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## Research Article

# Low Intensity Intimate Partner Aggression as a Mediating Factor for the Intergenerational Transmission of Physical Punishment of Children in South Sudan

 Owen Ndoromo,  Karin Österman,  Kaj Björkqvist

Developmental Psychology, Åbo Akademi University, Finland

### Abstract

**Objectives:** The aim of the study was to investigate the relationship between victimisation from physical punishment (PP) as a child and subsequent perpetration of PP against one's own children, and additionally whether this transmission is mediated by low intensity intimate partner aggression (IPA).

**Methods:** A questionnaire was completed by 302 females and 118 males in South Sudan. The mean age was 22.5 years (SD 8.4) for women, and 25.6 years (SD 7.8) for males. Physical punishment was measured with the Brief Physical Punishment Scale, and perpetration of physical and nonverbal low intensity IPA was measured with two scales from the Direct & Indirect Aggression Scales for Adults.

**Results:** It was found that childhood victimisation from PP and perpetration of PP against one's own children were highly correlated for both females and males. The relationship between PP during childhood and perpetration of PP as an adult was mediated by perpetration of physical and nonverbal IPA. The effect of sex of the parent as a moderator was not significant.

**Conclusion:** The intergenerational transmission of PP of children in the sample was substantial, and perpetration of IPA mediated the relationship for both females and males.

**Keywords:** Intergenerational transmission, intimate partner aggression, physical punishment, South Sudan

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The study investigates the intergenerational transmission of physical punishment (PP), and whether perpetration of low intensity intimate partner aggression (IPA) could be a mediating factor in the transmission.

The concept of the “cycle of abuse” was introduced in the 1970s.<sup>[3]</sup> Intergenerational transmission of child abuse has since been studied extensively. In an early review it was concluded that although abused and neglected children run a higher risk for different types of aggressive behaviour later in life, the majority of them did not display violent behaviour.<sup>[4]</sup> A more recent review has showed that most later studies support the cycle of maltreatment hypothesis.<sup>[5]</sup>

However, the transmission of PP as a specific type of abuse has been studied much less. A few studies also support the intergenerational continuity of aggressive parenting,<sup>[6,7]</sup> and harsh discipline practices.<sup>[8,9]</sup> Intergenerational continuity of constructive parenting has also been documented.<sup>[10]</sup>

### The Co-occurrence of Child Abuse and Domestic Aggression

Studies on the relationship between the experience of childhood physical punishment or abuse and subsequent involvement in IPA as an adult are scarce. In the US, childhood victimisation has been found to double the risk of be-

**Address for correspondence:** Karin Osterman, MD. Developmental Psychology, Åbo Akademi University, PB 311, 65101 Vasa, Finland

**Phone:** +358-6-3247468 **E-mail:** karin.osterman@abo.fi

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ing involved in IPA as an adult.<sup>[11]</sup> Women in Kenya who had been victimised from childhood violence were also found to run a higher risk of experiencing physical IPA as adults.<sup>[12]</sup> In the case of females, but not of males, victimisation from childhood physical abuse has been found to be associated with both perpetration of and victimisation from physical IPA.<sup>[13]</sup> Harsh discipline by authoritarian parents has been found to be among the most important early precursors of aggression and antisocial behaviour in boys.<sup>[14-16]</sup> Parental physical punishment has also been found to be a mediator between parental and child criminal convictions.<sup>[17]</sup>

Perpetration of domestic aggression and perpetration of child abuse against one's own children is on the other hand well documented. Several studies have found intimate partner violence to be a risk factor for child maltreatment.<sup>[18-21]</sup> A study from Hong Kong found co-occurrence between intimate partner violence and physical violence against one's own children.<sup>[22]</sup> In families characterised by physical violence between parents, 48% had also perpetrated physical violence against their children during the preceding year. In another study carried out in South Africa it was found that, participants who had experienced high levels of IPA were more likely to have accepting attitudes towards PP of children.<sup>[23]</sup>

In families with bilateral IPA, the risk for a child to be victimised from PP by a parent has been found to be twice as high.<sup>[24]</sup> This was the case also for minor, non-physical types of aggression between parents.

### **Mediators between Childhood Victimisation and Perpetration of Intimate Partner Aggression as an Adult**

Mediating factors between childhood victimisation from abuse and subsequent maltreatment of one's own children have been studied. The relation between victimisation from physical abuse and physical abuse potential as an adult has been found to be significantly mediated by psychosomatic symptoms of parents,<sup>[25]</sup> level of dissociation of the parent,<sup>[26]</sup> and social isolation and aggressive response biases of the mother.<sup>[27]</sup>

Mediators between victimisation from childhood PP and perpetration of the same towards own children have been studied to a lesser extent. Marital satisfaction has been found to moderate intergenerational transmission of PP for fathers, but not in the case of mothers.<sup>[28]</sup> In a study from China, marital satisfaction also moderated the transmission, but in different ways for mothers and fathers.<sup>[29]</sup> Furthermore, same-gender continuity in the transmission of parental corporal punishment was by the Chinese research group found to be stronger than cross-gender continuity.

Adolescent aggressive behaviour has also been found to serve as a mediational link for cross-generational continuity in aggressive parenting.<sup>[30]</sup>

### **Validity of Retrospective Reports of Childhood Abuse**

The present study is not longitudinal, and the participants' reports about their childhood experiences about PP are based on retrospective data. The accuracy of retrospective reports on childhood abuse has been investigated in several studies. A review of the literature on error in retrospective reports of childhood experiences supports the reliability of retrospective data.<sup>[31]</sup> Likewise, a study on the reliability of retrospective reports of maternal acceptance-rejection concluded that there can be reasonable confidence in the reliability of retrospective reports.<sup>[32]</sup>

Using the method of independent retrospective assessments of sisters, it has been found that sisters' reports of each others' victimisation from neglect and physical or sexual abuse during childhood were highly in concordance.<sup>[33]</sup> Another study on sister pairs has also reported no significant bias in the recollection of parental maltreatment.<sup>[34]</sup>

An assessment of the validity of retrospective recall of sexual and physical abuse during childhood points out that the existence of false positive memories is difficult to investigate, but that false positives probably are rare.<sup>[35]</sup> The authors argue that bias inherent to this type of studies is not sufficiently great to invalidate retrospective data.

Evidence of underreporting has, on the other hand, been found in some studies. In a study on the recollection of childhood trauma 17 years after they occurred, it was found that more than one in three women did not recall the abuse they had undergone.<sup>[36]</sup> It was also found that those who had been molested by a person known to them were more likely not to recall the abuse. Similarly, in a study investigating the accuracy of adult recollection of childhood victimisation from abuse that had taken place over 20 years earlier, substantial underreporting of physical abuse was found.<sup>[37]</sup> Underreporting has also been found in a study on parental maltreatment<sup>[34]</sup> and in one on sexual abuse.<sup>[38]</sup> In a study on longitudinal report data on childhood exposure to physical and sexual abuse, it was found that respondents who had not during childhood been victimised did not falsely report abuse, but false negative responses, that is, not reporting abuse even though it had occurred, was as high as 50%.<sup>[39]</sup> Thus, it seems that retrospective reports of childhood victimisation cannot be discharged as exaggerated; on the contrary, it appears that underreporting might be a more serious problem.

## Context of the Study

South Sudan is among the 53 states worldwide that have a law against PP of children.<sup>[40]</sup> The Transitional Constitution of the Republic of South Sudan prohibits corporal punishment of children by all individuals, including parents.<sup>[41]</sup>

Two previous studies have investigated victimisation<sup>[42]</sup> and perpetration<sup>[43]</sup> of low intensity IPA in South Sudan; the present study is a continuation of the same project. In the present study, as in the two previous ones, a distinction is made between low and high intensity IPA. High intensity IPA implies that the victim is physically harmed or injured (or, in the worst case scenario, killed). Low intensity IPA implies that the harm or injury induced is either psychological or social, or if it is a question of physical violence, then there is no severe injury. Slapping, for instance, would constitute low intensity IPA. Thus, it should be noted that some physical violence should be regarded as high intensity, while others as low intensity forms of IPA.

In the aforementioned studies, it was found that males, in domestic settings in South Sudan, had been significantly more victimised from physical and verbal low intensity IPA by their spouses than females.<sup>[42]</sup> Furthermore, there were no significant differences between females and males on perpetration of five out of seven types of low intensity IPA: physical, verbal, and nonverbal aggression, as well as direct and indirect aggressive social manipulation.<sup>[43]</sup>

## Aim of the Study

The present study attempts to investigate the role of IPA as a mediator between parents' childhood victimisation from PP and perpetration of PP against their own children as adults. Most studies on the co-occurrence of IPA and child maltreatment have been conducted in Western societies,<sup>[44]</sup> to the knowledge of the present authors, the relationship between low intensity IPA and PP of children has not previously been studied in an African country.

Three hypotheses were made. The relationship between childhood victimisation from PP and perpetration of PP against one's own children was expected to be mediated by perpetration of (a) physical and (b) nonverbal IPA. This mediation would occur due to a combination of rehearsal and reinforcement of aggressive scripts<sup>[45]</sup> and desensitisation.<sup>[46]</sup> Furthermore, (c) a moderating effect of sex was expected. Mothers in South Sudan are usually the main caretakers of the children, and they are thus likely to use PP more frequently than fathers. Mothers who perpetrate IPA against their spouses were expected to use more PP against their children than fathers who were perpetrators of IPA against their wife. Thus, the aggression enhancing effect from perpetration of IPA to PP was expected to be stronger for females than for males.

## Methods

### Sample

A questionnaire was completed by 302 females and 118 males in South Sudan. The mean age was 22.5 years (SD 8.4) for women, and 25.6 years (SD 7.8) for males; the age difference was significant [ $t(407)=3.42$ ,  $p=.001$ ]. The age range was between 14 and 60 years of age.

### Instrument

Victimisation from PP during childhood was measured with the Brief Physical Punishment Scale<sup>[1]</sup> which consists of four questions: When you were a child, did an adult subject you to any of the following things? (a) pulled your hair, (b) pulled your ear, (c) hit you with the hand, and (d) hit you with an object. Responses were given on a five-point scale (0=never, 1=seldom, 2=sometimes, 3=often, 4=very often). The Cronbach's alpha for the scale was .80.

Perpetration of PP against one's own children was measured with the same items: "Do you yourself do any of the following things to your child/children?" (a) I pull his/her hair, (b) I pull his/her ear, (c) I hit him/her with the hand, (d) I hit him/her with an object. The Cronbach's alpha for the scale was .83.

Perpetration of physical and nonverbal IPA was measured with self-reports using two subscales of the Direct & Indirect Aggression Scales for Adults.<sup>[2]</sup> Single items were as follows. Perpetration of physical IPA: I have ... (a) hit him/her, (b) locked him/her in, (c) locked him/her out, (d) shoved him/her, (e) bit him/her, (f) scratched him/her, (g) spit at him/her, (h) thrown objects, (i) damaged something that was his/her (9 items,  $\alpha = .82$ ). Perpetration of nonverbal IPA: I have ... (a) refused to talk to him/her, (b) refused to look at him/her, (c) refused to touch him/her, (d) put on a sulky face, (e) slammed doors, (f) refused to sleep in the same bed as him/her, (g) left the room in a demonstrative manner when he/she came in, (h) made nasty faces or gestures behind his/her back (8 items,  $\alpha=.87$ ). Responses were given on a five-point scale ranging from 0=never, to 4=very often.

These two subscales were selected for the following reasons: physical IPA resembles PP as they both are physical by nature. Nonverbal IPA is, on the other hand, is a commonly applied form of aggression in intimate partner relationships and seemed relevant for that reason.

### Data Analysis

The mediation analysis was conducted with the programme PROCESS,<sup>[47]</sup> based on bootstrapping. Bootstrapping builds an empirical approximation of the sampling distribution and uses this to construct confidence inter-

vals for the indirect effects. In this particular case, a 10,000 bootstrap sample was applied with the confidence interval set at 95%. Bootstrapping allows multiple mediators and moderators in the same model.<sup>[48, 49]</sup>

For the measurement of the effect size of the mediation paths, the ratio between the indirect and the direct effect was used. Preacher and Kelley<sup>[50]</sup> suggested the use of  $k^2$  (kappa-squared) as a measure of effect size; however, Wen and Fan<sup>[51]</sup> later showed that Preacher’s and Kelley’s calculations were mathematically incorrect, and  $k^2$  should not be used. Instead, they suggested the use of the ratio between the indirect and the direct effect as a measure for the effect size of mediation paths. Accordingly, it is used here. The ratio between the indirect and the total effect is also reported.

**Procedure**

Data were collected with a paper-and-pencil questionnaire in the cities of Juba and Yei. Respondents were reached through the Women’s Union in both cities, and through neighbours and acquaintances of members.

**Ethical Considerations**

The study was endorsed by the University of Juba, and research permissions were given by the local authorities in Juba and Yei. Data were collected with informed consent and under strict anonymity. The study adheres to the principles concerning human research ethics of the Declaration of Helsinki,<sup>[52]</sup> as well as guidelines for the responsible conduct of research.<sup>[53]</sup>

**Results**

**Correlations between Victimization from Childhood PP and Perpetration of PP against One’s Own Children during Adulthood**

Victimization from childhood PP and perpetration of PP against one’s own children during adulthood were highly correlated for both females [ $p<.001$ ,  $r=.58$ ] and males [ $p<.001$ ,  $r=.36$ ].

**Sex Differences in Victimization from and Perpetration of PP**

A multivariate analysis of variance (MANOVA) was conducted with sex as the independent variable, victimisation from and perpetration of PP as dependent variables and age as a covariate. The multivariate analysis was significant [ $F_{(2, 405)}=17.72$ ,  $p<.001$ ,  $\eta_p^2=0.08$ ]. It was found that females and males had been equally much victimised from PP during childhood, and that mothers victimised their children significantly more than fathers [ $F_{(1, 409)}=19.12$ ,  $p<.001$ ,  $\eta_p^2=0.04$ ].

**Correlations between PP and Perpetration of IPA**

For both females and males, victimisation from PP during childhood correlated significantly with perpetration of both physical and nonverbal IPA against one’s partner as an adult, and physical and nonverbal IPA in turn correlated significantly with perpetration of PP against one’s own child as an adult (Table 1).

**The Effect of IPA as a Mediating Variable between Victimization from PP during Childhood and Perpetration of PP as an Adult**

Whether the relationship between victimisation from PP during childhood and perpetration of PP against one’s own children as an adult could be mediated by IPA was tested using the SPSS macro “PROCESS”.<sup>[47]</sup> The sample included both mothers ( $n=302$ ) and fathers ( $n=118$ ). Two types of IPA, perpetration of (a) physical and (b) nonverbal aggression were used as mediators, and sex of the parent served as a moderator. All variables were standardised before the procedure. The results are presented in Table 2 and graphically in Figure 1.

The regression coefficients ( $a_1$ ,  $b_1$ ) between (X) and (M) were statistically significant, as were the coefficients ( $a_2$ ,  $b_2$ ) between (M) and (Y) (Table 2, Fig. 1). The mediating effect of perpetration of physical aggression against the partner on perpetration of PP against the child was significant. The same was the case with perpetration of nonverbal aggression against the partner as a mediator. The total

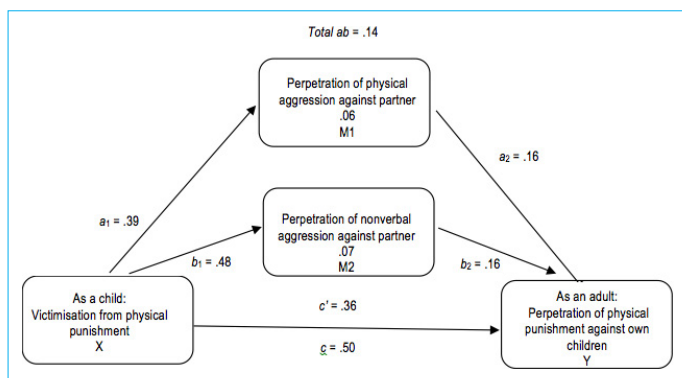
**Table 1.** Correlations between Victimization from and Perpetration of PP and Perpetration of IPA ( $n=420$ )

Perpetration against spouse	Physical Punishment			
	Victimization as a child		Perpetration against own child	
	Females	Males	Females	Males
Physical aggression	.39***	.29***	.40***	.42***
Nonverbal aggression	.48***	.40***	.46***	.38***

\*\*\* $p\le.001$ .

**Table 2.** Mediating Effects of Perpetration of Two Types of Intimate Partner Aggression (M1=Perpetration of Physical Aggression against the Partner, M2=Perpetration of Nonverbal Aggression against the Partner) on the Relationship between Victimization from Childhood Physical Punishment (PP) (X) and Perpetration of PP against One's Own Children (Y). (n=420)

Mediating effect of M1	$\beta$	p $\leq$	LCI	UCI
(a1) X-M1	.39	.001	.29	.50
(a2) M1-Y	.16	.001	.07	.26
(a1+a2) X-M1-Y	.06		.03	0.11
Ratio of indirect to direct effect: .17				
Ratio of indirect to total effect: .12				
<b>Mediating effect of M2</b>				
(b1) X-M-2	.48	.001	.38	.58
(b2) M2-Y	.16	.002	.06	.26
(b1+b2) X-M2-Y	.07		0.02	0.12
Ratio of indirect to direct effect: .19				
Ratio of indirect to total effect: .14				
<b>Model summary</b>				
	$\beta$			
Total effect (c)	.50			
Direct effect (c')	.36			
Indirect effect (a+b)	.14			
Ratio of indirect to direct effect: .39				
Ratio of indirect to total effect: .28				



**Figure 1.** The effect of victimisation from PP as a child on perpetration of PP against one's own children in adulthood, mediated by perpetration of physical and nonverbal intimate partner aggression, and moderated by sex of the parents (n=420).

standardised indirect effect of both mediators was .14; the mediating effect was thus weak, but clearly observable.

The effect of sex as a moderator was not significant for perpetration of physical aggression against the partner [LCI=-.31, UCI=.10], neither for perpetration of nonverbal aggression against the partner [LCI=-.27, UCI=.12]. In both cases, the confidence interval included zero.

## Discussion

The aim of the study was to test whether low intensity IPA can act as a mediator between parents' childhood victim-

isation from PP and perpetration of PP against their own children. Three hypotheses were made. The first and second hypotheses were corroborated: the relationship between childhood victimisation from PP and perpetration of PP against one's own children was shown to be mediated by perpetration of both physical and nonverbal IPA. The third hypothesis was not corroborated: a moderating effect of sex was not found. Mothers who perpetrated IPA against their spouses were not found to use more PP against their children than fathers who were perpetrators of IPA against their wife. Thus, the aggression enhancing effect from perpetration of IPA to PP was equally strong for females and males.

## Limitations of the Study

The study has some limitations which should be noted. First, since it was not longitudinal, interpolations about cause and effect cannot be made with certainty. Second, the study was not based on a representative sample, which would have been preferable in order to gain more generalisable results. However, the situation is still very unstable in post-war South Sudan, and any collection of data is difficult to administer due to safety reasons.

Third, the reliability of self-reports of perpetration of PP may be questioned, especially since PP of children is illegal in South Sudan. However, PP of children is very common in Africa, and parents might not be aware of the law. In a study of children in the streets of two cities in South Sudan, it was found that 94% had been hit with a stick and 20% had been hit with the hand.<sup>[54]</sup> Many parents in Africa still believe that PP is a necessary way of disciplining children.<sup>[55]</sup> Therefore, it seems reasonable to assume that scores of self-reported perpetration of PP against children in South Sudan are relatively reliable and without too much self-serving attribution bias.

Fourth, parental victimisation from PP during their own childhood was measured in retrospect. Retrospective reports on victimisation from childhood harsh parenting and abuse have been shown to be reliable, as covered in detail in the introduction of this article (e.g.<sup>[31, 35]</sup>), and underreporting has been shown to be a more serious bias than false positives.<sup>[36, 37]</sup>

## Final Remarks

The present study is, to the knowledge of the present authors, the first one to show that perpetration of low intensity IPA, more precisely in the forms of physical and nonverbal aggression, may serve as a mediator between the experience of PP as a child and the perpetration of PP against one's children.

The authors of this article suggest that from a theoretical

point of view, the perpetration of IPA has a reinforcing effect and serves as a rehearsal of aggressive scripts of behaviour;<sup>[45]</sup> it is also likely to desensitise<sup>[46]</sup> and disinhibit the perpetrators, thus facilitating the choice of using harsh and aggressive forms of discipline against their children rather than nonaggressive ones. This mediating effect was equally strong for fathers and mothers, despite the fact that mothers usually spend more time with their children than fathers and are the primary disciplinary agents. In the present study, mothers also perpetrated more PP of their children than fathers. The finding suggests that the mediating effect is irrespective of the amount of PP carried out. For future study, it would be valuable if the study could be replicated in other societies and cultures, to investigate whether it is culture-specific or a more general phenomenon.

### Disclosures

**Ethics Committee Approval:** The study was approved by the Local Ethics Committee.

**Peer-review:** Externally peer-reviewed.

**Conflict of Interest:** None declared.

**Authorship Contributions:** Concept – O.N., K.Ö., K.B.; Design – K.Ö.; Supervision – K.Ö., K.B.; Materials – O.N., K.Ö., K.B.; Data collection &/or processing – O.N.; Analysis and/or interpretation – O.N., K.Ö., K.B.; Literature search – O.N., K.Ö.; Writing – O.N., K.Ö., K.B.; Critical review – K.Ö., K.B.

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