by Legal Assistance Center (2010) posits that physical punishment adversely affects academic performance of learners. It is assumed that since physical punishment impedes class participation, decreases attendance and increases dropout rates (Legal Assistance Center, 2010), learners subjected to it attain lower test scores.

While the immediate effect of physical punishment might be compliance by its recipients, there is a great risk of them not internalizing those morals and values that the users of physical punishment desire to teach (Miller-Perrin & Perrin, 2018). In fact, a study conducted

in Iran by Jaghoory et al. (2015) demonstrates that teachers' use of severe physical punishment is associated with aggression in the school rather than deterring such behavior. Additionally, physical punishment diminishes learners' interest in school and learning (Republic of Uganda, 2017) by causing resentment of the learning experience, hatred for the subject or teacher, and fear for those who are meant to teach them. The fear of being punished, which is associated with immediate compliance, albeit temporal, may cause low self-efficacy, reduced attention in class, lack of interest in school and school avoidance (Anand, 2014; Breen, Daniels, & Tomlinson, 2015; Gershoff, 2017; Han, 2014). Whether the negative effects reported by Anand (2014), Breen et al. (2015), Gershoff (2017), Han (2014), Jaghoory et al. (2015), and Republic of Uganda (2017) have negative or positive effects on academic performance is not clear, and is the subject of the current study.

According to Legal Assistance Center (2010), there are significantly diverse opinions in various countries regarding the need for, and efficiency of physical punishment. A report published by the Legal Assistance Center (2010) indicates that in Canada, 59% of parents in the survey think that hitting children is harmful while 86% further think that it is not only harmful but also ineffective. On the contrary, a survey conducted in the USA found that 84% of parents believe that spanking children is sometimes both necessary and effective (Legal Assistance Center, 2010). Although these studies only sought the opinions of parents on the effectiveness of physical punishment rather than the actual recipients of physical punishment, the studies typify the controversies surrounding the use of physical punishment in schools.

A study on discipline strategies used by teachers and parents in China (Yudan, 2013) suggest that learners' ability to adapt to learning environments and demands is determined by the mechanisms used to instill discipline and correct misbehavior. Yudan (2013) further states that parents who often administer harsh physical punishment have children who attain lower grades at school. Although most scholars conclude that physical punishment positively

correlates to poor academic performance (Yuda, 2013), other scholars suggest that physical punishment may not predict worse academic performance by learners if used within certain parameters (Lansford et al., 2010b; Larzelere et al., 2010).

The lack of consensus in existing literature on the effect of physical punishment on children's academic performance calls for further research on this topic, especially how physical punishment relates to academic performance. Studies by Lansford et al. (2011) suggest that physical punishment is a predictor of several mental problems such as lower IQ scores. However, Lansford et al. (2011) acknowledges the controversies surrounding research findings on effects of physical punishment. Some studies, according to Lansford et al. (2011) suggest that behaviorally problematic children tend to attract diverse modes of discipline strategies, which include physical punishment, rather than physical punishment causing behavioral problems. These studies (e.g. Evans, Simons & Simons, 2012; Lansford et al., 2011; Ma, Han, Grogan-Kaylor, Delva & Castillo, 2012) point to a possible correlation between physical punishment and academic performance.

Following a critical review of several research studies done globally, Gebrezgabiher and Hailu (2017) concluded that there were no peer reviewed scientific studies on the effects of physical punishment at school on children. Similarly, literature reviewed for the current study (e.g. Devries et al., 2014; Devries et al., 2015; Evans et al., 2012; Font & Gershoff, 2017; Gershoff, 2017; Lansford et al., 2010b; Lansford et al., 2011; Ma et al., 2012; Yudan, 2013) are limited to the effects of physical punishment at home. It should, however, be acknowledged that the home context is quite different from school context. The effects of physical punishment administered by parents may not necessarily be similar to effects of physical punishment within school context.

The few available studies relating to physical punishment in the school (e.g. Anand, 2014; Breen et al., 2015; Gershoff, 2017; Han, 2014; Heekes & Kruger, 2018; Jaghoory et al., 2015) either focus on prevalence of physical punishment or externalizing behavior, paying little attention to the effects of physical punishment in school on academic performance. A focus on actual administration of physical punishment in school, and its possible effects on learners' academic performance is needed to establish the actual link between physical punishment and academic performance. This study sought to address this gap by directly engaging with learners to find out the link between exposure to physical punishment in school and learners' academic performance.

Similar to global research findings, available Kenyan studies (e.g. Musungu, 2014) suggest that the use of physical punishment at home is associated with poor academic performance at school. Children not previously subjected to harsh physical punishment at home had above average academic performance (Musungu, 2014). Parents of these children, according to Musungu (2014), probably used nonviolent mechanisms of behavior modification. This might have had a positive effect on the children's mental development. Physical punishment adversely affects learners in diverse ways, such as causing physical harm, emotional pain, fear and anxiety, which fragments teacher-learner relationship (Kaguamba & Muola, 2010). Studies conducted by Musungu (2014) and Kaguamba and Muola (2010) were limited to the use of physical punishment to manage students' discipline at home and school respectively. Musungu (2014) infers that behavior problems resulting from physical punishment at home may cause poor academic performance. This may not be so since the study does not provide any statistical relationship between these behavior problems and academic performance.

There is need to go beyond effects of physical punishment on behavior to studying its direct effects on academic performance. Additionally, there is need for studies on effects of physical punishment on academic performance to adopt more quantitative approaches to

generate data that can be generalized to a larger population. All reviewed studies on physical punishment in Kenyan schools (Kaguamba & Muola, 2010; Khatete & Matanda, 2014; Kimani et al., 2012; Musungu, 2014; Mweru, 2010) are based on analysis of qualitative data. Findings of these studies on effects of physical punishment on academic performance may not meet the threshold for inference. These studies do not, and cannot claim to justify a causal relationship between physical punishment and academic performance.

Khatete and Matanda (2014) suggest that the 2001 ban on physical punishment in Kenya led to truancy and failure by students to adhere to academic programs and school rules. These researchers, however, did not consider whether academic performance of the students in the survey had improved or dropped because of the ban on physical punishment. Failure to complete class work may not necessarily lead to poor academic performance as suggested by Khatete and Matanda (2014).

Kakamega County 2013/2014 Multiple Indicator Cluster Survey (KNBS & UNICEF, 2015) shows that 82% of children aged 1 - 14 years in the county had experienced physical punishment in the year 2014. No studies have been done to investigate the possible effects of such a high prevalence of physical punishment on learners' academic performance. Available data for Shinyalu sub-county (Kakamega East Education Office, 2016; Shinyalu NG-CDF, 2016) suggests that academic performance among primary school pupils over the same period was dismal. A summary of these results for the years 2013 to 2015 is presented in Table 2.1.

Table 2.1: Shinyalu Sub-county KCPE means for 2008 - 2015

Year	2013	2014	2015
KCPE Mean	257.1	260.6	258.8

Source: Kakamega East Education Office, 2016

KCPE results for 2015 indicate that only 918 students (24.31%) scored above average (Kakamega East Education Office, 2016). The bulk of the students, 2,858 (75.68%), scored below 250 marks hence were ineligible for placement to either national or extra-county schools. A summary of learners’ performance in 2015 KCPE examinations is presented in Table 2.2.

Table 2.2: Summary of KCPE 2015 Performance

Aggregate score	Above 400	250 - 399	Below 250
Number of candidates	37	881	2858
Percentage frequency	0.98	23.33	75.68

Source: Kakamega East Education Office, 2016

Following a systematic review of 1,832 studies globally, Heekes and Kruger (2018) concluded that school physical punishment affects teaching and learning more significantly than physical punishment at home. However, only three out of nearly 2,000 reviewed studies (Heekes & Kruger, 2018) specifically examined effects of physical punishment in terms of academic performance. Many of these reviewed studies on physical punishment either focused on strategies used by parents and teachers to enforce discipline (UNICEF, 2010; Yudan, 2013), or discipline strategies and child adjustment (Lansford et al., 2011). A few other studies focus on parents’ and pupils’ views on physical punishment (Kaguamba & Muola, 2010; Kimani et al., 2012; Mweru, 2010; Yudan, 2013); and behavioral outcomes of physical punishment (Khatete & Matanda, 2014; Musungu, 2014). This study specifically examined the effects of physical punishment administered in the school setting on academic performance of learners in Shinyalu sub-county.

2.4 Children’s Attitudes towards Physical Punishment at School

All individuals have different perceptions of their world, and the way we behave, according to Carpenter et al. (2013), is a function of the way we perceive the world, events and people

around us. Like all other humans, learners are predisposed to perceive their teachers' actions differently since their diverse social and physical backgrounds confer to them varied values, attitudes and expectations. Despite this, debates relating to physical punishment seldom sideline children's perceptions of physical punishment (Vittrup & Holden, 2010). According to Vittrup and Holden (2010), there is need for attitudinal studies to enhance adults' knowledge of the ways in which physical punishment affects children. There is also need to understand children's views and perspectives on alternative, effective and respectful forms of behavior management. The need for research on physical punishment from the perspective of the child rather than that of the adult is probably the most urgent need in research.

Legal Assistance Center (2010) acknowledges that researchers are beginning to notice perspectives and encounters of children with physical punishment. Given opportunity, children narrate not only their experiences of pain, but also the humiliating and emotionally hurting effects of physical punishment. Their narratives and experiences with physical punishment are as diverse as their social backgrounds. Some research findings (e.g. Lansford et al., 2010b; Lansford et al., 2011) suggest that when physical punishment is socially acceptable, children may not consider its use by their parents as an indication of parental rejection. On the contrary, children in societies that do not cherish physical punishment may perceive physical punishment by their parents as an indication of parental rejection (Lansford, 2019). According to Lansford (2019), when children view physical punishment as a normal culturally acceptable mode of correcting misbehavior, they are more likely to regard its use as a sign of parental care and warmth rather than hostility.

In an interview for 'A Violent Education,' one Mississippi student narrates the consequences of physical punishment on his perception of school as:

I hated it. It was used as a way to degrade, embarrass students.... I said I would never take another paddling, it is humiliating, and it is degrading. Some teachers like to

paddle students. Paddling causes you to lose respect for a person, stop listening to them (Human Rights Watch, 2010, p. 55).

Results of a study conducted in China by Yudan (2013) suggest that physical punishment might arouse negative affections and feelings in children. The continued use of physical punishment in schools is associated with some popular myths. These myths include the belief that physical punishment attacks the problem head-on and that all students dislike physical punishment (Kish & Newcombe, 2015). Perpetrators of physical punishment also believe that it is harmless to children (Yudan, 2013).

A survey conducted across various countries in Africa (GIEACPC, 2010) suggests that nearly two thirds of children think that the use of physical punishment at school amounts to physical abuse. However, a similar study carried out in Ghana by Afua (2010) found a common belief among children that physical punishment is important to the socialization process. According to Afua (2010), children believe that physical punishment helps them to grow up into well-behaved and responsible members of the society. Similar findings are published in an African Child Policy Forum (2010) report which suggests that 23% of Cameroonian, Ethiopian, Senegalese, Ugandan and Zambian youth who had previously been subjected to physical punishment perceived it as being mostly discipline, reasonable and justified. Children might endorse physical punishment (Afua, 2010) not because it is beneficial, but because of their previous exposure to physical punishment (Carter-Davies & Bristow, 2018). Studies conducted in eight regions in Namibia in 2007 - 2008 found that physical punishment is not acceptable as normal and justifiable discipline strategy by majority of children (Legal Assistance Center, 2010). None of the children in this study supported legalization of physical punishment as a method of behavior control, although a few of the children thought it was acceptable to slap or hit a child with the hand.

In a 2013 survey of nearly four hundred 5 - 17 year olds in Uganda (ANPPCAN & Makerere University, 2013), almost half (49%) of the children disapproved of physical punishment. These children pointed out adverse effects of physical punishment such as being physically painful, emotionally distressing, and defragmenting relationships with their parents as reasons for its disapproval. However, other studies suggest that physical punishment is thought to be 'the only thing children understand' and that it works better than all other disciplinary methods, deterring aggression in students (Republic of Uganda, 2017). Contrary to this myth, physical punishment according to Republic of Uganda (2017) actually creates mistrust and insecurity in children, destroys teacher-child relationship, teaches disobedience, and destroys children's confidence and self-esteem.

Studies done in Kenya to examine children's attitudes towards physical punishment in the school environment are limited. When studies are conducted with exclusion of children's views, researchers are most likely to reach conclusions and make recommendations that are more detrimental to children's wellbeing. For example, Matekwa, Nyambossibe and Kinuthia (2017), following a survey of teacher perceptions of corporal punishment in Kosirai Division in Kenya, propose re-introduction of physical punishment with a policy to guide its administration. Matekwa et al. (2017) sidelines children's own opinions and attitudes towards physical punishment, drawing its respondents from among teachers' and parents. There is need for research studies on physical punishment that give more attention to children's' own views, perceptions, and attitudes.

Teachers and children's attitudes and reports about physical punishment and its consequences differ significantly. Whereas teachers regard physical punishment as mostly discipline, and meant to enhance learning (Mweru, 2010), students think physical punishment is abusive and does not enhance learning (Ajowi & Simatwa, 2010; Devries et al., 2014, 2015; Feinstein & Mwahombela, 2010). Adopting suggestions by Matekwa et al. (2017), which are based on

teachers' opinions, would be an injustice to children who are the victims of physical punishment at school. The current study sought children's opinions to assess their attitudes towards physical punishment and analyze the relationship between these attitudes and learners' academic performance.

In a Kenyan survey based on a sample of 267 respondents who included parents, teachers and children (GIEACPC, 2010), 62.2% of children supported abolishment of physical punishment in all settings. However, more than half (54%) of the parents strongly opposed abolition of physical punishment at both home and school. Research findings by Kimani et al. (2012) suggest that physical punishment is acceptable in the Kenyan society, noting that nearly two-thirds (60%) of the children, upon whom it is meted, support its reintroduction. The ban on physical punishment in Kenyan schools was followed by a wave of strikes in secondary schools (Ajowi & Omboto, 2013). Ajowi and Omboto (2013) found that children in Bondo District although subjected to physical punishment as were children in other districts, did not engage in any strikes and riots. According to Ajowi and Omboto (2013), children in Bondo District may have considered physical punishment as acceptable, unlike children in other districts in Kenya. This suggests that children may hold different attitudes towards physical punishment, and hence react differently to being punished in school.

Many teachers and parents believe that the use of physical punishment is meant to benefit students (Kimani et al., 2012; Mweru, 2010) and that it prepares learners to adapt to a society that punishes defiance of rules. Additionally, there is a common belief among teachers that physical punishment saves time, leads to development of character and teaches respect (Kimani et al., 2012).

Although researchers seem to agree on parents and teachers' opinions on physical punishment, there is little consensus on children's attitudes towards physical punishment.

Some researchers suggest that children in Kenya generally support the reintroduction of physical punishment and thus have a positive attitude towards it (Kimani et al., 2012). On the contrary, other research findings indicate that Kenyan pupils view physical punishment negatively and want it abolished (GIEACPC, 2010). These conflicting research findings on children's attitudes towards physical punishment call for further research to address the controversies about children's own perspectives of physical punishment in school. To contribute towards resolving this controversy, this study examined the role of learners' attitudes towards physical punishment in explaining the link between physical punishment and academic performance.

2.5 Mediation of Relation between Physical Punishment and Academic Performance

Most research studies on children's welfare focus on adult perceptions of children's experiences (Yudan, 2013). This diminishes the critical role children's views of their own experiences could play in enriching our understanding of their needs and experiences (Nixon & Marie, 2010). Consequently, Nixon and Marie (2010) raise the need for adults to desist from merely talking about children's welfare while sidelining their views or exploring children's experiences only in ways that satisfy adult agenda. Investigating how children view their parents and their parenting roles could provide critical data necessary to understand parenting from the perspective of children rather than an adults' perspective (Nixon & Marie, 2010).

Article 12 of the United Nations Convention on the Rights of the Child (UNCRC) clearly reflects a shift on how we should conceptualize children and childhood indifferent academic fields. The article state that:

State parties shall assure to the child who is capable of forming his/her own views the right to express their views freely in all matters affecting the child, the views of the child being given due weight in accordance to the age and maturity of the child (Nixon & Marie, 2010, p.18).

The level of success for any discipline strategy depends largely on its acceptance by learners and the attitudes they hold towards it (Kaguamba & Muola, 2010). Learners' interpretations of physical punishment might significantly alter its effects on their behavioral development (Yudan, 2013). Children recognize the change in the manner in which the modern society perceives discipline, punishment and negotiations of moral authority (Nixon & Marie, 2010). The ways in which these children conceptualize and perceive physical punishment might influence the link between its use and the child's behavioral adjustment in later years.

Lansford et al. (2011) suggest that physical punishment influences children's adjustment in later life through several mechanisms. The most important of these mechanisms is the way children perceive parental discipline behaviors as either indicating parental warmth and acceptance or hostility and rejection. In societies where children appreciate physical punishment, they may perceive the use of harsh forms of discipline as parental care and responsibility, aimed at bringing up socially and morally healthy children. Yudan (2013) further suggests that children's positive attitudes towards physical punishment might minimize its possible adverse effects on them.

The way a child interprets a given form of disciplinary approach could relate to the link between it and the child's overt behavior. Lansford et al. (2010) posit that when children believe that the use of physical punishment is normal and acceptable, they do not regard it as an indication of their parents or teachers' hostility. Some studies suggest that the meanings children attach to punishment mediates its effects on them (Lansford, 2019).

Greydanus, in his witness before the US Congress House Committee on Education and Labor (US Government, 2010), states that physical punishment creates 'a paralysis of fear' (p.8) in the classroom. Such fear destroys the needed positive class atmosphere and by so doing inhibits effective learning. Considering the prevalence of physical punishment in schools,

Heekes and Kruger (2018) recommend the need for more research on the direct and indirect relationships between corporal punishment and academic outcomes. Research studies generally suggest that physical punishment can result in pain, suffering or physical harm (GIEACPC, 2010). These experiences lead to emotional problems such as fear rather than respect for the teacher (Save the Children Sweden, 2018). Children in such an emotional environment develop anger, insecurity and anxiety, which leads to negative attitudes towards the teacher and consequently dismal academic performance.

Learners with positive attitudes towards themselves, school and learning participate more actively in learning activities (Ahmad, Zeb, Ullah & Ali, 2013b) and are more courageous, active and self-motivated towards learning. A survey of children's attitude towards physical punishment in Karachi shows that children do not only have negative attitudes but also lose interest in studies when they face physical punishment at school (Lodhi & Siddiqui, 2014). Harsh physical punishment is associated with mood and anxiety disorders, substance abuse, and personality disorders (Rimal & Pokharel, 2013; PAN, 2013). These disorders are in turn related to negative attitudes towards school, teachers and self, resulting to a delimiting learning environment and poor academic performance. Ahmad, Said and Khan (2013a) posit that learners who experience physical punishment are generally less motivated towards learning.

Similar to findings from European and Asian studies, a Kenyan study conducted by Kaguamba and Muola (2010) suggest that when children regard physical punishment as appropriate, they react affirmatively by altering their actions when subjected to it. That notwithstanding, punitive measures of discipline only help to reinforce learners' feelings of inferiority and domination by school authorities, creating an attitude of mistrust (Wamocho, Nasongo & Injendi, 2011). Such students often shy off from school activities and show academic disengagement. Literature reviewed for this study show that children's attitudes

might explain the link between physical punishment and their general behavior. In a study conducted to investigate policy implications for the abolition of physical punishment in Kenya, Kindiki (2015) recognizes attitude as a precursor to behavior.

Research studies (e.g. Kaguamba & Muola, 2010; Lansford et al., 2011; Yudan, 2013) provide evidence that physical punishment is associated with learners' attitudes towards its perpetrators. Additionally, physical punishment is associated with attitudes towards school and learning (Ahmad et al., 2013b). Wamocha et al. (2011) also posits that physical punishment leads to feelings of inferiority and domination by teachers among learners. Exposure to physical punishment, according to reviewed studies (e.g. Ahmad et al., 2013b; Kaguamba & Muola, 2010; Lansford et al., 2011; Wamocha et al., 2011; Yudan, 2013) leads to development of different attitudes towards it. Studies explaining how attitude towards physical punishment may affect learners' academic performance are, however, limited.

Understanding why and how attitudes influence the link between physical punishment and academic performance is a critical missing link in explaining the controversies surrounding the relationship between physical punishment and academic performance. The main objective of this study was to investigate the role attitude towards physical punishment plays in mediating the link between physical punishment and academic performance.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents an overview of the research process and methodology. Areas covered include the research design, study area, study population, sample and sampling techniques, and data collection instruments. Also highlighted in this chapter are data collection and analysis procedures and ethical considerations.

3.2 Research Design

The study adopted both qualitative and quantitative research approaches. Qualitative data was collected and analyzed to triangulate quantitative data on attitudes towards physical punishment. Open-ended items were included in the data collection questionnaire for gathering qualitative data on learners' attitudes towards physical punishment.

The researcher used both descriptive survey design and correlational design. Descriptive studies systematically describe a situation, a problem, a phenomenon, or attitudes towards an issue (Kumar, 2011). The use of descriptive survey was appropriate for the current study as it permitted gathering of data from a relatively large sample. Large sample size is necessary for collecting data about opinions and phenomena (McLeod, 2019). A correlational study attempts to explore relationships between independent and dependent variables to make predictions (Kubiak, 2013). In this study, the researcher explored the relationships between attitude towards physical punishment at school and learners' academic performance. Correlation coefficients were computed to show the direction and strength of the relationships if any. A correlation design was necessary in order to provide a rigorous and replicable procedure (Creswell, 2012) for establishing and understanding the relationship between physical punishment and academic performance and the mediatory role of learners' attitudes towards physical punishment on this relationship.

3.3 Study Area

The area for the current study was Shinyalu sub-county, Kenya. Shinyalu sub-county is neighbor to Kakamega North to the North, Kakamega Central to the North East, Vihiga to the West, and Kakamega South to the South and Southwest. With a population of 159,479 (Shinyalu NG-CDF, 2016), Shinyalu is the second most populated sub-county in Kakamega County. The sub-county has six wards namely Isukha North, Murhanda, Isukha Central, Isukha South, Isukha East and Isukha West (Maluti, 2014). There were 90 schools in Shinyalu sub-county: 66 Primary and 24 Secondary school sat the time of the study (Kakamega East Education Office, 2016).

Prevalence of physical punishment in Kakamega County is higher than the national average (KNBS et al., 2016). Among the 12 sub-counties in Kakamega County, Shinyalu has the lowest primary to secondary school transition rate (KNBS & SID, 2013). Most KCPE candidates in Shinyalu sub-county, according to Kakamega County Education Office (2016), have consistently failed to meet the minimum requirements for placement to extra-county and national schools.

Shinyalu is located in a county with high prevalence of physical punishment (KNBS et al., 2016) and has the lowest academic performance and transition rate in Kakamega County. Therefore, Shinyalu sub-county was appropriate in providing data that was relevant to attaining the objectives of the current study.

3.4 Study Population

The study targeted 2,017 Form one students in Shinyalu sub-county, majority of whom were aged between thirteen and fourteen years. Middle childhood to early adolescence (ages 8 - 14 years) is a developmental period of particular interest with respect to understanding children's perceptions of their parents 'and teachers' behavior and how these perceptions affect their outcomes (Lansford et al., 2010a). According to Lansford et al. (2010a), children's

beliefs at this age become notably better predictors of their subsequent behavior than the earlier ages. Data on academic performance for this cohort (KCPE marks) provided amore realistic assessment of the learners' performance since all the respondents had sat for a common standardized KCPE examination in the year preceding the study.

3.5 Sample Size and Sampling Techniques

Selection of a statistically representative sample for this study was necessary to ensure that the responses provided by respondents did not differ significantly from those of the target population. The researcher set and calculated a sample size at 95% confidence level and 0.05 margin of error. Based on these parameters, and using Krejcie and Morgan (1970) formula for calculating statistically representative sample size, a sample of 323 Form one students was selected.

Using stratified sampling, the 24 secondary schools in Shinyalu sub-county were categorized into two groups: extra-county schools (2); and county and sub-county schools (22). Simple random sampling was further used to select nine schools (approximately 40%) out of the 22 county and sub-county schools' category. A minimum of 35 studentswererandomly selected from each of the nine schools to make up a total sample of 323 respondents. The sample selection process is summarized in Figure 2.

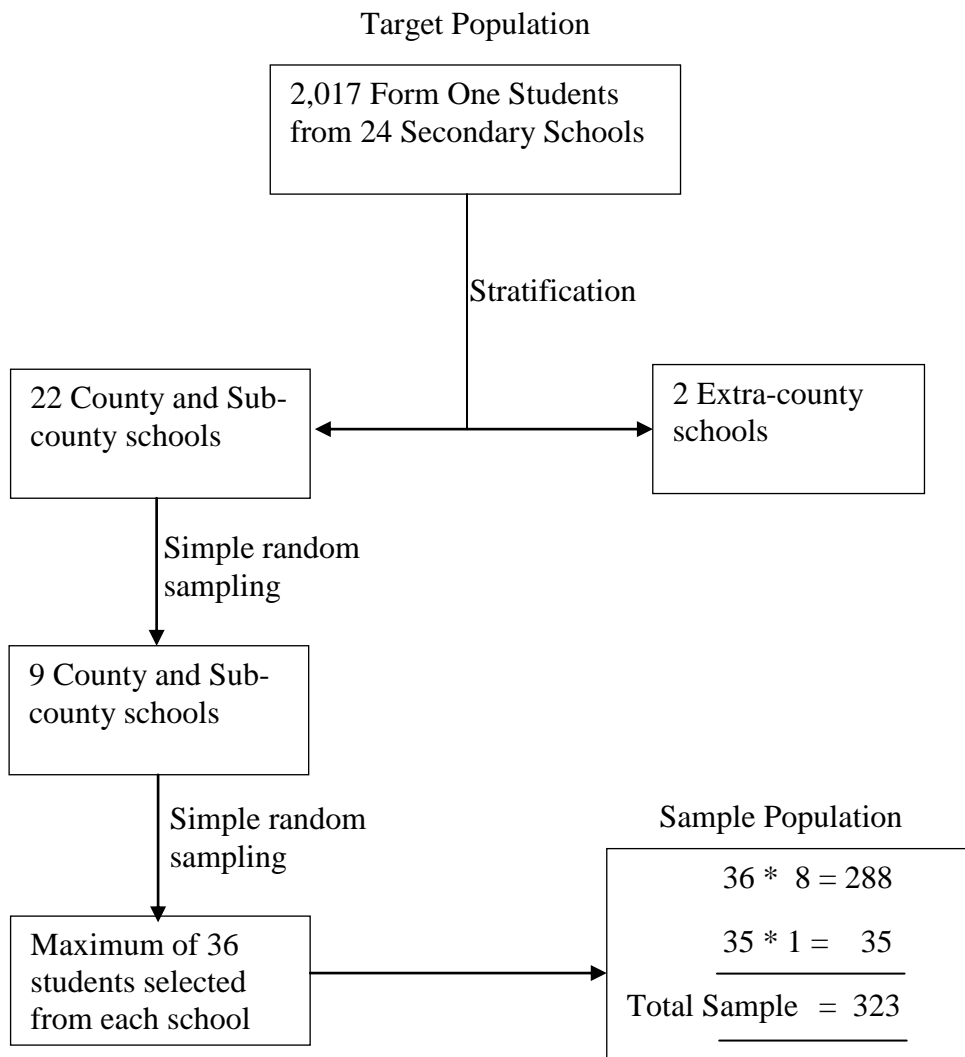


Figure 2.1 Sample selection procedure

The study used random sampling in order to minimize biasness in sample selection (Creswell, 2012). The technique was appropriate for this study because it provides accurate information about a group that is too large to study in its entirety (McLeod, 2019). Random sampling hence provides an efficient system of capturing, in a small group, the variations that exist in a large target population.

Learners in the two extra-county schools in Shinyalu sub-county were excluded from this study. This is because extra-county schools draw majority of their students from primary schools in other sub-counties, hence respondents from such schools were inappropriate. Learners in county and sub-county schools were sampled because these schools draw a

majority of their students from within the sub-county (80% for county schools and nearly 100% for sub-county schools). By drawing its respondents from secondary schools, the researcher obtained a sample consisting of a blend of students who previously attended different public and private primary schools, giving a sample that is less biased against either type of school. This also made it possible for the researcher to measure academic performance of the respondents on a common standardized criterion, i.e. KCPE aggregate scores. This minimized biasness in the inference made from the study towards any particular group and provided a more representative sample of learners in Shinyalu sub-county.

3.6 Instruments of Data Collection

The instrument used to collect data was a modified version of Dimensions of Discipline Questionnaire developed by Straus and Fauchier (2007). The five point Likert-type attitudinal scale was used to collect data from children on their primary school experiences with physical punishment and their attitudes towards it. The original tool had 92 items, 17 of which captured demographic information of the child and his/her parents. The remaining items measured discipline behaviors used with the child, mode of implementation and context of discipline, and cognitive appraisal (approval or disapproval) of each discipline behavior by the child. This scale was used as a test for screening learners with negative and positive attitudes towards physical punishment. This being a retrospective study, academic performance of the learners, who were in Form one at the time of the study, was based on their aggregate scores in KCPE, done two months prior to the study. The use of KCPE scores provided a standardized criterion for assessing learners' academic performance. Data on respondents' KCPE scores was collected directly from the respondents. The respondents were asked to indicate their KCPE scores in the questionnaire. This was informed by the need to maintain confidentiality. Extracting individual respondents' scores from school records would have required them to indicate their identity on the questionnaire, negating efforts to

maintain confidentiality and anonymity. Open-ended items were included in the questionnaire to collect qualitative data on learners' attitudes towards physical punishment.

3.6.1 Validity of the Research Instruments

Face validity was ascertained through expert and peer reviews. Two experts from Department of Educational Psychology of Maseno University reviewed the items for content and face validity. Peers in the department of Educational Psychology also reviewed the items for face validity. This was done to determine whether the items in the instrument appeared to be relevant, reasonable, unambiguous, and clear (Oluwayo, 2012).

3.6.2 Reliability of the Research Instruments

Reliability of the study instruments was ascertained through split-half method of testing internal consistency. A pilot study involving 32 pupils from the study area was conducted. The researcher then computed internal consistency coefficient for the questionnaire items using SPSS. The computed Cronbach's Alpha coefficient (α) for the questionnaire was 0.8, which was greater than the recommended minimum acceptable alpha of 0.70. Therefore, the instrument was deemed to have a high reliability.

3.7 Data Collection Procedures

The researcher obtained approval to carry out research from the School of Graduate Studies (SGS) of Maseno University. Maseno University Ethics and Review Committee (MUERC) reviewed and approved the research proposal on behalf of the National Council for Science, Technology and Innovation (NACOSTI). The researcher sought consent from principals of institutions that were sampled for the study. The researcher booked appointments with respondents in the selected schools. Since the respondents were children aged below 18 years, their school head teachers granted consent to participate in the study. The researcher then collected required information by administering questionnaires to the respondents. Before administering the research tool, the researcher clearly explained the purpose of the

study to respondents. All the questionnaires were collected as soon as the respondents fully completed them.

3.8 Data Analysis Procedures

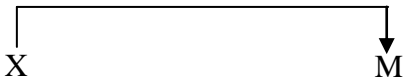
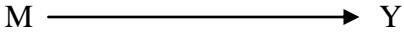
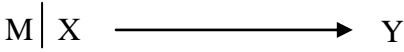
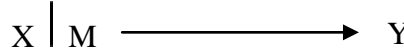
In order to assess the prevalence of physical punishment, learners were asked if their teachers at primary school had ever punished them. They were also required to state the forms of punishment meted on them. To relate exposure to physical punishment with academic performance for objective two, KCPE scores were obtained from the respondents. The scores were not obtained from school records in order to guarantee learners' anonymity and confidentiality. Extracting their scores from school records would have required them to reveal their identity. An additional ten closed ended items were used to assess learners' exposure to different types of physical punishment and the frequency of exposure. During coding, these items were categorized into mild (items 9, 10, 12), moderate (items 6, 7, 8), and severe (items 3, 4, 5, 11) forms of physical punishment. Data on attitude was collected through open-ended and closed-ended questionnaire items (items 13 to 26).

Quantitative data obtained in this study was analyzed with the aid of the Statistical Package for Social Sciences (SPSS) version 21.0. Descriptive statistics were used to analyze and present descriptive data on prevalence of physical punishment. Correlation analyses were done to determine the significance of the relationships between exposure to physical punishment, learners' attitudes towards physical punishment and academic performance. To control for socially desirable responding, half of the items on frequency of exposure to physical punishment and half of the items on attitude towards physical punishment were reversely scored. Therefore, scores for these items were reversed during coding and analysis. Qualitative data was organized into themes, categories, sub-categories, and analyzed qualitatively using direct quotations and verbatim reports.

Both simple and multiple linear regression models were used to examine mediation effects of attitude towards physical punishment on the link between physical punishment and academic performance. Simple regression was used to confirm the significance of the relationship between exposure to physical punishment at school and attitude towards physical punishment. Similarly, this model was used to investigate the significance of the relationship between attitude towards physical punishment and academic performance of learners.

Multiple regression model was used at two levels during the analysis. Firstly, it was used to examine whether attitude towards physical punishment (the mediator, M) significantly predicted learner’s academic performance (dependent variable, DV), controlling for physical punishment (independent variable, IV). Secondly, multiple regression model was used to evaluate whether exposure to physical punishment (IV) significantly predicted academic performance (DV) in the presence of attitude towards physical punishment (M). Regression analyses conducted on the study variables are summarized in Table 3.1.

Table 3.1: Illustration of Regression Analyses

Step	Analysis	Visual Illustration
Step 1	Simple regression to confirm significance of relationship between physical punishment (X) and attitude (M).	
Step 2	Simple regression to confirm significance of relationship between attitude (M) and academic performance (Y).	
Step 3	Multiple regression to confirm significance of relationship between attitude (M) and academic performance (Y) in presence of physical punishment (X).	
Step 4	Multiple regression to confirm insignificance of relationship physical punishment (X) and academic performance (Y) in presence of attitude (M).	

Non-significance or significant reduction of the effects of physical punishment on academic performance, controlling for attitude, implied that the effects of the IV on the DV were not direct but rather mediated through the mediator variable (Baron & Kenny, 1986). The first three steps were carried out to establish that zero-order relationships existed among the three variables under investigation. The mediating effect of attitude towards physical punishment was analyzed using the model equation;

$$Y = \beta_0 + \beta_1 M + \beta_2 X + e$$

where β_1 represented effects of attitude on academic performance after controlling for physical punishment, while β_2 represented effects of physical punishment on academic performance after controlling for attitude.

To simplify these regression analyses, the researcher used an SPSS PROCESS macro developed by Andrew F. Hayes (Hayes, 2018).

This study investigated the effects of each of the three categories of physical punishment, i.e. severe, moderate, and mild physical punishment on academic performance. Categorization of physical punishment into mild, moderate, and severe forms was relevant to the objectives of this study. Collecting data on each category was necessary to understand how children perceive the different forms of physical punishment. Such categorization also made it possible to distinguish between the possible effects of mild and severe physical punishment on academic performance.

3.9 Ethical Considerations

Participation in this study was voluntary and no respondent was under any obligation to participate. Respondents were assured that there were no adverse consequences for declining to participate or withdrawing participation in the course of the study. Since respondents constituted learners aged below 18 years, informed consent was obtained from respective

Parents 'Teachers' Associations through head teachers of participating schools (See appendix A). Confidentiality of the information provided was guaranteed and respondents were not in any way required to reveal their identity in the questionnaire. No information obtained from the study was shared with any third party in a manner that would compromise anonymity and security of the participants. All information obtained from this study was securely stored and used solely for the purpose of this research study. Completed questionnaires were securely kept under lock and key and available only to the researcher. Processed data from research questionnaire was stored in a computer and protected with a password only accessible by the researcher.

CHAPTER FOUR

RESULTS ANALYSIS AND DISCUSSION

4.1 Introduction

The current study sought to explain the role of attitudes towards physical punishment in mediating the link between physical punishment and academic performance. This study was guided by three objectives. The first objective was to find out the prevalence rate of physical punishment among learners in Shinyalu sub-county. The second objective was to determine the relationship between learners' experiences of physical punishment and academic performance. Lastly, the study investigated the mediating effects of attitude towards physical punishment on the link between physical punishment and academic performance.

Data on the three objectives was obtained through a questionnaire with both open-ended items for qualitative data and structured closed-ended items for quantitative data. This chapter presents the findings of the study and their discussion for each of the three research objectives.

4.2 Prevalence of Physical Punishment

The first objective of the study was to find out the prevalence rate of physical punishment among learners in Shinyalu sub-county. Data on prevalence of physical punishment was collected using a closed-ended questionnaire. There were 12 items on physical punishment. The first item assessed whether or not the respondents had had any exposure to physical punishment while at primary school. The second item captured data on the prevalence of different modes of punishment e.g. caning, kicking, slapping etc. The remaining 10 items assessed the frequency of exposure to the different modes of punishment. These were categorized into severe, moderate, and mild forms of physical punishment.

Findings illustrated in Table 4.1 show that most of the respondents (85%, N = 323) reported having received punishment at least once in the previous year. Minority of the learners (15%, N = 323) had not had any experience of physical punishment.

Table 1.1: Prevalence of Physical Punishment among Learners

	Frequency	Percent
Never punished	48	15
Punished at least once	275	85

These findings are consistent with KNBS et al. (2016) survey results showing an 82% prevalence of physical punishment in Kakamega County. Results of this study also agree with student reports in previous studies (e.g. Kimani et al., 2012), and suggest that physical punishment is a dominant form of discipline strategy in schools despite its ban. Although lower, the 85% prevalence of physical punishment in Shinyalu is comparable to Starehe division, Kenya, which has a 91% prevalence rate (Kimani et al., 2012). However, the high prevalence of physical punishment in the current study is at variance with teachers' own reports on use of physical punishment. In the study conducted by Kimani et al. (2012), only 50% of the teachers agreed that they sometimes used physical punishment.

Based on findings from the reviewed literature (Bordin et al., 2009; GIEACPC, 2016; Kesner & Stenhouse, 2018; Lansford et al., 2010), the current study categorized physical punishment into mild, moderate and severe forms of physical punishment. Mild physical punishment included forms of punishment such as grabbing, shaking, pushing away and tying or locking up in a room. Moderate physical punishment consisted of pinching, pulling hair, slapping or hitting on the hand. Severe physical punishment included kicking, caning or hitting repeatedly with an implement and slapping on the head, face or ears.

Table 4.2 suggests that moderate physical punishment was the most frequently used form of punishment in schools (49.5%) followed by mild forms of physical punishment (41%).

Severe forms of physical punishment such as kicking, hitting, and slapping on the face were the least administered forms of physical punishment.

Table 4.2: Exposure to Mild, Moderate and Severe Physical Punishment

Form of Physical Punishment	Frequency	Percentage
Mild PP	135	41.8
Moderate PP	160	49.5
Severe PP	28	8.7
Total	323	100.0

Despite there being a high prevalence of physical punishment in schools (85%), results in Table 4.2 suggest that the frequency of its use was moderate as most learners said they occasionally experienced physical punishment. Moderate physical punishment, however, had a higher frequency of exposure than both severe and mild forms. This agrees with the KNBS et al. (2016) report, which shows that the prevalence of severe physical punishment in Kakamega County is 12%, with moderate and mild physical punishments having higher rates. However, findings of a study carried out in Starehe Division by Kimani et al. (2012) are inconsistent with the results of this study and those of the Kakamega County MICS 2013/2014 Report (KNBS et al., 2016). Contrary to the current study, the survey conducted by Kimani et al. (2012) found extremely high prevalence rates for severe physical punishment, with caning being 96% and slapping 91.2%. Since attitudinal scales are subject to socially desirable responding, respondents in Kimani et al. (2012) might have exaggerated their responses on teachers' use of physical punishment.

The current study also sought the opinion of learners about physical punishment. The study found that 64% (206) of the learners supported its ban whereas only 36% (N = 323) wanted the ban lifted. Learners reported that physical punishment causes unjustified pain and harm to students. They also said it causes hatred for teachers, creating a hostile environment for learning. Some respondents cited their former classmates who had dropped out of school

because they could not tolerate caning. One student wrote, “It [physical punishment] does not help me in any way. If I don’t understand something, a teacher should tell me, not beating.” The few students (36%) that wanted physical punishment upheld claimed that student discipline had deteriorated after its ban in 2001. They also cited low learners’ respect for teachers in the absence of physical punishment.

This result is consistent with findings of a study in a Mississippi school (Smith & Harper, 2015) suggesting that only a minority of learners (42%) supported physical punishment. Findings of the current study are also consistent with results of a survey in Kenya (GIEACPC, 2010) suggesting that majority of the learners (62.2%) support abolition of physical punishment in schools. Contrary to these findings, some studies on learners’ opinion of physical punishment (e.g. ANPPCAN & Makerere University, 2013; Kimani et al., 2012) found that majority of learners want the ban reversed. Kimani et al. (2012), for example, found that 60% of children in Starehe Division wanted the government to lift the ban on physical punishment.

Variations in children’s opinions in the current study and some of the previous studies suggest that despite its high prevalence, children’s opinions on the need for physical punishment are changing. This is probably due to the continued campaign for alternative non-violent forms of enforcing discipline in schools. Children seem to have embraced the ban on physical punishment, preferring alternative forms of discipline in school. Teachers, on the contrary, seem to continue administering physical punishment despite its abolition.

4.3 Relation between Physical Punishment and Academic Performance

The second objective of the current study was to investigate the relationship between physical punishment and academic performance. Open-ended items were included in the questionnaire to obtain data about learners’ perception of the effect of physical punishment on academic

performance. Data on the respondents' academic performance was collected from the respondents. The learners were asked to respond to an item in the questionnaire that required them to state their KCPE scores.

Slightly over one half (54%) of the 323 respondents said that exposure to physical punishment does not result to better academic performance. However, 46% believed that physical punishment positively contributed to their KCPE scores. The learner's opinion that physical punishment does not lead to better academic performance agrees with findings of similar empirical and qualitative studies (e.g. Kaguamba & Muola, 2010; Legal Assistance Center, 2010; Musungu, 2014; Republic of Uganda, 2017). Findings of these studies suggest that physical punishment does not enhance academic performance. However, findings in this study contradicts results of a study conducted in Nigeria by Ehiane (2014) suggesting a belief among learners that physical punishment enhances academic performance. Similarly, a study by Khatete and Matanda (2014) found that students' attention to class work, assignments and homework declined after the ban on physical punishment, resulting to lower academic performance. Contrary to the opinion of learners in this study, administration of physical punishment, according to Khatete and Matanda (2014) enhances academic performance.

In order to correlate exposure to physical punishment with academic performance, learners' scores in KCPE examinations were obtained from the respondents. Students who scored above 350 marks constituted only 17.6% of the sample population. Slightly over two-thirds (69.1%) of the students had scored between 250 and 350 marks out of the possible 500 marks in KCPE. The rest (13.3%) scored below 250 marks. Table 4.3 shows a summary of the distribution of respondents by KCPE scores.

Table 4.3: Distribution of Respondents by KCPE Scores

	Frequency	Percentage
Below 250	43	13.3
Between 250 and 300	50	15.5
Between 301 and 350	173	53.6
Between 351 and 400	57	17.6
Total	323	100.0

Correlation analysis matrix presented in Table 4.4 show that exposure to physical punishment was negatively correlated to KCPE scores.

Table 4.4: Correlation matrix for physical punishment and KCPE scores

	Forms of Physical Punishment	Marks Scored in KCPE
Forms of Physical Punishment	1	-.190*
Marks Scored in KCPE	-.190*	1

*. Correlation is significant at the 0.05 level (2-tailed).

Despite there being a negative correlation between physical punishment and KCPE scores ($r = -.190, p < .01$), the frequency at which individual learners were punished did not seem to affect their academic performance. Table 4.5 presents a summary of KCPE means and t-test results for significance of mean differences between learners exposed to high and those exposed to low frequencies of severe, moderate and mild forms of physical punishment.

Table 4.5: Equality of KCPE Means by Exposure to Physical Punishment

Category of physical punishment	Level of exposure	Mean Differences			t-test for equality of means	
		N	Mean	SD	t	Sig.(2-tailed)
Severe	High	152	2.6579	0.95671	-1.847	.066
	Low	171	2.8421	0.83573		
Moderate	High	171	2.7953	0.89389	.847	.398
	Low	152	2.71.5	0.90350		
Mild	High	126	2.6270	0.95276	-2.066	.040
	Low	197	2.8376	0.85357		

The results in Table 4.5 suggest that negative effects of physical punishment are independent of the frequency at which learners are punished, except for mild physical punishment. This is consistent with Afua (2010) suggestion that mere exposure to physical punishment has negative effects on children, regardless of the frequency at which they are punished. A single incidence of severe physical punishment may be as harmful as repeated incidences in the long term.

Multiple regression analysis were conducted to test the effects of mild, moderate and severe physical punishment on KCPE scores. The results for this analysis are presented in Table 4.6.

Table 4.6: Effect of Physical Punishment on Academic Performance

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	Sig.
	B	Std. Error	Beta		
(Constant)	2.797	.173		16.184	.000
Severe PP	-.173	.079	-.150	-2.202	.028
Moderate PP	.224	.067	.223	3.336	.001
Mild PP	-.095	.061	-.101	-1.540	.125

Note. ^aDependent Variable: Marks Scored in KCPE

^{PP} Physical punishment

The regression model was significant with the three forms of physical punishment jointly accounting for 4.1% change in KCPE scores, $R^2 = .041$, $F(3, 319) = 4.604$, $p = .004$. The model was significant at 0.01 level of significance. These results are consistent with findings of similar studies (e.g. Ahmad et al., 2013a; Arigbo & Adeogun, 2018; Hisham & Jamal, 2014; Jyoti & Neetu, 2013; Khuwaja et al., 2018; Naz, Khan, Daraz, Hussain & Khan, 2011; Adesope, Ogunwuyi & Olorode, 2017; Ogando-Portela & Pells, 2015), which suggest that exposure to physical punishment predicts poor academic performance for learners. Contrary to the present study, findings by Khatete and Matanda (2014) seem to suggest that a ban on physical punishment in Kenya in 2001 led to academic indiscipline, resulting to poor

academic performance. Consequently, Khatete and Matanda (2014) posit that physical punishment is associated with better academic performance.

However, according to the data presented in Table 4.6, only severe physical punishment ($\beta = -.173, t(3, 319) = -2.202, p < .05$) and moderate physical punishment ($\beta = .224, t(3, 319) = 3.336, p < .01$) contributed significantly to this model. A unit change in exposure to severe physical punishment, for instance, resulted to a 17.3% change in KCPE score. Mild physical punishment ($\beta = -.095, p > .05$) did not contribute to the model implying that students' academic performance was not affected by the frequency of exposure to mild physical punishment at school.

Exposure to severe physical punishment (caning, slapping or burning with hot object) was associated with negative effects on KCPE scores. Students who are more frequently exposed to caning, slapping and other forms of severe physical punishment are more likely to attain lower scores in examinations. However, moderate physical punishment was not associated with negative effects on KCPE scores. Results of this study are consistent with findings of a survey conducted in Pakistan by Naz et al. (2011), which suggest that severe physical punishment has negative impacts on academic performance. Learners' academic performance may be affected, either negatively or positively, by exposure to physical punishment. Negative effects are more significant for severe forms of physical punishment. Severe physical punishment seems to affect learners' emotional and social quotients, upsetting their level of concentration as reflected in standardized KCPE scores.

The overall result on this objective found that physical punishment is negatively correlated to academic performance ($r = -.19, p = .05$). The negative effects of physical punishment were not associated with the frequency of punishment but rather the actual experience of physical punishment as suggested by KCPE mean comparisons for varying frequencies of mild,

moderate and severe physical punishment. Both severe and moderate physical punishment were predictive of KCPE scores.

4.4 Mediation of Relation between Physical Punishment and Academic Performance

The third objective of the current study was to investigate the mediating effects of attitude towards physical punishment on the link between physical punishment and academic performance. Information on learners' attitude towards physical punishment was obtained through 13 questionnaire items. These included both open and closed-ended items. Closed-ended items consisted of either negatively or positively stated items, with 5 answer options, i.e. strongly agree, agree, undecided, disagree, and strongly disagree. The level of agreement with the statements was interpreted to suggest either positive or negative attitude towards the form of punishment in the statement. Results on learners' attitudes were used to investigate the role attitudes play in explaining the link between physical punishment and academic performance.

First, t-test analysis was conducted to examine the significance of KCPE mean differences between learners with positive and those with negative attitudes towards physical punishment. The results presented in Table 4.7 show that learners with negative attitudes towards physical punishment performed better compared with learners with positive attitudes.

Table 4.7: Mean comparison by attitude towards physical punishment

Attitude towards physical punishment	Mean Differences			t-test for equality of means	
	N	Mean	SD	<i>t</i>	Sig.(2-tailed)
Positive	202	2.5990	0.99381	-4.613	.000
Negative	121	3.0165	0.63224		

These results are consistent with findings of Veresova and Mala (2016) and Dlamini, Dlamini and Bhebhe (2017) suggesting that learners' attitudes affect their academic performance, either negatively or positively, depending on the context. However, Smith and Harper (2015) disagrees with these findings, contending that physical punishment only has negative effects on children and that attitude or normativeness only acts to moderate the negative effects.

Besides mean comparisons presented above, correlation and regression analyses were conducted to examine the relationship between exposure to mild, moderate and severe physical punishment and learners' attitude towards physical punishment. Exposure to severe physical punishment was positively correlated to the learners' attitude towards physical punishment, $r = .140$, $p = .012$. However, there were no significant relationships between attitude and both mild and moderate physical punishment. This suggests that learners tend to acquire stronger attitudes towards physical punishment when subjected to severe forms of physical punishment than milder forms. This is consistent with results of a study conducted in Nigeria (Afua, 2010) suggesting that it is not the mere exposure to physical punishment, but the severity thereof, that affects children most.

Among the different forms of severe physical punishment to which learners are exposed, frequency of slapping and caning were most significantly correlated to learners' attitudes towards physical punishment, with coefficients of $.193$ ($p < .01$) and $.162$ ($p < .01$) respectively. Caning and slapping are the most common forms of physical punishment in schools (Kimani et al., 2012), hence the most likely predictors of attitudes towards physical punishment. The correlation matrix for the three forms of physical punishment and attitude towards physical punishment is presented in Table 4.8.

Table 4.8: Correlation for Forms of Physical Punishment and Learners' Attitudes

		Attitudes towards physical punishment	Severe physical punishment	Moderate physical punishment	Mild physical punishment
Attitude towards physical punishment	Pearson Correlation	1	.140*	.022	-.002
	Sig. (2-tailed)		.012	.693	.978
	N	323	323	323	323
Severe physical punishment	Pearson Correlation	.140*	1	.520**	.488**
	Sig. (2-tailed)	.012		.000	.000
	N	323	323	323	323
Moderate Physical Punishment	Pearson Correlation	.022	.520**	1	.461**
	Sig. (2-tailed)	.693	.000		.000
	N	323	323	323	323
Mild Physical Punishment	Pearson Correlation	-.002	.488**	.461**	1
	Sig. (2-tailed)	.978	.000	.000	
	N	323	323	323	323

Note:** Significant at .01 level of significance

* Significant at .05 level of significance

Using the transform variable option in SPSS, a single physical punishment variable (mild physical punishment*moderate physical punishment*severe physical punishment) was computed from the mean scores for the three forms of physical punishment. Exposure to physical punishment was found to significantly predict learners' attitudes towards physical punishment at 0.05 level of significance, $R^2 = .166$, $F(3, 319) = 3.027$, $p = .03$. This suggests that interaction between exposure to all the three forms of physical punishment may account for up to 16.6% of learners' attitudes towards physical punishment. In a similar study, Vittrup and Holden (2010) agree that children's attitudes towards physical punishment depend on their experiences of this form of discipline. Further, experimental design studies on child attitudes (Carter-Davies & Bristow, 2018) show that children who have never been punished do not consider physical punishment as an acceptable form of punishment. Attitudes of children in this study are consistent with findings by Vittrup and Holden (2010), and Carter-Davies and Bristow (2018). Exposure to severe forms of physical punishment significantly contributed to this model, $\beta_1 = .204$, $t(319) = 2.978$, $p < .01$. Both mild and moderate physical

punishment did not significantly contribute to the model. Linear regression model for attitude on exposure to severe physical punishment shows that severe physical punishment accounts for 2% change in attitude, $R^2 = .02$, $F(1, 321) = 6.457$, $p = .012$.

Among the different modes of severe physical punishment, the most significant predictor of learners' attitude towards physical punishment was slapping, $R^2 = .037$, $F(1, 319) = 12.343$, $p = .001$, followed by caning, $R^2 = .026$, $F(1, 318) = 8.60$, $p = .004$. According to these findings, most positive attitudes children have towards physical punishment may be associated with frequent exposure to severe forms of physical punishment. Caning and slapping are likely to elicit more positive attitudes because they are the most frequently used forms of punishment for minor mistakes at school (Kimani et al., 2012).

Linear regression was conducted to determine whether these attitudes held by children towards physical punishment had any significant effects on their academic performance. Results suggest that attitude towards physical punishment significantly predicts KCPE scores, $R^2 = .042$, $F(1, 321) = 14.111$, $p < .001$. A unit increase in attitude (normativeness of teachers' use of physical punishment) resulted to a 25.5% decrease in KCPE score, $\beta_1 = -.255$, $p < .001$. KCPE scores were negatively correlated to learners' attitude towards physical punishment ($r = -.205$, $p < .001$) with attitude negatively predicting academic performance as shown by the scatter plot in Figure 4.1.

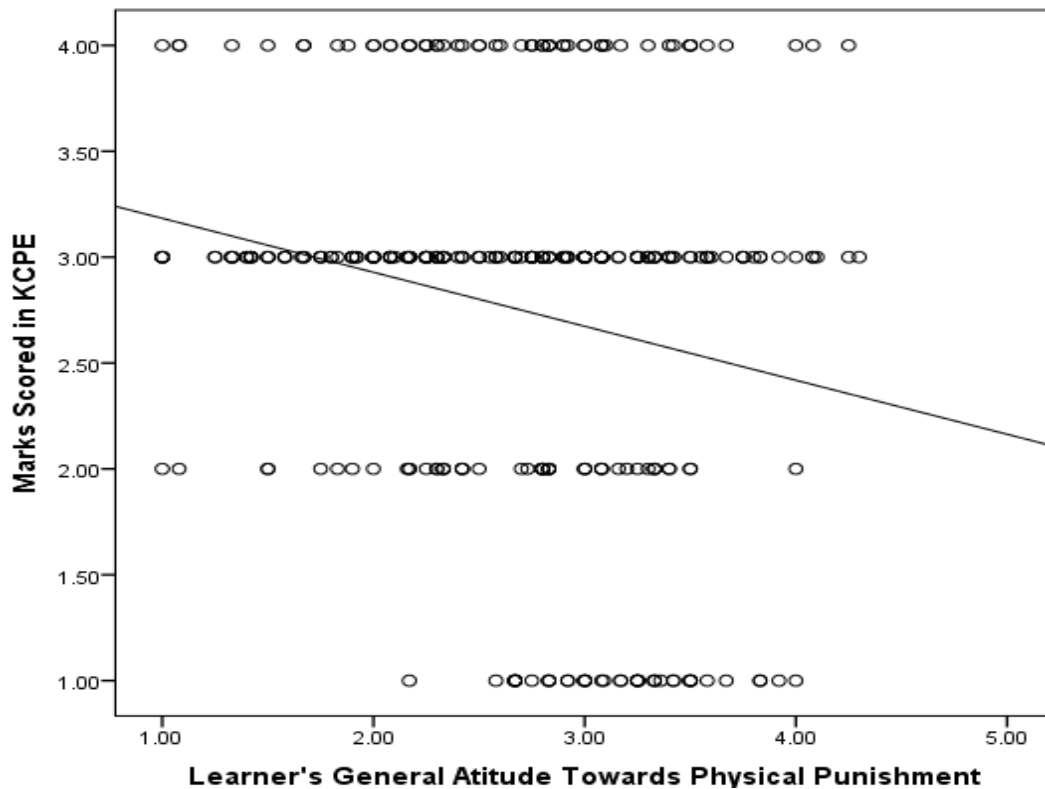


Figure 4.1: Learners' attitude - KCPE score correlation

Results presented in Figure 4.1 suggest that academic performance decrease with increase in attitude. Learners who regard physical punishment as normative (i.e. have positive attitude towards physical punishment) perform poorer than those who consider it not normative. The most notable attitudinal predictors of KCPE scores were attitudes towards pulling hair or pinching ($\beta_1 = -.255, p < .001$), and attitudes about teachers' use of physical punishment as a means of improving academic performance ($\beta_1 = -.090, p < .05$). These results suggest that learners who considered pulling hair or pinching to be non-normative attained better KCPE scores than those who considered this form of punishment to be normative. Similarly, learners who regarded physical punishment as a contributor to better academic performance, on the contrary, had lower KCPE scores. Learners who consider physical punishment to be non-normative, harmful and ineffective disciplinary strategy are likely to achieve better grades in school while those with favorable attitudes are more likely to attain lower grades.

Multiple regression analysis was conducted to investigate the role of learners' attitudes towards physical punishment in mediating the relationship between exposure to physical punishment and academic performance. Regression models with attitude as a mediator on the effects of each of the three forms of physical punishment (severe, moderate and mild physical punishment) on KCPE scores were conducted. The researcher used SPSS Process macro to carry out all the regression analyses.

In step 1 of the mediation analysis for severe physical punishment, regression model for severe physical punishment on KCPE scores, ignoring the mediator, was significant, ($\beta = -.173$, $t(3, 319) = -2.202$, $p < .001$). Step 2 of the model showed that regression of severe physical punishment on the mediator, attitude towards physical punishment, was also significant at 0.05 level of significance, $\beta_1 = .1308$, $t(321) = 2.5411$, $p = .0115$. Step 3 of the mediation process showed that attitude towards physical punishment, controlling for exposure to severe physical punishment, was also a significant predictor of KCPE scores, $\beta_1 = -.2454$, $t(320) = -3.5791$, $p = .0004$. Lastly, step 4 of the analysis indicated that, controlling for the mediator (attitude towards physical punishment), exposure to severe physical punishment was not a significant predictor of learner's KCPE scores, $\beta_1 = -.0637$, $t(320) = -.9976$, $p = .3192$. Significance of the first three paths and non-significance of the fourth path suggest that attitude fully mediates the effects of severe physical punishment on academic performance. Whereas severe physical punishment has significant effects on academic performance, these effects become insignificant when attitude is controlled. This implies that severe physical punishment has indirect effects on academic performance via attitude. Results of the above analysis are consistent with Baron and Kenny (1986) model of determining mediation effects.

The finding that attitude mediates effects of severe physical punishment on academic performance agrees with earlier findings in this study which found no significant mean

difference between KCPE aggregate scores of learners frequently exposed and those less frequently exposed to physical punishment. However, KCPE means for learners with positive attitude and those with negative attitude towards physical punishment were significantly different ($t = -4.613, p < .001$). Learners' attitude towards physical punishment has a greater effect on their academic performance than the frequency of punishment.

These results suggest that exposure to severe physical punishment exerts its effects on academic performance via learners' attitude towards physical punishment and its perpetrators. Results of indirect mediation effects through bootstrapping, which considered confidence intervals (CI) at 95%, confirmed the mediation path. Bootstrapping revealed that the intervals for KCPE scores, via the mediator, attitude towards physical punishment, did not include zero (95% lower CI = $-.0700$ and upper CI = $-.0050$). The link between severe physical punishment and learners' academic performance was, based on these results, fully mediated by the learners' attitudes towards physical punishment. This implies that the link between severe physical punishment and academic performance occurs through attitudes learners develop towards physical punishment.

Without eliciting either negative or positive attitudes towards it, mere exposure to physical punishment would have no effects on learners' academic performance. This is consistent with results of previous studies (e.g. Peteros et al., 2019; Khamari & Guru, 2013; Veresova & Mala, 2016), which suggest that learners' attitudes predict academic performance. Veresova and Mala (2016), for instance, found that learner's attitude towards school and learning had an effect size of 9.8% on GPA scores. Results of this study found that attitude towards severe physical punishment had an effect size of 3.21% on KCPE scores. However, Smith & Harper (2015) contends that the effects of physical punishment are negative regardless of its context, suggesting that child outcomes are not a result of attitude or normativeness but punishment itself. According to Smith and Harper (2015), attitude does not mediate the link between

physical punishment and child outcome, but rather moderates the effects of physical punishment.

Multiple regression was also conducted to examine the mediating role of attitude on the link between moderate physical punishment and academic performance. Moderate physical punishment significantly predicted KCPE scores, ($\beta = .224$, $t(3, 319) = 3.336$, $p < .05$). However, it did not have significant causal effects on learners' attitude towards physical punishment, $R^2 = 0.005$, $F(1, 321) = .1557$, $p = .6934$. The mediator, controlling for exposure to moderate physical punishment, significantly predicted KCPE scores ($\beta_1 = -.2578$, $t(320) = -3.8125$, $p = .0002$). Further analyses showed that moderate physical punishment, controlling for the mediator, attitude towards physical punishment, had no significant effects on KCPE scores, $\beta_1 = .1039$, $t(320) = 1.8968$, $p = .0588$, suggesting partial mediation effects.

To confirm the significance of these mediation effects, bootstrapping was conducted. This found that confidence intervals for indirect effects of moderate physical punishment on KCPE scores included zero ($\beta_1 = -.0046$, *lower CI* = $-.0330$, *upper CI* = $.0215$), suggesting no mediation. Consequently, attitude towards physical punishment does not significantly mediate the effects of moderate physical punishment on academic performance.

Similar to moderate physical punishment, direct effects were insignificant for mild physical punishment predicting both attitude towards physical punishment ($R^2 = .0000$, $F(1, 321) = .0008$, $p = .9777$) and KCPE scores ($R^2 = .0050$, $F(1, 321) = 1.6177$, $p = .2043$). A multiple regression model conducted to examine mediation found that attitude towards physical punishment, controlling for mild physical punishment predicted KCPE scores, $\beta_1 = -.2551$, $t(320) = -3.036$, $p = .0002$, but mild physical punishment, controlling for attitude, was not a significant predictor of KCPE scores, $\beta_1 = -.0668$, $t(320) = -1.3036$, $p = .1933$. Bootstrapping results confirmed that the indirect effects of mild physical punishment on academic

performance were not statistically significant, $\beta_1 = .0003$, *lower CI* = $-.0228$, *upper CI* = $.0219$. Effects of mild physical punishment on academic performance were not mediated by attitude towards physical punishment.

This study found that attitude mediates the effects of severe physical punishment on academic performance but not moderate and mild physical punishment. This suggests that children's attitudes towards different forms of physical punishment differ. This agrees with research studies (e.g. Afua, 2010) suggesting that it is the forms of punishment that matter more to children. However, it is in contention with Smith and Harper (2015) who suggests moderating rather than mediating effects of attitude on outcomes of physical punishment. Results of this study may not contradict Smith and Harper (2015) if we consider that the latter is based on parental use of physical punishment at home and focuses on behavioral outcome rather than academic performance.

In summary, findings of this study suggest a positive correlation between exposure to physical punishment and learners' attitudes towards physical punishment ($r = .247$, $p < .01$). Learners' attitudes are in turn negatively correlated to academic performance ($r = -.205$, $p < .01$). Attitude towards physical punishment mediated the relationship between severe physical punishment and academic performance ($\beta_1 = .0321$, Boot LLCI = $-.0700$, Boot ULCI = $-.0500$, $p < .001$). Attitudes towards physical punishment did not have mediatory effects on the links between mild and moderate forms of physical punishment and academic performance.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of the Study Findings

The study aimed at investigating the mediating role of learners' attitude towards physical punishment on the link between physical punishment and academic performance in Shinyalu Sub-county. Physical punishment was found to be highly prevalent in Shinyalu sub-county schools. Results of the current study suggest that both severe and moderate physical punishment have significant effects on learners' academic performance, with the effects being more negative for severe physical punishment. Mild physical punishment does not have significant effects on learners' academic performance. Attitudes towards physical punishment had full mediation effects on the link between severe physical punishment and academic performance. However, attitude towards physical punishment did not seem to influence the link between both moderate and mild forms of physical punishment and academic performance.

5.1.1 Prevalence of Physical Punishment

Most of the respondents (85%) reported previous experiences with physical punishment. This rate was slightly higher, but comparable to the Kakamega County prevalence rate reported by KNBS et al. (2016). Qualitative data collected during the study suggest that most learners (64%) support the ban on physical punishment. They cited hatred for teachers, and creation of a hostile school environment for learning as some of the reasons for their opposition to physical punishment.

5.1.2 Relation between Physical Punishment and Academic Performance

Although most learners (54%) thought that exposure to physical punishment did not influence their academic performance, nearly half (46%) said exposure to physical punishment had positively contributed to their KCPE aggregate scores.

Quantitative data obtained from this study shows that exposure to both severe and moderate physical punishment significantly predicts KCPE scores, unstandardized beta values being -.173 and .224 respectively. Exposure to severe physical punishment was predictive of lower KCPE scores while exposure to moderate physical punishment was associated with higher KCPE scores. Mild forms of physical punishment did not have any significant effects on KCPE scores.

5.1.3 Mediation of Relation between Physical Punishment and Academic Performance

Results of this study indicate that there was a significant correlation between severe forms of physical punishment and learners' attitudes towards physical punishment in school ($r = .140$, $\rho = .012$). Despite frequency of exposure to moderate and mild forms of physical punishment appearing to have positive ($r = .022$) and negative ($r = -.002$) correlations respectively with attitude towards physical punishment, both correlations were insignificant at .05 level of significance.

Severe physical punishment significantly predicted learners' attitude towards physical punishment ($\beta_1 = .204$, $t(319) = 2.978$, $p < .01$), with slapping ($R^2 = .037$, $F(1, 319) = 12.343$, $p < .01$) and caning ($R^2 = .026$, $F(1, 318) = 8.60$, $p < .01$) being the most significant predictors. Findings of this study further suggest that learners' attitude towards physical punishment is a significant predictor of KCPE scores. In this study, academic performance was negatively correlated to learners' attitude towards physical punishment, with a 1% change in attitude resulting to 25.5% decrease in KCPE score. The study found that favorable attitudes towards severe physical punishment do not necessarily translate to better academic performance. On the contrary, learners with negative attitudes towards severe physical punishment tend to achieve better grades at school than those who consider physical punishment in school to be both necessary and normative.

Attitude towards physical punishment was found to mediate the link between severe physical punishment and academic performance. Multiple regression analysis was conducted using SPSS PROCESS macro. The analysis revealed that severe physical punishment was a significant predictor of attitude towards physical punishment ($\beta_1 = .1308$, $t(321) = 2.5411$, $p < .05$). Attitude towards physical punishment, controlling for exposure to severe physical punishment, was a significant predictor of KCPE scores ($\beta_1 = -.2454$, $t(320) = -3.5791$, $p < .01$). Severe physical punishment, controlling for attitude, was not a significant predictor of KCPE scores ($\beta_1 = -.0637$, $t(320) = -.9976$, $p = .3192$), suggesting indirect effects. The significance of indirect effects of severe physical punishment on academic performance was confirmed by bootstrapping results (95% lower CI = $-.0700$ and upper CI = $-.0050$). However, mediation effects of attitude on the link between physical punishment and academic performance were true only for severe physical punishment. Attitude did not have any mediating effects on the link between both moderate and mild physical punishment and academic performance.

5.2 Conclusions

Based on results obtained from analysis of data collected for this study, the following conclusions were made:

5.2.1 Prevalence of Physical Punishment

Despite the ban on the use of physical punishment in school settings, students in Shinyalu sub-county schools still experience physical punishment. The prevalence rate for physical punishment in schools in Shinyalu sub-county was 85%.

5.2.2 Relation between Physical Punishment and Academic Performance

Regarding the relationship between physical punishment and academic performance, the study found that exposure to both severe and moderate physical punishment has significant effects on academic performance. Specifically, severe physical punishment predicts lower

scores. Mild physical punishment did not significantly predict academic performance, implying that mild physical punishment has no effects on learners' academic performance.

5.2.3 Mediation of Relation between Physical Punishment and Academic Performance

Learners' attitude towards physical punishment had a positive correlation with learners' exposure to severe physical punishment. There were no significant correlations between learners' exposure to moderate and mild physical punishment and their attitudes towards physical punishment. The type of physical punishment to which learners are subjected, whether mild, moderate or severe, influences formation of their attitudes towards it, with severe physical punishment being more predictive of attitude. Children who are frequently exposed to severe physical punishment tend to consider its use in school as normative. This implies that when children are subjected to cruel and dehumanizing forms of discipline, they are likely to internalize those forms of discipline.

Lastly, results of this study show that attitude towards severe physical punishment influences the effects of severe physical punishment on learners' academic performance. Children who had positive attitudes towards severe physical punishment were found to attain lower scores in KCPE examinations. The effects of severe physical punishment on academic performance were insignificant in the absence of attitude. Attitude towards physical punishment had full mediation effects on the link between physical punishment and academic performance. However, attitude did not mediate the effects of moderate and mild physical punishment on academic performance. Attitude was found to be one of the mechanisms through which physical punishment may be linked to learners' academic performance.

5.3 Recommendations to Education Stakeholders

Following the findings of this study, the following recommendations were made:

- (i). The Kenyan Government should develop mechanisms to monitor and enforce laws and regulations outlawing physical punishment in schools. Physical punishment in schools seems to persist due to lack of enforcement of the ban.
- (ii). The Teachers Service Commission, in conjunction with the Ministry of Education, should organize sensitization seminars for teachers on the negative effects of physical punishment on academic performance. There is need to correct the belief among some teachers that physical punishment means good for learners and that it enhances academic performance.
- (iii). Learners' attitudes towards physical punishment mediates its effects on academic performance. Despite its formativeness in the society, school guidance and counseling teachers should sensitize learners against embracing physical punishment as a normal strategy for correcting misbehavior in schools.

5.4 Recommendations for Further Research

- (i). The study focused on whether attitude towards physical punishment mediates the link between physical punishment and academic performance. Further research should investigate factors, other than attitude that might provide a link between physical punishment and academic performance.
- (ii). This study yielded cross-sectional data, which may not meet the threshold for extrapolation to all students across different ages. Future studies on mediating role of attitude on the link between physical punishment and academic performance should adopt a longitudinal design and use larger samples drawn from a wider geographical region.

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APPENDICES

Appendix A: Participant's Information and Consent Form

(i) What is the study about?

The purpose of this study is to investigate the mediating role of learners' attitude towards physical punishment on the link between physical punishment and academic performance in KCPE. No data on current teachers' use of physical punishment or learners' opinion about their teachers' use of physical punishment will be collected. Only attitudes about their experiences with physical punishment in their former primary schools will be explored. The target population for this study are all Form One students in Shinyalu sub county.

(ii) Who is the study researcher?

The researcher is a Masters of Education (Educational Psychology) student at Maseno University. The study is authorized by the National Council for Science, Technology and Innovation (NACOSTI) through the Maseno University Ethics Research Committee (MUERC).

(iii) What happens if I agree to my school taking part?

The researcher is asking for permission to invite students to take part in the study by responding to items in a structured questionnaire. The aim of the study will be explained to the students beforehand and they will be free to decide whether they are happy to take part in the study or not. The student may opt not to respond to any or all of the questionnaire items should need be. The researcher also requests school to provide analyzed term one examination results for the form one class.

(iii) What happens if a student agrees to take part?

If a student decides to take part, he/she will be asked about his/her attitudes and responses to different disciplinary approaches by his/her primary school teachers. The students will not be asked any specific information about individual teachers. Confidentiality of the information provided is totally guaranteed. Learners will not be required to indicate their names or any form of identity on the questionnaire. No information will be shared with any third party. Identity of participating student will be kept confidential and will not be revealed in any work published from the results of this study. If the student discloses information that causes the researcher to worry about his/her safety, the researcher will inform the principal, but not without discussing this with the student first.

(iv) What will happen to the information?

All information will be stored under lock and key and in soft copy secured by a password only accessible to the researcher. The information shall be kept confidential, and shall be used for the purpose of the this research only. No pupil will be identified in anything that is published from the study. The researcher hopes that the results of the study will make an important contribution to our understanding of learners' views on this central aspect of their lives and inform related policy decisions.

(v) Whom do I contact in case of any complaint?

For any questions or concerns about the study, or in the event of a study-related harm, kindly contact the investigator through the contact below:

Stephen Mukabana Owade
P.O.Box 657-50200,

Bungoma.
Tel 0724-845121
E-mail: eusteve@yahoo.com

For any questions pertaining to your rights as a school or individual students' rights, please contact;

The secretary,
Maseno University Ethics Review Committee,
Private Bag, Maseno,
Tel 057-51622/ 0722203411/0721543976/0733230878
E-mail: muerc-secretariate@maseno.ac.ke; muerc-secretariate@gmail.com.

I confirm that I have read the information provided and that I am happy for my pupils to be invited to take part in the study at the school.

Name of School _____

Principal's Signature _____

Date _____

Appendix B: Pupils' Questionnaire

LEARNERS' ATTITUDE TOWARDS PHYSICAL PUNISHMENT AS A MEDIATOR BETWEEN PHYSICAL PUNISHMENT AND ACADEMIC PERFORMANCE IN KCPE IN SHINYALU SUB-COUNTY, KAKAMEGA COUNTY, KENYA

The researcher in this study is investigating the effect of attitude on the link between physical punishment and academic performance. Your honest responses and opinion on the items in this questionnaire will greatly help the researcher achieve this goal. All information you provide in this questionnaire will be kept with extremely high confidentiality and will not be revealed to anyone including school administration and the public. To assure this you are asked NOT to indicate your name, admission number or school anywhere in this questionnaire.

A. Information on academic performance

1. How many marks did you score in KCPE?

Between 401 and 500

Between 351 and 400

Between 301 and 350

Between 251 and 300

Below 250 marks

B. What your teachers did to correct misbehavior at primary school

*Students many times do mistakes e.g. fighting, disobeying teachers, not doing homework or assignments, stealing, etc. Please tell how teachers at your **former primary school** used to correct such habits by ticking [] the correct answer for questions 3 to 8. For question 9 to 13, state the extent to which you agree or disagree with the statement given by ticking the most appropriate response.*

2.(a). Were you ever punished by a teacher at your former primary school?

Yes

No

(b) If yes, what forms of punishment did the teacher use? You may select more than one options if applicable.

- | | |
|----------------------------------|--------------------------|
| Hitting or slapping | <input type="checkbox"/> |
| Kicking | <input type="checkbox"/> |
| Pinching | <input type="checkbox"/> |
| Grabbing or shaking forcefully | <input type="checkbox"/> |
| Pulling hair/Nose/Ears | <input type="checkbox"/> |
| Locking up in a room or tying up | <input type="checkbox"/> |

3. Whenever you did a mistake, how often would the teacher(s) slap or hit you with the hand to discipline you? **(Tick[✓]one)**

- | | |
|--|-------------------------------------|
| <input type="checkbox"/> ever | <input type="checkbox"/> Most times |
| <input type="checkbox"/> rarely | <input type="checkbox"/> Always |
| <input type="checkbox"/> Once in a while | |

4. How often did your teachers ever hit you with a cane, belt or any object because you had misbehaved or failed an examination?

- | | |
|--|-------------------------------------|
| <input type="checkbox"/> Never | <input type="checkbox"/> Most times |
| <input type="checkbox"/> Rarely | <input type="checkbox"/> Always |
| <input type="checkbox"/> Once in a while | |

5. Were you ever, in your primary school, kicked by a teacher for misbehavior or failure?

- | | |
|--|-------------------------------------|
| <input type="checkbox"/> Never | <input type="checkbox"/> Most times |
| <input type="checkbox"/> Rarely | <input type="checkbox"/> Always |
| <input type="checkbox"/> Once in a while | |

6. Were you ever pinched by a teacher because you had misbehaved or gotten low marks?

- | | |
|--|-------------------------------------|
| <input type="checkbox"/> Never | <input type="checkbox"/> Most times |
| <input type="checkbox"/> Rarely | <input type="checkbox"/> Always |
| <input type="checkbox"/> Once in a while | |

7. Did your teacher(s) ever grab you or shake you to get your attention or response?

- | | |
|--|-------------------------------------|
| <input type="checkbox"/> Never | <input type="checkbox"/> Most times |
| <input type="checkbox"/> Rarely | <input type="checkbox"/> Always |
| <input type="checkbox"/> Once in a while | |

8. When we did a mistake, our teacher(s) **never** pulled our hair as punishment.

- | | |
|---|--|
| <input type="checkbox"/> Completely Agree | <input type="checkbox"/> Disagree |
| <input type="checkbox"/> Agree | <input type="checkbox"/> Completely Disagree |
| <input type="checkbox"/> Somehow Agree | |

9. Our teachers **never** forced us to stay in an uncomfortable positions e.g. squatting or kneeling for a long time because we had done a mistake or failed a test.

- | | |
|---|--|
| <input type="checkbox"/> Completely Agree | <input type="checkbox"/> Disagree |
| <input type="checkbox"/> Agree | <input type="checkbox"/> Completely Disagree |
| <input type="checkbox"/> Somehow Agree | |

10. I was **never** locked in a room or tied up with a rope/string as punishment.

- | | |
|---|--|
| <input type="checkbox"/> Completely Agree | <input type="checkbox"/> Disagree |
| <input type="checkbox"/> Agree | <input type="checkbox"/> Completely Disagree |
| <input type="checkbox"/> Somehow Agree | |

11. I was never burned with a hot object by the teacher to punish me/them for misbehavior or failing a test.

- | | |
|---|--|
| <input type="checkbox"/> Completely Agree | <input type="checkbox"/> Disagree |
| <input type="checkbox"/> Agree | <input type="checkbox"/> Completely Disagree |
| <input type="checkbox"/> Somehow Agree | |

12. I was **never** forced by the teacher(s) to ingest something e.g. washing mouth with soap or eating hot or too much food as a form of punishment.

- | | |
|---|--|
| <input type="checkbox"/> Completely Agree | <input type="checkbox"/> Disagree |
| <input type="checkbox"/> Agree | <input type="checkbox"/> Completely Disagree |
| <input type="checkbox"/> Somehow Agree | |

C. Your opinions about discipline

I would like to have your opinion in general about how teachers should discipline primary school-age pupils. Please write your response for questions 15 and 16. For

question 17 - 28, read each statement and **tick** (✓) the response that best describes your view or opinion.

13. (a) Do you support the ban on physical punishment in school by the government?

.....

(b) Please give a reason for your answer in 13 (a) above

.....

14. (a) In what ways do you think physical punishment might influence academic performance?

.....

(b) In your own opinion, did your experience of physical punishment affect your performance in KCPE? If yes, how did it affect it?

.....

15. Teachers are sometimes justified to hit pupils with a hand or slap them.

Strongly Disagree

Agree

Disagree

Strongly Agree

Undecided/Don't know

16. Caning pupils with a cane, belt or any other object by teachers is sometimes right.

Strongly Disagree

Agree

Disagree

Strongly Agree

Undecided/Don't know

17. Pulling pupils' hair and pinching by teachers are fair forms of punishment.

Strongly Disagree

Agree

Disagree

Strongly Agree

Undecided/Don't know

18. Teachers don't like punishing students but are often forced to do so by the students.

Strongly Disagree

Agree

Disagree

Strongly Agree

Undecided/Don't know

19. Physical punishment makes pupils work harder in academics and classwork.

- | | |
|---|---|
| <input type="checkbox"/> Strongly Disagree | <input type="checkbox"/> Agree |
| <input type="checkbox"/> Disagree | <input type="checkbox"/> Strongly Agree |
| <input type="checkbox"/> Undecided/Don't know | |

20. Pupils who get punished for poor academic performance eventually improve.

- | | |
|---|--|
| <input type="checkbox"/> Strongly Agree | <input type="checkbox"/> Disagree |
| <input type="checkbox"/> Agree | <input type="checkbox"/> Strongly Disagree |
| <input type="checkbox"/> Undecided/Don't know | |

21. Physical punishment or caning is an efficient method of correcting misbehavior.

- | | |
|---|--|
| <input type="checkbox"/> Strongly Agree | <input type="checkbox"/> Disagree |
| <input type="checkbox"/> Agree | <input type="checkbox"/> Strongly Disagree |
| <input type="checkbox"/> Undecided/Don't know | |

22. Teachers only use physical punishment for the benefit of the pupils.

- | | |
|---|--|
| <input type="checkbox"/> Strongly Agree | <input type="checkbox"/> Disagree |
| <input type="checkbox"/> Agree | <input type="checkbox"/> Strongly Disagree |
| <input type="checkbox"/> Undecided/Don't know | |

23. Physical punishment is the only form of discipline that most pupils seem to understand.

- | | |
|---|--|
| <input type="checkbox"/> Strongly Agree | <input type="checkbox"/> Disagree |
| <input type="checkbox"/> Agree | <input type="checkbox"/> Strongly Disagree |
| <input type="checkbox"/> Undecided/Don't know | |

24. Physical punishment is harmless to pupils.

- | | |
|---|--|
| <input type="checkbox"/> Strongly Agree | <input type="checkbox"/> Disagree |
| <input type="checkbox"/> Agree | <input type="checkbox"/> Strongly Disagree |
| <input type="checkbox"/> Undecided/Don't know | |

25. Physical punishment works better than all other forms of enforcing discipline.

- | | | |
|---|-----------------------------------|--------------------------------|
| <input type="checkbox"/> Strongly Agree | <input type="checkbox"/> Disagree | <input type="checkbox"/> Agree |
|---|-----------------------------------|--------------------------------|

Strongly Disagree

Undecided/Don't know

26. Teachers only use physical punishment as a last resort.

Strongly Agree

Disagree

Agree

Strongly Disagree

Undecided/Don't know

Thank you for your help with this important study.

Appendix C: Research Proposal Approval by SGS



MASENO UNIVERSITY
SCHOOL OF GRADUATE STUDIES

Office of the Dean

Our Ref: PG/MED/00064/13

Private Bag, MASENO, KENYA
Tel:(057)351 22/351008/351011
FAX: 254-057-351153/351221
Email: sgs@maseno.ac.ke

Date: 05th March, 2018

TO WHOM IT MAY CONCERN

**RE: PROPOSAL APPROVAL FOR STEPHEN MUKABANA OWADE —
PG/MED/00064/2013**

The above named is registered in the Master of Education programme in the School of Education, Maseno University. This is to confirm that his research proposal titled "Learners' Attitude as a Mediator between Physical Punishment and Academic Performance of Form One Students in Shinyalu Sub County, Kakamega County, Kenya" has been approved for conduct of research subject to obtaining ~~all other~~ permissions/clearances that may be required beforehand.


Prof. J.O. Agure

DEAN, SCHOOL OF GRADUATE STUDIES



Appendix D: Research Approval by MUERC



MASENO UNIVERSITY ETHICS REVIEW COMMITTEE

Tel: +254 057 351 622 Ext: 3050
Fax: +254 057 351 221

Private Bag – 40105, Maseno, Kenya
Email: muerc-secretariate@maseno.ac.ke

FROM: Secretary - MUERC

DATE: 25th September, 2018

TO: Stephen Mukabane Owade
PG/MED/00064/2013
Department of Educational Psychology
School of Education, Maseno University
P.O. Private Bag, Maseno, Kenya

REF: MSU/DRPI/MUERC/00532/18

RE: Learners' Attitude as a Mediator on the Link between Physical Punishment and Academic Performance in KCPE in Shinyalu Sub-County, Kakamega County, Kenya. Proposal Reference Number MSU/DRPI/MUERC/00532/18

This is to inform you that the Maseno University Ethics Review Committee (MUERC) determined that the ethics issues raised at the initial review were adequately addressed in the revised proposal. Consequently, the study is granted approval for implementation effective this 25th day of September, 2018 for a period of one (1) year.

Please note that authorization to conduct this study will automatically expire on 24th September, 2019. If you plan to continue with the study beyond this date, please submit an application for continuation approval to the MUERC Secretariat by 15th August, 2019.

Approval for continuation of the study will be subject to successful submission of an annual progress report that is to reach the MUERC Secretariat by 15th August, 2019.

Please note that any unanticipated problems resulting from the conduct of this study must be reported to MUERC. You are required to submit any proposed changes to this study to MUERC for review and approval prior to initiation. Please advise MUERC when the study is completed or discontinued.

Thank you.


Dr. Bonuke Anyona,
Secretary,
Maseno University Ethics Review Committee.

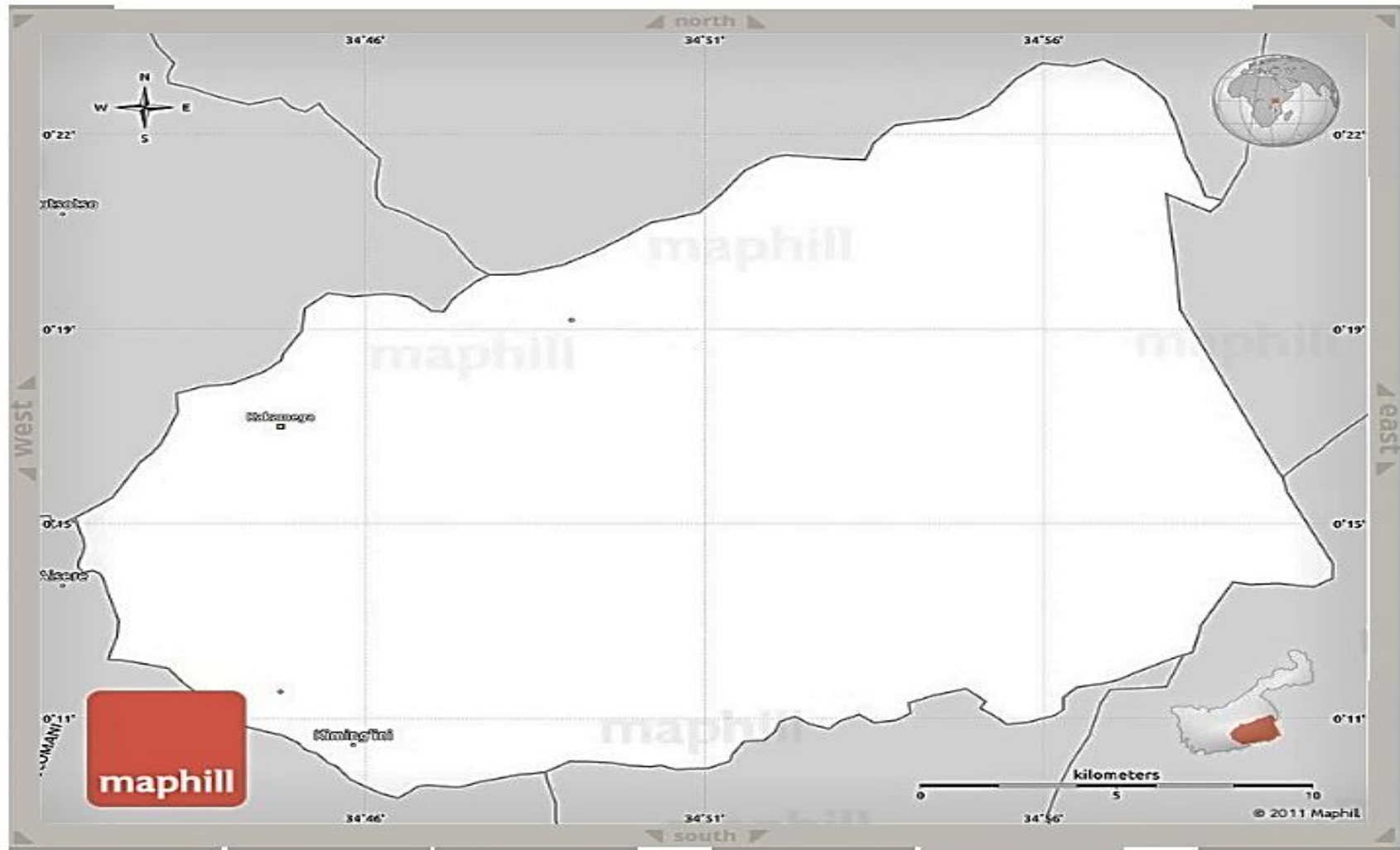


Cc: Chairman,
Maseno University Ethics Review Committee.

MASENO UNIVERSITY IS ISO 9001:2008 CERTIFIED



Appendix E: Geographical Map of Shinyalu Sub-county



Appendix F: T-Test for Learners' Attitude and Aggregate KCPE Scores

Group Statistics

	Learner's Attitude Towards Physical Punishment	N	Mean	Std. Deviation	Std. Error Mean
Aggregate KCPE Score	>= 2.50	202	2.5990	.99381	.06992
	< 2.50	121	3.0165	.63224	.05748

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
								Lower	Upper	
Aggregate KCPE Score	58.871	.000	-4.145	321	.000	-.41752	.10073	-.61570	-.21934	
			-4.613	319.820	.000	-.41752	.09051	-.59560	-.23944	

Appendix H: Frequencies of Forms of Physical Punishment

Form of Physical Punishment	Frequency	Valid Percent	Cumulative Percent
Pinching	96	29.8	29.8
Hitting or slapping	80	24.8	54.6
Hitting or slapping and Pinching	46	14.2	68.8
Hitting, Pinching and Pulling hair/nose/ears	21	6.4	75.2
Pulling hair/nose/ears	13	3.9	79.1
Pinching and Pulling hair/nose/ears	10	3.2	82.3
Kicking	7	2.1	84.4
Grabbing or Shaking Frequently	7	2.1	86.5
Hitting or slapping and Pulling hair/nose/ears	7	2.1	88.6
Locking up in a room or tying up	6	1.8	90.4
Hitting or Slapping and Kicking	6	1.8	92.2
Hitting, Kicking and Pinching	5	1.4	93.6
Hitting, Kicking and Locking up	5	1.4	95.0
Hitting or slapping and Grabbing/shaking forcefully	3	1.1	96.1
Pinching and Locking/Tying up	3	1.1	97.2
Hitting or slapping and Locking up in a room or tying up	2	.7	97.9
Kicking and pinching	2	.7	98.6
Hitting/slapping, kicking, pinching and pulling	2	.7	99.3
Kicking and pulling hair/nose/ears	1	.4	99.7
Hitting/slapping, kicking, pinching and locking up	1	.4	100.0
	323	100	

Appendix I: Regression Matrix for Severe Physical Punishment

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.3 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
 Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 4
 Y : KCPEScor
 X : CpSevere
 M : GeneralA

Sample
 Size: 323

OUTCOME VARIABLE:

GeneralA

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.1404	.0197	.5136	6.4572	1.0000	321.0000	.0115

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.3700	.1279	18.5345	.0000	2.1184	2.6215
CpSevere	.1308	.0515	2.5411	.0115	.0295	.2321

Standardized coefficients

	coeff
CpSevere	.1404

Covariance matrix of regression parameter estimates:

	constant	CpSevere
constant	.0164	-.0063
CpSevere	-.0063	.0027

OUTCOME VARIABLE:

KCPEScor

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.2123	.0451	.7749	7.5529	2.0000	320.0000	.0006

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.5631	.2260	15.7666	.0000	3.1185	4.0077
CpSevere	-.0637	.0639	-.9976	.3192	-.1894	.0619
GeneralA	-.2454	.0686	-3.5791	.0004	-.3803	-.1105

Standardized coefficients

	coeff
CpSevere	-.0550
GeneralA	-.1975

Covariance matrix of regression parameter estimates:

	constant	CpSevere	GeneralA
constant	.0164	-.0063	-.0063
CpSevere	-.0063	.0027	-.0063
GeneralA	-.0063	-.0063	.0027

```

constant      .0511      -.0080      -.0111
CpSevere     -.0080      .0041      -.0006
GeneralA     -.0111     -.0006      .0047
***** TOTAL EFFECT MODEL *****

```

OUTCOME VARIABLE:

KCPEScor
Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.0828	.0069	.8034	2.2144	1.0000	321.0000	.1377

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.9815	.1599	18.6427	.0000	2.6669	3.2962
CpSevere	-.0958	.0644	-1.4881	.1377	-.2225	.0309

Standardized coefficients

coeff
CpSevere -.0828

Covariance matrix of regression parameter estimates:

	constant	CpSevere
constant	.0256	-.0098
CpSevere	-.0098	.0041

***** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y

	Effect	se	t	p	LLCI	ULCI	c_ps
c_cs	-.0958	.0644	-1.4881	.1377	-.2225	.0309	-.1067
	-.0828						

Direct effect of X on Y

	Effect	se	t	p	LLCI	ULCI	c'_ps
c'_cs	-.0637	.0639	-.9976	.3192	-.1894	.0619	-.0710
	-.0550						

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
GeneralA	-.0321	.0167	-.0700	-.0050

Partially standardized indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
GeneralA	-.0357	.0185	-.0778	-.0055

Completely standardized indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
GeneralA	-.0277	.0142	-.0592	-.0044

***** BOOTSTRAP RESULTS FOR REGRESSION MODEL PARAMETERS *****

OUTCOME VARIABLE:

GeneralA

	Coeff	BootMean	BootSE	BootLLCI	BootULCI
constant	2.3700	2.3681	.1455	2.0822	2.6471
CpSevere	.1308	.1319	.0570	.0228	.2460

OUTCOME VARIABLE:

KCPEScor

	Coeff	BootMean	BootSE	BootLLCI	BootULCI
constant	3.5631	3.5643	.1839	3.2176	3.9381

CpSevere	-.0637	-.0630	.0643	-.1923	.0614
GeneralA	-.2454	-.2470	.0651	-.3816	-.1243

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

NOTE: Variables names longer than eight characters can produce incorrect output.

Shorter variable names are recommended.

----- END MATRIX -----

Appendix J: Regression Matrix for Moderate Physical Punishment

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.3 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
 Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 4
 Y : KCPEScor
 X : CpModera
 M : GeneralA

Sample
 Size: 323

OUTCOME VARIABLE:

GeneralA

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.0220	.0005	.5237	.1557	1.0000	321.0000	.6934

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.6344	.1192	22.1089	.0000	2.4000	2.8689
CpModera	.0178	.0452	.3946	.6934	-.0711	.1068

Standardized coefficients

coeff
 CpModera .0220

OUTCOME VARIABLE:

KCPEScor

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.2297	.0528	.7687	8.9115	2.0000	320.0000	.0002

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.1882	.2293	13.9040	.0000	2.7371	3.6394
CpModera	.1039	.0548	1.8968	.0588	-.0039	.2118
GeneralA	-.2578	.0676	-3.8125	.0002	-.3909	-.1248

Standardized coefficients

coeff
 CpModera .1032
 GeneralA -.2075

***** TOTAL EFFECT MODEL *****

OUTCOME VARIABLE:

KCPEScor

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.0987	.0097	.8011	3.1551	1.0000	321.0000	.0766

Model	coeff	se	t	p	LLCI	ULCI
constant	2.5090	.1474	17.0242	.0000	2.2191	2.7990
CpModera	.0993	.0559	1.7763	.0766	-.0107	.2094

Standardized coefficients

	coeff
CpModera	.0987

***** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y

	Effect	se	t	p	LLCI	ULCI	c_ps
c_cs	.0993	.0559	1.7763	.0766	-.0107	.2094	.1106
	.0987						

Direct effect of X on Y

	Effect	se	t	p	LLCI	ULCI	c'_ps
c'_cs	.1039	.0548	1.8968	.0588	-.0039	.2118	.1157
	.1032						

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
GeneralA	-.0046	.0135	-.0330	.0215

Partially standardized indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
GeneralA	-.0051	.0150	-.0367	.0236

Completely standardized indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
GeneralA	-.0046	.0133	-.0328	.0209

----- END MATRIX -----

Appendix K: Regression Matrix for Mild Physical Punishment

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.3 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
 Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 4
 Y : KCPEScor
 X : CpMild
 M : GeneralA

Sample
 Size: 323

OUTCOME VARIABLE:

GeneralA

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.0016	.0000	.5239	.0008	1.0000	321.0000	.9777

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.6811	.0939	28.5473	.0000	2.4963	2.8658
CpMild	-.0012	.0422	-.0280	.9777	-.0842	.0818

Standardized coefficients

	coeff
CpMild	-.0016

Covariance matrix of regression parameter estimates:

	constant	CpMild
constant	.0088	-.0036
CpMild	-.0036	.0018

OUTCOME VARIABLE:

KCPEScor

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.2172	.0472	.7732	7.9204	2.0000	320.0000	.0004

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.5732	.2146	16.6480	.0000	3.1509	3.9954
CpMild	-.0668	.0512	-1.3036	.1933	-.1676	.0340
GeneralA	-.2551	.0678	-3.7626	.0002	-.3885	-.1217

Standardized coefficients

	coeff
CpMild	-.0711
GeneralA	-.2053

Covariance matrix of regression parameter estimates:

	constant	CpMild	GeneralA
constant	.0461	-.0053	-.0123
CpMild	-.0053	.0026	.0000
GeneralA	-.0123	.0000	.0046

***** TOTAL EFFECT MODEL *****

OUTCOME VARIABLE:

KCPEScor

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.0708	.0050	.8049	1.6177	1.0000	321.0000	.2043

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.8892	.1164	24.8191	.0000	2.6602	3.1182

CpMild -.0665 .0523 -1.2719 .2043 -.1693 .0364

Standardized coefficients

 coeff
CpMild -.0708

Covariance matrix of regression parameter estimates:

	constant	CpMild
constant	.0136	-.0055
CpMild	-.0055	.0027

***** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y

	Effect	se	t	p	LLCI	ULCI	c_ps
c_cs	-.0665	.0523	-1.2719	.2043	-.1693	.0364	-.0740
	-.0708						

Direct effect of X on Y

	Effect	se	t	p	LLCI	ULCI	c'_ps
c'_cs	-.0668	.0512	-1.3036	.1933	-.1676	.0340	-.0744
	-.0711						

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
GeneralA	.0003	.0111	-.0228	.0219

Partially standardized indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
GeneralA	.0003	.0123	-.0256	.0241

Completely standardized indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
GeneralA	.0003	.0117	-.0243	.0229

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

NOTE: Variables names longer than eight characters can produce incorrect output.

Shorter variable names are recommended.

----- END MATRIX -----