ISSN 2411-958X (Print)
ISSN 2411-4138 (Online)

European Journal of
Interdisciplinary Studies

January-April 2018
Volume 4, Issue 1

Sex Differences in Perpetration of Low Intensity Intimate Partner Aggression in South Sudan

Owen Ndoromo

Karin Österman

Kaj Björkqvist

Peace and Conflict Research, Developmental Psychology, Åbo Akademi University, Finland

Abstract

The aim of the study was to investigate sex differences in perpetration of low intensity intimate partner aggression in South Sudan, to compare levels of perpetration and victimisation, and further to test whether the revised gender symmetry theory (Archer, 2018) could be applicable in an African country. A questionnaire was filled in 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 men. Intimate partner aggression was measured with self-reports using both the perpetrator and the victim versions of the Direct Indirect Aggression Scales for Adults (DIAS-Adult; Österman & Björkqvist, 2009), which measures seven types of aggressive behavoiurs. The results showed no significant difference between females and males on perpetration of five out of seven types of aggression; physical, verbal and nonverbal aggression, as well as direct and indirect aggressive social manipulation. For females, levels of victimisation and perpetration of aggression were equally high; this was the case for all seven types of aggression while, for males, victimisation was significantly higher than perpetration on three types of aggression. The results provide support for the revised gender symmetry theory in an African developing country.

Keywords: intimate partner aggression, low intensity aggression, revised gender symmetry theory, South Sudan

Introduction

Studies on domestic violence show that, worldwide, women are usually the victims whereas males are the main perpetrators (World Health Organisation, 2013). Although high intensity intimate partner aggression has been studied extensively in both developed and developing countries, few studies so far have examined low intensity intimate partner aggression (IPA) in developing countries.

The aim of the present study was to examine sex differences in perpetration of low intensity IPA, and to test the applicability of the revised gender symmetry theory (Archer, 2018) in an African developing country, South Sudan. The present study is a continuation, based on the same sample, of the study by Ndoromo, Björkqvist, and Österman (2017), where results of victimisation of low intensity IPA in South Sudan have been reported. In the present study, the focus is on self-reported *perpetration*, and a comparison between data on perpetration and victimisation of low intensity IPA is also made.

In the present study, the differentiation between low intensity and high intensity aggression is essential. The term *high intensity aggression* is used more or less equivalently to what other authors have referred to as physical violence, physical abuse, or physical assault within an intimate partner relationship. Other forms of IPA, in which the harm or injury induced is psychological or social rather than physical, is referred to as *low intensity aggression.*

The Revised Gender Symmetry Theory

Data supporting the gender symmetry theory (although it was not called so at that time) was first published by Straus and colleagues (Feld & Straus, 1989; Straus, 1979, 1999; Straus & Gelles, 1992; Straus & Sweet, 1992). They found, based on community data obtained with the Conflict Tactics Scale (Straus, 1979), that females and males perpetrated equal

amounts of IPA, in stark contrast to the hitherto held view that males were the main perpetrators and females the main victims. At this point in history, no distinction was still made between high and low intensity intimate partner aggression.

Subsequently, others have made similar findings (Archer, 2004, 2006; Australian Bureau of Statistics, 2012; Bates, Graham-Kevan, & Archer, 2014; Kar & O'Leary, 2010; National Intimate Partner and Sexual Violence Survey, 2010), and the term *gender symmetry theory* came into use, denoting the view that males and females are equally aggressive in intimate partner relationships. Straus has also published more recent studies on the topic (Straus, 2004, 2006, 2008, 2009, 2011). Bates et al. (2014) found in a sample of UK students that females actually were more physically aggressive to their partners than males, and that they also were more likely than males to be "intimate terrorists".

However, there is no denial that as far as homicide and serious physical violence are concerned, males are indeed the main perpetrators and females the main victims (DeKeseredy, 2011; Dragiewicz & Lindgren, 2009; Dobash & Dobash, 2004; Grech & Burgess, 2011). It should be noted, however, that according to the US National Intimate Partner and Sexual Violence Survey (Black et al., 2011), 28.5 % of the males had been victims of severe physical violence by an intimate partner.

Archer (2018) therefore brought forward a revision of the gender symmetry theory, suggesting that when it comes to high intensity aggression, females are indeed more often victimised than males, and males are predominantly the perpetrators. However, as far as low intensity aggression is concerned, females and males are equally aggressive. Furthermore, Archer thought that the revised gender symmetry theory would hold only in community and student samples in developed and relatively nonpatriarchal countries (Archer, 2018). In African countries, therefore, the revised gender symmetry theory would not apply.

Low intensity intimate partner aggression has been studied in Mexico and Finland (Österman, Toldos, & Björkqvist, 2014) with the DIAS-Adult instrument (Österman & Björkqvist, 2009). It was found that females actually scored significantly higher than males on being perpetrators of four types of aggression against their partner: physical, verbal, nonverbal, and indirect socially manipulative aggression. In yet another study conducted in Ghana (Darko, Björkqvist, & Österman, submitted), using the same instrument, it was found that males scored significantly higher than females on victimisation from physical, indirect, and nonverbal IPA, while females also in this study scored higher than males on perpetration of physical, indirect, nonverbal, and cyber aggression.

Cultural Context of the Study

Intimate partner violence against females is widely accepted in South Sudan. A study found that 82% of females and 81% of males agreed that a woman should tolerate violence in order to keep her family together (Scott et al., 2013).

South Sudan has for long been plagued with ethnic conflicts, poverty and overcrowding, all factors which have been linked to high levels of aggressive behaviour in a population. The prolonged ethnic conflict in South Sudan has destroyed income opportunities, and insecurity has prevented children from getting an education. According to the World Bank (2016), security has deteriorated considerably in South Sudan since the end of 2013. It has also been shown that ethnic conflicts in a country may increase the risk of domestic violence: a study among Israeli and Palestinian children linked ethnopolitical violence to community, family, and school violence, and to aggressive behaviour among children (Boxer, Huesmann, Dubow, Landau, Gvirsman, Shikaki, & Ginges, 2013).

Of the population in South Sudan, 51% live below the national poverty line (South Sudan National Bureau of Statistics, 2012), and since 2014, reports of hunger have been on the rise (World Bank, 2016). Studies have found interactions between community poverty and aggression (Guerra, Huesmann, Tolan, Van Acker, & Eron, 1995). Low household income has also been shown to heighten the probability of intimate partner violence (Cunradi, Caetano, & Schafer, 2002). In a 167-country analysis of latitudinal gradients of heat, poverty, and aggression, Van de Vliert and Daan (2017) found that poverty mediated heat-induced aggression.

Overcrowding is common in South Sudan: of the population, 86 % live in rural areas in "tukuls", grass thatched houses, made of mud and sticks, and 67% of the people in urban areas also live in tukuls. Fifty-nine percent of the population sleep in a room with four or more people (South Sudan National Bureau of Statistics, 2012). Two recent studies from Nigeria have linked overcrowding to domestic aggression and antisocial behaviour. While keeping the level of poverty as covariate, overcrowding was shown to be significantly associated with victimisation from sibling aggression, parental negativity

towards adolescents and antisocial behaviour of adolescents (Makinde, Björkqvist, & Österman, 2016). Another study showed that the effect of overcrowding on the antisocial behaviour of adolescents was mediated by parental negativity, adult aggression, sibling aggression and witnessing of domestic violence (Makinde, Björkqvist, & Österman, 2017). It was concluded that overcrowding may have serious consequences leading to antisocial behaviour.

Aim of the Study

The aim of the study was to investigate sex differences in perpetration of low intensity intimate partner aggression in South Sudan, to compare levels of perpetration and victimisation, and further to test whether the revised gender symmetry theory (Archer, 2018) would be applicable in an African country.

Method

Sample

A questionnaire was filled in 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 [$t_{(407)} = 3.42$, $p = .001$]. Accordingly, age was kept as a covariate in the analyses. The age range was between 14 and 60 years of age.

Instrument

Perpetration of intimate partner aggression was measured with self-reports using the perpetrator version of the Direct Indirect Aggression Scales for Adults (DIAS-Adult; Österman & Björkqvist, 2009), which consists of seven scales measuring physical aggression, verbal aggression, nonverbal aggression, direct aggressive social manipulation, indirect aggressive social manipulation, cyber aggression, and economic aggression. Responses were given on a five-point scale (0 = never, to 4= often). Cronbach's Alphas and individual items of the scales are presented in Table 1.

Seven scales measuring victimisation from the same types of aggression were also included in the study. Psychometric properties of the victimisation scales and results pertaining to victimisation have previously been reported in Ndoromo, Österman and Björkqvist (2017). Results regarding associations between perpetration and victimisation from aggression will also be included in the present study in addition to results of perpetration.

Procedure

Data was collected with a paper-and-pencil questionnaire in the cities 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 University of Juba, and research permissions were given by the local authorities in Juba and Yei. The study adheres to the principles concerning human research ethics of the Declaration of Helsinki (World Medical Association, 2013), as well as guidelines for the responsible conduct of research of the Finnish Advisory Board on Research Integrity (2012).

Table 1: Single Items and Cronbach's Alphas of the Seven Scales Measuring Perpetration of Intimate Partner Aggression (DIAS-Adult, Österman & Björkqvist, 2009), for Respondents from South Sudan (*N* = 420)

	I have ….
Physical Aggression 9 items, α = .82	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
Direct Verbal Aggression 7 items, α = .82	a) threatened to hurt him/her, b) yelled at him/her, c) quarreled with him/her, d) purposely said nasty or hurting things to him/her, e) called him/her bad names, f) interrupted him/her when he/she was talking, g) angrily nagged at him/her
Nonverbal Aggression 8 items, α = .87	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
Direct Aggressive	a) threatened to leave him/her, b) purposely provoked a quarrel with him/her, c) omitted doing things that I

Social Manipulation 5 items, α = .81	usually does for both of us (e.g. household work), or done them less well, d) been ironic towards him/her, e) been contemptuous towards him/her
Indirect Aggressive Social Manipulation 5 items, α = .74	a) spoken badly about him/her to someone else, b) tried to influence someone, such as children or relatives, to dislike him/her, c) ridiculed him/her in my absence, d) tried to exclude him/her from social situations, e) tried to make him/her feel guilty
Cyber Aggression 4 items, α = .76	a) written angry text messages to him/her, b) written angry e-mails to him/her, c) written nasty text messages about him/her to somebody else, d) written nasty e-mails about him/her to someone else
Economic Aggression 2 items, α = .74	a) not let him/her know details about our household economy, b) not allowed him/her to use money that belongs to both of us

Results

Correlations between the Scales in the Study

For females, all the seven scales correlated with each other at the $p < .001$−level (Table 2). The same was the case for males, except for perpetration of cyber aggression that correlated slightly less with all the other scales. For males perpetration of physical aggression did not correlate at all with perpetration of cyber aggression.

Table 2: Correlations between the Scales of the Study. Females ($N = 302$) in the Lower Part, and Males ($N = 118$) in the Upper Part of the Table

Perpetration of	1.	2.	3.	4.	5.	6.	7.
1. Physical aggression		.69 ***	.57 ***	.65 ***	.57 ***	.14 *ns*	.47 ***
2. Verbal aggression	.64 ***		.69 ***	.74 ***	.66 ***	.29 **	.54 ***
3. Nonverbal aggression	.58 ***	.63 ***		.67 ***	.65 ***	.28 **	.51 ***
4. Direct aggressive social manipulation	.63 ***	.76 ***	.67 ***		.64 ***	.18 *	.55 ***
5. Indirect aggressive social manipulation	.59 ***	.70 ***	.67 ***	.64 ***		.18 *	.47 ***
6. Cyber aggression	.40 ***	.44 ***	.50 ***	.47 ***	.56 ***		.08 *ns*
7. Economic aggression	.42 ***	.46 ***	.51 ***	.47 ***	.54 ***	.50 ***	

Note. *** $p < .001$; ** $p < .01$; $p < .05$ *

Perpetration of Intimate Partner Aggression and Age

For females, age correlated positively with all except two (cyber aggression and indirect aggressive social manipulation) of the seven scales measuring perpetration of intimate partner aggression (Table 3). In the case of males, no correlation was found for age with any of the seven scales.

Table 3: Correlations between Age and the Seven Scales of Perpetration of Intimate Partner Aggression

Perpetration of	Age	
	Females	Males
Physical aggression	.21 ***	*ns*
Verbal aggression	.18 **	*ns*
Nonverbal aggression	.20 ***	*ns*
Direct aggressive social manipulation	.16 **	*ns*
Indirect aggressive social manipulation	.11 †	*ns*
Cyber aggression	.04 *ns*	*ns*
Economic aggression	.16 **	*ns*

*** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$; † $p \leq .10$

Sex Differences in Perpetration of Intimate Partner Aggression

A multivariate analysis of variance (MANOVA) was carried out with sex as independent variable and the seven scales of perpetration of intimate partner aggression as dependent variables, and age as a covariate. The results are presented in Table 4. The multivariate analysis was significant. The univariate analyses showed that there was no significant difference

between females and males on perpetration of physical, verbal and nonverbal aggression or direct or indirect aggressive social manipulation. Females were significantly more often perpetrators of cyber aggression, while there was a tendency for males to perpetrate more economic aggression.

Table 4: Results of a Multivariate Analysis of Variance (MANOVA) with Sex as Independent Variable, and Seven Types of ***Perpetration*** of Intimate Partner Aggression as Dependent Variables, and Age as a Covariate (*N* = 409)

	F	*df*	*p*	η_p^2	Group with Higher Mean
Effect of Sex					
Multivariate Analysis	3.01	7, 400	.004	.050	
Univariate Analyses					
Physical aggression	0.12	1, 408	*ns*	.000	-
Verbal aggression	1.40	"	*ns*	.003	-
Nonverbal aggression	0.19	"	*ns*	.000	-
Direct aggressive social manipulation	0.91	"	*ns*	.002	-
Indirect aggressive social manipulation	1.86	"	*ns*	.005	-
Cyber aggression	5.89	"	.016	.014	Females
Economic aggression	3.65	"	.057	.009	(Males)*

Note. * = tendency

Correlations between Scales Measuring Perpetration of and Victimisation from Aggression

For females, all scales measuring perpetration of aggression correlated with all scales measuring victimisation at the $p < .001$-level (Table 5). The highest correlational coefficients were found between perpetration of and victimisation from physical aggression ($r = .70$), and between perpetration and victimisation of nonverbal aggression ($r = .72$). For males, all scales measuring perpetration, except those for cyber aggression, correlated at the $p < .001$-level with all scales measuring victimisation (Table 6). Perpetration of cyber aggression correlated only with victimisation from cyber aggression, while victimisation from cyber aggression correlated also with perpetration of physical and verbal aggression, and direct aggressive social manipulation.

Table 5: Correlations between Scales of Perpetration and Victimisation of Aggression for Females (N =282)

	Victimisation						
Perpetration	1.	2.	3.	4.	5.	6.	7.
1. Physical aggression	.70 ***	.58 ***	.59 ***	.54 ***	.57 ***	.33 ***	.45 ***
2. Verbal aggression	.52 ***	.60 ***	.51 ***	.49 ***	.54 ***	.35 ***	.35 ***
3. Nonverbal aggression	.55 ***	.60 ***	.72 ***	.60 ***	.57 ***	.37 ***	.53 ***
4. Direct aggressive social manipulation	.49 ***	.49 ***	.54 ***	.49 ***	.52 ***	.36 ***	.38 ***
5. Indirect aggressive social manipulation	.48 ***	.52 ***	.56 ***	.46 ***	.57 ***	.39 ***	.36 ***
6. Cyber aggression	.31 ***	.30 ***	.37 ***	.27 ***	.34 ***	.57 ***	.27 ***
7. Economic aggression	.32 ***	.36 ***	.47 ***	.36 ***	.39 ***	.37 ***	.38 ***

*** $p < .001$

Table 6: Correlations between Scales of Perpetration and Victimisation of Aggression for Males (N =113)

	Victimisation						
Perpetration	1.	2.	3.	4.	5.	6.	7.
1. Physical aggression	.46 ***	.42 ***	.64 ***	.39 ***	.51 ***	.32 **	.36 ***
2. Verbal aggression	.45 ***	.52 ***	.62 ***	.38 ***	.39 ***	.30 **	.39 ***
3. Nonverbal aggression	.38 ***	.36 ***	.52 ***	.29 **	.32 **	.18 †	.21 *
4. Direct aggressive social manipulation	.27 **	.39 ***	.47 ***	.39 ***	.32 **	.22 *	.22 *
5. Indirect aggressive social manipulation	.48 ***	.49 ***	.46 ***	.48 ***	.45 ***	.16 †	.35 ***
6. Cyber aggression	.18 †	.11 *ns*	.09 *ns*	.09 *ns*	.04 *ns*	.22 *	.07 *ns*
7. Economic aggression	.45 ***	.38 ***	.38 ***	.47 ***	.35 ***	.07 *ns*	.37 ***

*** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$; † $p \leq .10$

Within-Subject Comparisons between Perpetration and Victimisation

Two within-subject analyses of variance (WSMANOVA) were conducted, one for females and one for males, with seven pairs of perpetration versus victimisation of aggression, and age as covariate. For females the multivariate test showed only a tendency toward a significant difference [$F_{(7, 239)} = 1.85$, $p = .079$, $\eta_p^2 = .051$]. The result showed that for females, levels of victimisation and perpetration of aggression were equally high, this was the case for all seven types of aggression. For males the multivariate test was significant (Table 7). The univariate tests showed that for males victimisation was significantly higher than perpetration on three types of aggression; physical aggression, direct aggressive social manipulation, and economic aggression, while a tendency was found for verbal and cyber aggression.

Table 7: Results of a Within-subjects Multivariate Analysis of Variance (WSMANOVA) for **Males** (N =105) Comparing Score for Perpetration with Scores for Victimisation on Seven Scales Measuring Different Types of Intimate Partner Aggression

	F	df	$p \leq$	η_p^2	Behaviour with Higher Mean
Effect of Perpetration vs. Victimisation					
Multivariate Analysis	4.57	7, 97	.001	.248	
Univariate Analyses					
Physical aggression	27.10	1, 103	.001	.208	victimisation, Fig. 1.
Verbal aggression	3.58	”	.061	.034	(victimisation)*
Nonverbal aggression	1.52	”	*ns*	.015	-
Direct aggressive social manipulation	4.11	”	.045	.038	victimisation
Indirect aggressive social manipulation	1.91	”	*ns*	.018	-
Cyber aggression	3.62	”	.060	.034	(victimisation)*
Economic aggression	4.81	”	.031	.045	victimisation

Note. * = tendency ($p < .10$)

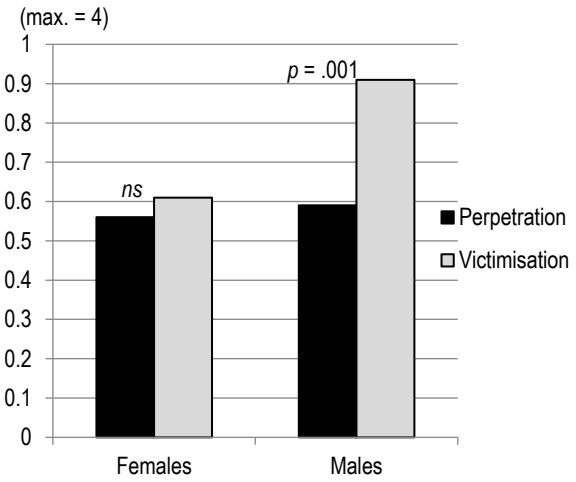

Figure 1. Mean values for females and males on perpetration of and victimisation from physical aggression (N = 420).

Discussion

Studies on *high intensity* intimate partner aggression usually find females to be victimised more than males, while males are found to be perpetrators to a higher degree than females (DeKeseredy, 2011; Dragiewicz & Lindgren, 2009; Dobash & Dobash, 1988; 2004).

The results of the present study on *low intensity* intimate partner aggression showed that females and males reported themselves to be equally often perpetrators of five types of aggression (physical, verbal, and nonverbal aggression, as well as direct and indirect aggressive social manipulation). It was also found that for females, the difference between levels of victimisation and perpetration were not significant for any of the seven measured types of aggression, while for males,

perpetration scores were significantly lower than victimisation for three types of aggression (physical aggression, direct aggressive social manipulation, and economic aggression).

A previous study by the same research group (Ndoromo et al., 2017), based on the same sample in South Sudan, found that males were significantly more victimised from low intensity physical and verbal aggression, and that there was no significant sex difference on victimisation from three other types of low intensity aggression.

Furthermore, in a study involving respondents in Mexico and Finland (Österman et al., 2014), using the same instrument, DIAS-Adult (Österman & Björkqvist, 2009), it was found that males scored higher than females on victimisation from physical and nonverbal aggression. While females scored significantly higher than males on being perpetrators of four types of low intensity aggression (physical, verbal, nonverbal, indirect socially manipulative aggression) against their partner.

The results of these three studies support the revised gender symmetry theory (Archer, 2018) according to which males are expected to score higher on perpetration of high intensity aggression, while females and males are expected to score equally high on perpetration of low intensity aggression.

In the same vein, a study by Darko et al. (submitted) on low intensity intimate partner aggression in Ghana also found that males scored significantly higher than females on *victimisation* from three types of aggression (physical, indirect, and nonverbal), while females scored higher than males on *perpetration* of four types (physical, indirect, nonverbal, and cyber). Thus, there is evidence supporting the revised gender symmetry theory also in Africa.

In his proposal of the revised gender symmetry theory, Archer (2018) suggested that gender symmetry should be expected to be found only in community and student samples in modern Western nations, with a relatively high degree of gender equality. In developing countries with a patriarchal society structure, gender symmetry should not be expected to occur, not even in the case of low intensity aggression. The present study, like the ones by Ndoromo et al. (2017) and Darko et al. (submitted) contradicts this notion. Furthermore, both Ghana and South Sudan are known to adhere to highly patriarchal values. Ghana is a fairly well-developed nation for African standards, with literacy, education, and employment rates being relatively equal for males and females (Darko et al., submitted). Still, it is definitely to be considered as a developing country with a patriarchal society structure. South Sudan, on the other hand, is the youngest and one of the poorest nations on earth, and it has a long way to go to overcome patriarchy and gender inequality.

These findings suggest that the revised gender symmetry theory may need another "revision": apparently, male victimisation from low intensity IPA does not occur only in Western, relatively egalitarian societies, but it has now been shown to occur also in the highly patriarchal, developing countries of South Sudan and Ghana in Africa. More studies are needed from developing countries on other continents to see whether similar findings can be made there.

References

[1] Archer, J. (2004). Sex differences in aggression in real-world settings: A meta-analytic review. Review of General Psychology, 8, 291−322. doi:10.1037/1089-2680.8.4.291
[2] Archer, J. (2006). Cross-cultural differences in physical aggression between partners: A social-role analysis. Personality and Social Psychology Review, 10, 133–153. doi:10.1207/s15327957pspr1002_3
[3] Archer, J. (2018). Violence to partners: Gender symmetry revisited. In Ireland, J. L., Birch, P., & Ireland, C. A. (Eds.) The Routledge international handbook of human aggression: Current issues and perspectives (pp. 155−169). London, UK: Routledge.
[4] Australian Bureau of Statistics (2012). Crime victimization, Australia, 2010-11, cat. no. 4530.0. Canberra, Australia: Australian Bureau of Statistics.
[5] Bates, E. A., Graham-Kevan, N., & Archer, J. (2014). Testing predictions from the male control theory of men's partner violence. Aggressive Behavior, 40, 42–55. doi: 10.1002/ab.21499
[6] Black, M. C., Basile, K. C., Breiding, M. J., Smith, S. G., Walters, M. L., Merrick, M. T., Chen, J., & Stevens, M. R. (2011). The National Intimate Partner and Sexual Violence Survey (NISVS): 2010 Summary Report. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.
[7] Boxer, P., Huesmann, R., L., Dubow, E. F., Landau, S. F., Gvirsman, S. D., Shikaki, K., & Ginges, J. (2013). Exposure to violence across the social ecosystem and the development of aggression: A test of ecological theory in the Israeli-Palestinian conflict. Child Development, 84, 163–177. doi:10.1111/j.1467-8624.2012.01848.x
[8] Cunradi, C. B., Caetano, R., & Schafer, J. (2002). Socioeconomic predictors of intimate partner violence among White, Black, and Hispanic couples in the United States. Journal of Family Violence, 17, 377–389.

[9] Darko, G., Björkqvist, K., & Österman, K. (submitted). Low intensity intimate partner aggression in Ghana: Support for the revised gender symmetry theory in an African country.
[10] DeKeseredy, W.S. (2011). Feminist contributions to understanding woman abuse: Myths, controversies and realities. Aggression and Violent Behavior, 16, 297–302. doi: 10.1016/j.avb.2011.04.002
[11] Dobash, R. E., & Dobash, R. P. (1988). Research as social action: The struggle for battered women. In K. Yllö & M. Bograd (Eds.), Feminist perspectives on wife abuse (pp. 51–74). Thousand Oaks, CA: Sage Publications.
[12] Dobash, R. E., & Dobash, R. P. (2004). Women's violence to men in intimate relationships: Working on a puzzle. British Journal of Criminology, 44, 324−349.
[13] Dragiewicz, M., & Lindgren, Y. (2009). The gendered nature of domestic violence: Statistical data for lawyers considering equal protection analysis. American Journal of Gender, Social Policy and the Law, 17, 229−268. https://ssrn.com/abstract=2499755

[14] Feld, S. L., & Straus, M. A. (1989). Escalation and desistance of wife assault in marriage. Criminology, 27, 141–162.
[15] Grech, G., & Burgess, M. (2011). Trends and patterns in domestic violence assaults: 2001 to 2010. New South Wales Bureau of Crime Statistics and Research, No. 61. http//:www.bocsar.nsw.gov.au/Documents/BB/bb61.pdf
[16] Guerra, N. G., Huesmann, L. R., Tolan, P. H., Van Acker, R., & Eron, L. D. (1995). Stressful events and individual beliefs as correlates of economic disadvantage and aggression among urban children. Journal of Consulting and Clinical Psychology, 63, 518–528.
[17] Kar, H. L., & O'Leary, K. D. (2010). Gender symmetry or asymmetry in intimate partner victimization? Not an either/or answer. Partner Abuse, 1, 152–168. doi:10.1891/1946-6560.1.2.152
[18] Makinde, O., Björkqvist, K., & Österman, K. (2016). Overcrowding as a risk factor for domestic violence and antisocial behaviour among adolescents in Ejigbo, Lagos, Nigeria. Global Mental Health, 3, e16, 1−9. doi:10.1017/gmh.2016.10
[19] Makinde, O., Björkqvist, K., & Österman, K. (2017). Mediating factors between overcrowding and adolescent antisocial behavior in Lagos, Nigeria. Pyrex Journal of African Studies and Development, 3, 24−30.
[20] Ndoromo, O., Österman, K., & Björkqvist, K. (2017). Sex differences in victimisation from low intensity intimate partner Aggression in South Sudan. European Journal of Social Sciences Education and Research, 11, 15–23.
[21] Österman, K. & Björkqvist, K. (2009). DIAS-Adult. Åbo Akademi University, Vasa, Finland.
[22] Österman, K., Toldos, M. P., & Björkqvist, K. (2014). Direct and indirect aggression in intimate relationships in Mexico and Finland. XXIth World Meeting of the International Society for Research on Aggression, Atlanta, GA, July 15−19.
[23] Scott, J., Averbach, S., Modest, A. M., Hacker, M. R., Cornish, S., Spencer, D., ... & Parmar, P. (2013). An assessment of gender inequitable norms and gender-based violence in South Sudan: A community-based participatory research approach. Conflict and Health, 7: 4.
[24] South Sudan National Bureau of Statistics (NBS) (2012). National Baseline Household Survey 2009 Report. http://www.erfdataportal.com/index.php/catalog/65

[25] Straus, M. A. (1979). Measuring intrafamily conflict and violence: the conflict tactics (CT) scales. Journal of Marriage and the Family, 41, 75–88. doi: 10.2307/351733
[26] Straus, M. A. (1999). The controversy over domestic violence by women: A methodological, theoretical, and sociology of science analysis. In X. B. Arriaga and S. Oskamp (Eds.), Violence in intimate relationships (pp.17−44). Thousand Oaks, CA: Sage.
[27] Straus, M. A. (2004). Prevalence of violence against dating partners by male and female university students worldwide. Violence Against Women, 10, 790–811.
[28] Straus, M. A. (2006). Future research on gender symmetry in physical assaults on partners. Violence Against Women, 12, 1086−1097.
[29] Straus, M. A. (2008). Dominance and symmetry in partner violence by male and female university students in 32 nations. Children and Youth Services Review, 30, 252−275. doi: 10.1016/j.childyouth.2007.10.004
[30] Straus, M. A. (2009). Gender symmetry in partner violence: Evidence and implications for prevention and treatment. In D. J. Whitaker & J. R. Lutzker (Eds.), Preventing partner violence: Research and evidence-based intervention strategies (pp. 245−271). Washington D.C.: American Psychological Association.
[31] Straus, M. A. (2011). Gender symmetry and mutuality in perpetration of clinical-level partner violence: empirical evidence and implications for prevention and treatment. Aggression and Violent Behavior, 16. 279−288. doi: 10.1016/j.avb.2011.04.010
[32] Straus, M. A., & Gelles, R. J. (1992). How violent are American families? In M. A. Straus & R. J. Gelles (Eds.), Physical violence in American families (pp. 95−108). New Brunswick, NJ: Transaction Publishers.
[33] Straus, M. A., & Sweet, S. (1992). Verbal/symbolic aggression in couples: Incidence rates and relationships to personal characteristics. Journal of Marriage and the Family, 54, 346–357.
[34] Finnish Advisory Board on Research Integrity (2012). Responsible conduct of research and procedures for handling allegations of misconduct in Finland. Helsinki: Finnish Advisory Board on Research Integrity.

[35] Van de Vliert, E., & Daan, S. (2017). Hell on earth? Equatorial peaks of heat, poverty, and aggression. Behavioral and Brain Sciences, 40, e98. doi:10.1017/S0140525X16001114

[36] World Bank (2016). Monitoring welfare and perceptions in South Sudan 2012–2014.Findings from the High Frequency South Sudan Survey. National Bureau of Statistics, The Republic of South Sudan. http://ssnbs.microdatahub.com/index.php/catalog/9

[37] World Health Organisation (2013). Global and regional estimates of violence against women: Prevalence and health effects of intimate partner violence and non-partner sexual violence. Geneva, Switzerland: WHO, Department of Reproductive Health and Research.

[38] World Medical Association (2013). Declaration of Helsinki: Ethical principles for medical research involving human subjects. JAMA, 310, 2191–2194. https://www.wma.net/policies-post/wma-declaration-of-helsinkiethical-principles-for-medical-research-involving-human-subjects