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# The Relationship between Physical Punishment at Home and Victimization from Peer Aggression at School in Adolescents in Iran and Finland: A Mediator–Moderator Analysis

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## Abstract

The aim of the study was to investigate whether depressive symptoms could serve as a mediator between the experience of physical punishment in childhood and victimization from peer aggression at school, as has been shown by Söderberg et al. (2016). An aggregated sample consisting of 1,001 Iranian adolescents and 2,205 Finnish adolescents, all 13-15 years of age, participated in the study. Data were analyzed with conditional process modeling (Preacher & Hayes, 2008). The hypothesis was only partially corroborated. Depression served only as a weak mediator, and not at all among Iranian boys. The results are discussed.

**Keywords:** Physical punishment, victimization, peer aggression, adolescents, mediator, moderator, Iran, Finland

## Introduction

The physical punishment (PP) of children was previously considered as an accepted and appropriate method of evoking behavioral compliance (Straus, 1983). Today this is not so, and PP in the home is prohibited by law in 53 countries (Global Initiative to End All Corporal Punishment of Children, 2018). There is now evidence that PP is associated with a large number of negative outcomes, such as increased aggressiveness (Gershoff, 2002; Jaghoory, Björkqvist, & Österman, 2013; Straus, 1991), depression (Österman, Björkqvist, & Wahlbeck, 2014; Turner & Muller, 2004), low self-esteem (Turner & Finkelhor, 1996), phobias and anxiety (Afifi, Mota, Dasiewicz, MacMillan, & Sareen, 2012), schizotypal personality (Afifi et al., 2012; Österman et al., 2014), alcohol abuse (Afifi et al., 2012; Österman et al., 2014), drug abuse (Afifi et al., 2012), intimate partner violence (Jennings, Okeem, Piquero, Sellers, Theobald, & Farrington, 2017; Richards, Tomsich, & Jennings, 2016). social maladjustment (Morris, Halliburton, Morris, Robinson, Myers, Aucoin, Keyes, & Terranova, 2013) and suicidality (Österman et al., 2014). PP has also been found to slower cognitive development and adversely affect academic achievement (Straus & Paschall, 2000). Dussich and Maekoya (2007) found that exposure to physical punishment in the home was a predictor of involvement in bullying behavior at school, both as perpetrators and victims.

Regarding Iran, there is to date only one study linking PP at home with aggressiveness and victimization at school (Jaghoory, Björkqvist, & Österman, 2013). However, according to a systematic review and meta-analysis, child abuse is a common phenomenon in Iran (Mohammadi, Zarafshan, & Khaleghi, 2010), and also in schools, although it is forbidden by law (Article 77 of the School Disciplinary Regulations). In Iran, most parents still believe in the necessity of punishment for educational reasons (Oveisi, Eftekhare Ardabili, Majdzadeh, & Mohammadkhani (2010). According to one study, 43% of pupils reported having been physically punished at school (Sheikattari, Stephenson, Assaisi, Eftekhar, & Zamani, 2006). Jaghoory, Björkqvist, and Österman (2015) found that even quite harsh methods of PP at school still occurred in Iran at the time of the study, although exceptionally: 3.8% of the adolescents participating in their study (N = 1,244) had had their hands burnt, and 4.8% reported having had bones broken as a punishment at school.

Björkqvist, Österman, and Berg (2011) found that experiences of PP at home were much more frequent (in 39.5% of cases) among victims of school bullying than among non-victims (16.8% of cases). The study was conducted within a representative sample from the Åland Islands located between Sweden and Finland. They speculated that experiences of PP might facilitate some kind of "victim personality", depressive and with low self-esteem, attracting school bullies looking for a suitable victim to harass. In two follow-up studies published in the same paper (Björkqvist & Österman, 2014), they replicated this finding, but they also observed a link between PP at home and increased perpetration of peer aggression at school. That is, in some cases PP at

home seemed to facilitate the development of a "victim personality", while in other cases it seemed to develop an "aggressive personality". They opined that there must be a mediating variable determining which trajectory a child's development would take, and they suggested that depression might be this mediating link. If children become depressed due to the PP they have experienced, they might develop a "victim personality", but if they do not become depressed, they should be more likely to develop an "aggressive personality".

Depression has, in other studies, been observed to mediate the statistical effect of negative experiences during childhood on negative experiences later in life: Day, Hart, Wanklyn, McCay, Macpherson, and Burnier (2013) found that depression fully mediated the relation between emotional abuse during childhood and victimization in juvenile offenders, and partially mediated the relation between physical abuse during childhood and victimization, in the same sample. Lee (2015) found that depressive symptoms in adulthood mediated the association between emotional abuse in childhood and suicidality in adulthood.

To test the hypothesis about depression being a mediator between childhood PP and victimization from peer aggression in school settings, Söderberg, Björkqvist, and Österman (2016) conducted a study with a representative sample of adolescents from the Ostrobothnia region in Western Finland. The study corroborated the hypothesis: depression was found to be a mediating variable between PP at home and victimization from peer aggression at school, but not between PP at home and perpetration of peer aggression at school. Furthermore, they found that aggression and victimization at school correlated significantly with each other, and both served as mediators for each other as well.

The present study is a further follow-up study, investigating whether the same phenomenon could be observed in a sample of Iranian adolescents. The study is part of a project comparing adolescents in Iran and Finland. Two previous studies, based on the same sample, have been published (Khademi, Björkqvist, Söderberg, & Österman, 2015; Khademi, Söderberg, Österman, & Björkqvist 2017).

## Method

### Samples

Iranian sample. The Iranian sample consisted of 1,001 pupils (659 girls, 342 boys) in middle schools in Gorgan, a city with about 300,000 people, located in northern Iran. The mean age of the girls was 13.4 years (SD = 0.5), and the mean age of the boys was 13.5 years (SD = 0.6).

Finnish sample. The Finnish sample consisted of 2,205 pupils from middle schools in Ostrobothnia, a region in Western Finland. The mean age of the girls was 15.0 years (SD = 0.7), and the mean age of the boys was 15.0 years (SD = 0.7). The age difference

between the two samples was significant [F(1, 2801) = 2192.85, p <.001, ηp2 =.439]. Accordingly, age had to be controlled for in the subsequent analysis.

### Instrument

Data were collected by use of a questionnaire addressing adolescent life in school settings. In the present study, the following scales were used: the Brief Physical Punishment Scale (Österman & Björkqvist, 2007); the Mini Direct and Indirect Aggression Inventory (MINI-DIA) (Österman, 2010; Österman & Björkqvist, 2008), measuring a combination of physical, verbal, and indirect aggression, with a subscale for victimization from peer aggression and another for perpetration of peer aggression in school settings; and the depression subscale from the Brief Symptom Inventory (BSI) (Derogatis, 1975). The number of items and Cronbach's α-values of the scales are presented in Table 1.

**Table 1**: **Number of Items and Reliability Scores (Cronbach's α) for the Scales of the Study (N = 3,206)**

| Scales | Number of items | Iran α | Finland α |
|---|---|---|---|
| Physical Punishment at Home | 4 | .63 | .77 |
| Victimization from Peer Aggression at School | 3 | .76 | .64 |
| Perpetration of Peer Aggression at School | 3 | .73 | .74 |
| Depressive Symptoms | 6 | .89 | .89 |

### Statistical analysis

The original technique for measuring mediation was developed by Baron and Kenny (1986), who recommended the use of the Sobel test for the procedure. However, since then, other techniques have emerged, such as bootstrapping, a computational-intensive method. It makes an empirical approximation and uses it to create confidence intervals for indirect effects (Preacher & Hayes, 2004, 2008). An advantage of this method is that a researcher can involve more than one mediator and moderator in the same model. In the present study, the SPSS macro PROCESS developed by Hayes (2012) was used.

### Procedure

Data were collected at regular school lessons, with the first author, or an assistant, present. It took about one hour to complete the questionnaire.

### Ethical considerations

Data were collected under strict anonymity with informed consent of school authorities and parents. The study adheres to the principles concerning human research ethics of the Declaration of Helsinki (World Medical Association, 2013), as

well as to the guidelines for responsible conduct of research issued by the Finnish Advisory Board on Research Integrity (2012).

## Results

### Correlational Analysis

Correlations between the variables are presented in Tables 2 and 3. As the tables show, three of the scales: physical punishment, perpetration of peer aggression at school, and victimization from peer aggression at school all correlated significantly with each other, and in most cases quite highly. Depressive symptoms correlated moderately with the other scales, with the exception of Iranian boys: in their case, the correlation coefficients between depressive symptoms and the other three scales were not significant at all (see Table 2).

It was tested whether the differences between the correlations were significant with Fisher's r-to-z transformation. The correlation between depressive symptoms and perpetration of aggression was higher for Finnish boys than Iranian boys (z

= -3.34, $p < .01$); the same was the case for the correlation between depressive symptoms and victimization from aggression ($z = -5.99$, $p < .01$), and the correlation between depressive symptoms and physical punishment ($z = -2.79$, $p <$

.01). A similar tendency was found regarding two correlations for girls: the correlation between depressive symptoms and perpetration of aggression was higher for Finnish girls than for Iranian girls ($z = -3.34$, $p < .01$), and the same was the case for the correlation between depressive symptoms and victimization from aggression ($z = -3.52$, $p< .01$), but not for depressive symptoms and physical punishment.

When correlations between depressive symptoms and other variables were compared between Iranian boys and girls, it was found that the correlation between depressive symptoms and perpetration of aggression was higher among the boys ($z = -2.34$, $p < .01$); the same was the case for the correlation between depressive symptoms and victimization from aggression ($z = -2.66$, $p < .01$), but not for the correlation between depressive symptoms and physical punishment (see Table 2).

**Table 2: Correlations between the Variables of the Study for Iranian Adolescents (N =1,001). Correlation Coefficients for Girls above the Diagonal, and for Boys below the Diagonal**

| | 1. | 2. | 3. | 4. |
|---|---|---|---|---|
| 1. Physical Punishment at Home | - | .36*** | .35*** | .12*** |
| 2. Perpetration of Peer Aggression at School | .35*** | - | .54*** | .12*** |
| 3. Victimization from Peer Aggression at School | .34*** | .50*** | - | .26*** |

| | | | | |
|---|---|---|---|---|
| 4. Depressive Symptoms | .02 | -.04 | .09 | - |

Note: *** p < .001

**Table 3: Correlations between the Variables of the Study for Finnish Adolescents (N =2,205). Correlation Coefficients for Girls above the Diagonal, and for Boys below the Diagonal**

| | 1. | 2. | 3. | 4. |
|---|---|---|---|---|
| 1. Physical Punishment at Home | - | .34*** | .34*** | .24*** |
| 2. Perpetration of Peer Aggression at School | .32*** | - | .57*** | .27*** |
| 3. Victimization from Peer Aggression at School | .33*** | .56*** | - | .40*** |
| 4. Depressive Symptoms | .22*** | .25*** | .42*** | - |

Note: *** p < .001

## Conditional Process Analysis

The conditional process model used in the study is presented in Figure 1. Physical punishment at home served as the predictor, and victimization from aggression at school as the predicted, or outcome variable; there were two mediators, (M1) perpetration of aggression at school, and (M2) depressive symptoms; and two moderators, (W1) sex, and (W2) nationality (country).

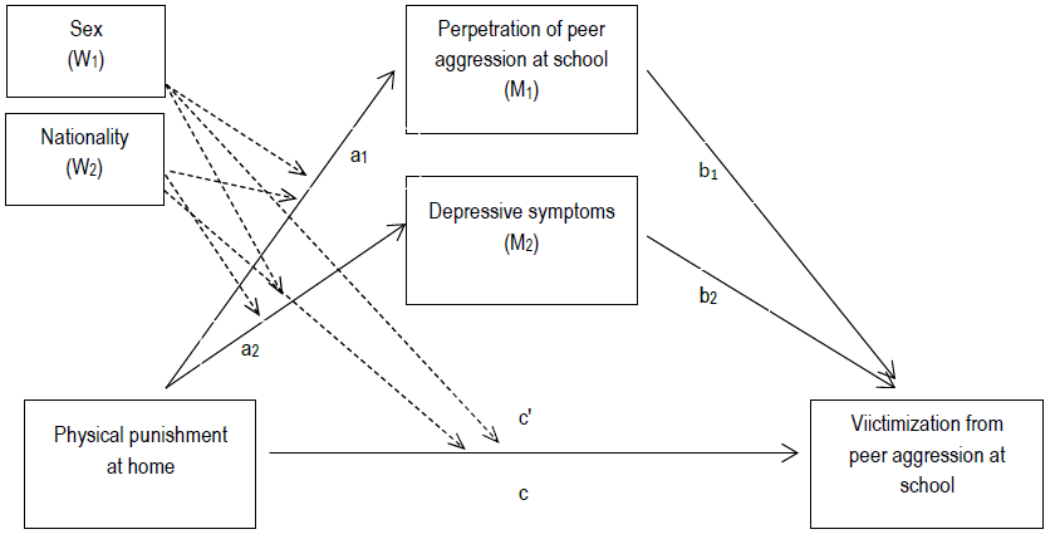


**Figure 1. A conditional process model of the effect of physical punishment on peer victimization, with aggressive behavior and depressive symptoms as mediators, and with nationality and sex as moderators.**

As mentioned in the Method section, the SPSS macro PROCESS developed by Hayes (2012) was used for the conditional process analysis. The model presented in Figure 1 was tested. The results are summarized in Table 4.

As Table 4 shows, the mediating effect of perpetration of peer aggression at school was higher than the mediating effect of depressive symptoms, on victimization from peer aggression at school. That is, adolescents who tended to be victimized from others' aggression tended to be aggressive themselves, too. The effect of PP was only partially mediated by depressive symptoms (β = .05[.05, .07]). In addition, there was a significant moderating effect by nationality, so that the impact of PP on peer victimization was stronger in Finland than Iran. The direct link between PP and victimization was weak for Iranian boys, and the indirect (mediated) effect of depression was in their case nonexistent.

**Table 4:** Results from a Test of the Conditional Process Model Presented in Figure 1, with Physical Punishment at Home as Predictor and Victimization from Peer Aggression at School as Predicted (Outcome) Variable, with Perpetration of Peer Aggression at School and Depressive Symptoms as Mediating Variables, and Sex and Nationality (Country) as Moderators (N = 3,206).

| | Total Effect c | Direct Effect c' | Indirect Effect: Perpetration of Peer Aggression at School | Indirect Effect: Depressive Symptoms | Contrast |
|---|---|---|---|---|---|
| Full sample | .34 | .14 | .15 | .05 | Agg > Dep |
| Iran, boys (IB) | .22 | .09 | .13 | .00 | Agg > Dep |
| Iran, girls (IG) | .39 | .20 | .16 | .03 | Agg > Dep |
| Finland, boys (FB) | .34 | .13 | .17 | .04 | Agg > Dep |
| Finland, girls (FG) | .37 | .16 | .15 | .06 | Agg > Dep |
| Moderation | IB < FG, IG, FB | - | - | - | |

## Discussion

The results showed that perpetration of peer aggression at school was a stronger mediator than depressive symptoms on the link between PP at home and victimization from peer aggression at school. This finding should not be surprising, since the correlation between aggression and victimization is high; those who get into a fight are also likely to become on the receiving end of others' aggression. It is for

those who are only victims, and not perpetrators, that depressive symptoms should be expected to be a mediator.

However, the hypothesis was only partly corroborated. Depressive symptoms had only a weak mediating effect. The results are thus somewhat different from those by Söderberg et al. (2016), based on a Finnish sample. In particular, the Iranian boys stood out: in their case, there was absolutely no mediating effect of depressive symptoms at all.

In Western countries, females show almost without exception more depressive symptoms than males. For instance, a meta-analysis by Nolen-Hoeksma and Girgus (1994) indicated that from the age of 15 onwards, girls and women are twice as likely to be depressed as boys and men. The same pattern seems to be true in Iran, where Modabber-Nia, Tehrani, Moosavi, Jahanbakhsh-Asli, and Fallahi (2006) found that among high school adolescents, the prevalence of depression in boys was less than in girls. Also, Ahmadi, Ahmadi, Soltani, and Bayat (2014) found that men had lower depression scores than women. However, Khademi et al. (2013) did not find any sex difference regarding depression in 13–15-year old Iranian adolescents. Apparently, the sex difference develops or becomes noticeable only during late adolescence.

Jaghoory, Björkqvist, and Österman (in press) found that Iranian boys significantly more often than Iranian girls used peaceful conflict resolution methods in conflict with peers at school, while the opposite was true in Finnish adolescents. Overall, girls in Western countries use peaceful conflict resolution techniques more than boys (Österman, Björkqvist, Lagerspetz, Kaukiainen, Landau, Fraczek, & Caprara (1998). Iranian boys are in this respect exceptional. It appears that Iranian boys are brought up to take responsibility for the cohesiveness of the social group they belong to a greater extent than boys in other countries, and than girls in Iran (Jaghoory et al., in press).

In the present study, the Iranian boys were again exceptional in the sense that depression for them had no mediating effect between PP and victimization from peer aggression at school.

One can only speculate about the reasons, but they must be cultural. In Iran, especially in families with medium and lower financial conditions, boys have more responsibility to help the family in financial situations, so, they are brought up according to very “masculine” ideals; they are not very comfortable to talk about or show their feelings. Being a man, they must be strong; they are not supposed to cry, and they are not eager to talk about their mental well-being (for instance, about being depressed) with other people. This fact may be reflected in their self-reported depression scores. However, these special features about Iranian boys deserve further study.

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