

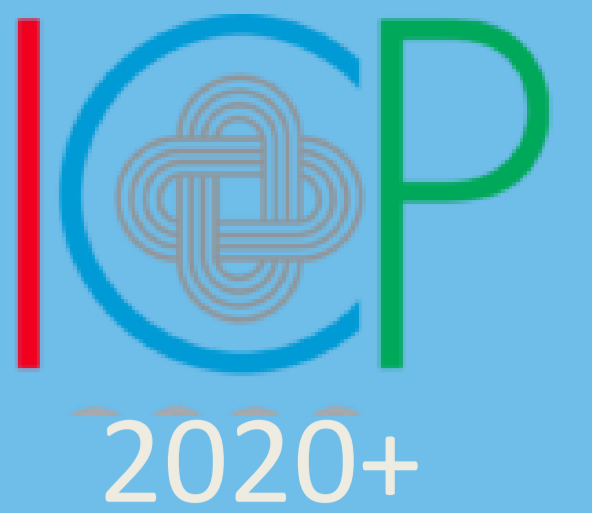
Influence of the sensitivity to reward and punishment on aggressive behaviour.



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Introduction

- Human aggression is defined as “any behaviour directed toward another individual that is carried out with the proximate intent to cause harm” (Anderson & Bushman, 2002).
- Given its relevant implications for society, research has largely focused on identifying the risk and protective factors of aggression.
- Whilst a high sensitivity to reward is considered a risk factor (Bjørnebekk, 2007), the role of sensitivity to punishment is controversial and it appears to depend on the type of aggression (Pederson et al., 2018).
- The main aim of this research was to study the role of sensitivity to reward/punishment in aggression and provide a better understanding of the mechanisms underlying this relationship.

Study 1

Aims and hypotheses

The aim was to clarify the role of sensitivity to reward and punishment in four different types of aggression: physical verbal aggression, anger, and hostility.

- H1. A higher sensitivity to reward is related to higher levels of the four types of aggression.
- H2. A higher sensitivity to punishment is related to higher levels of anger and hostility.
- H3. Given H2 and the causal role of anger and hostility in behavioural aggression, we propose the existence of a positive indirect effect of sensitivity to punishment on physical and verbal aggression through the mediating role of both anger and hostility.

Participants

484 participants (48.6% women; average age = 39.09 years).

Instruments

Sensitivity to punishment and sensitivity to reward questionnaire (SPSRQ-20).
Buss-Perry aggression questionnaire (BPAQ).

Results

Table 1. Descriptive statistics and Pearson's correlations of the studied variables.

	\bar{x} (SD)	Pearson's r				
		1	2	3	4	5
(1) Sensit. to reward	3.35 (2.57)	—				
(2) Sensit. to punishment	4.12 (2.80)	-.00	—			
(3) Physical aggression	1.90 (0.73)	.31**	.01	—		
(4) Verbal aggression	2.73 (0.76)	.30**	-.06	.51**	—	
(5) Anger	2.57 (0.75)	.34**	.17**	.56**	.60**	—
(6) Hostility	2.61 (0.70)	.22**	.44**	.43**	.45**	.62**

* $p < .05$ ** $p < .001$

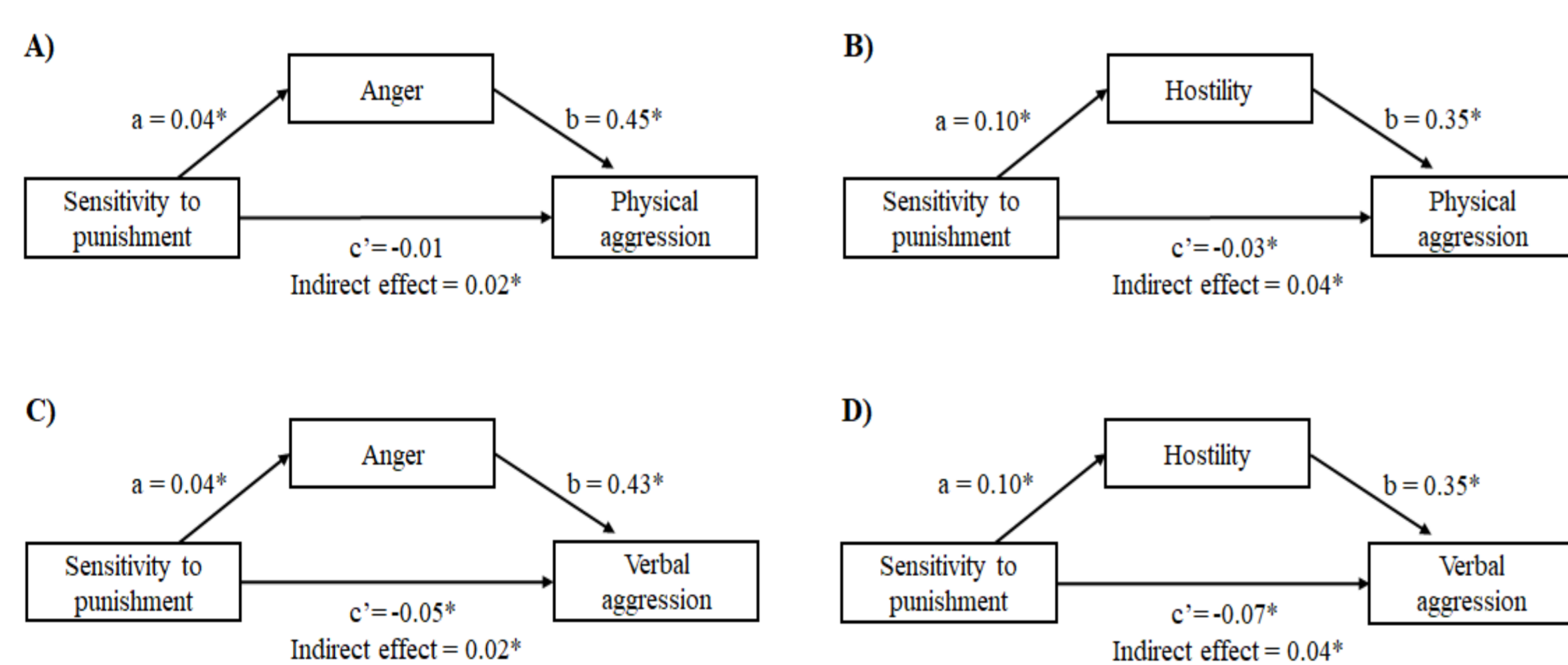


Figure 1. Mediation models and path coefficients (*statistically significant).

- Higher sensitivity to reward is related to higher levels of the four types of aggression.
- Higher sensitivity to punishment is related to higher levels of anger and hostility.
- A positive indirect effect of sensitivity to punishment on physical and verbal aggression through the mediating role of anger and hostility.
- A significant negative direct effect of sensitivity to punishment on physical and verbal aggression (controlling for the effect of hostility or anger).

Study 2

Aims and hypotheses

The aim was to replicate the results of Study 1 and investigate the role of emotion regulation ability in the relationship between sensitivity to reward/punishment and aggression.

- H1. Emotion regulation ability is related to lower levels of aggression, sensitivity to reward, and sensitivity to punishment.
- H2. The emotion regulation ability acts as a moderator (protective factor) of the effect of sensitivity to reward and punishment on the four types of aggression.
- H3. The indirect effects of sensitivity to punishment on physical and verbal aggression via anger and hostility (see Study 1) are moderated by emotion regulation ability.

Participants

229 participants (56.77%; 21.52 years).

Instruments

The Mayer-Salovey-Caruso Emotional Intelligence Test, regulation branch (MSCEIT).

Results

Table 2. Descriptive statistics and Pearson's correlations of the studied variables.

	\bar{x} (SD)	Pearson's r					
		1	2	3	4	5	6
(1) Sensit. to reward	3.82 (2.15)	—					
(2) Sensit. to punishment	4.48 (2.81)	-.17*	—				
(3) Physical aggression	1.86 (0.68)	.31**	.02	—			
(4) Verbal aggression	2.83 (0.71)	.27**	-.12	.34**	—		
(5) Anger	2.58 (0.81)	.29**	.14*	.56**	.47**	—	
(6) Hostility	2.64 (0.75)	.25**	.38**	.35**	.28**	.44**	—
(7) Emotion regulation	105.93 (11.19)	-.07	-.04	-.32**	-.09	-.21*	-.19*

* $p < .05$ ** $p < .001$

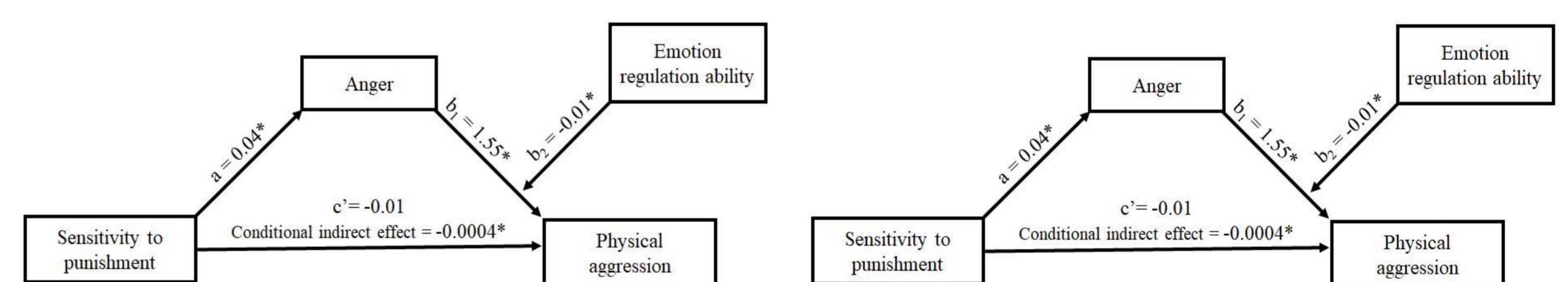


Figure 2. Moderated mediation models and path coefficients (*statistically significant).

- The results of Study 2 replicate those from Study 1.
- Higher emotion regulation ability was related to lower levels of aggression.
- Emotion regulation ability did not moderate the effect of sensitivity to reward and punishment on aggression.
- The indirect effect of sensitivity to punishment on physical aggression (through the mediating effect of anger and hostility) was moderated by emotion regulation ability.

Discussion

- The findings of this research support that a high reactivity to reward acts as a risk factor.
- The results suggest that sensitivity to punishment can play a protective role whilst also constituting a risk factor: 1) A higher sensitivity to punishment would have a negative direct effect on behavioural aggression, inhibiting physical and verbal aggressive behaviours in order to avoid negative consequences; 2) the sensitivity to punishment would also imply a positive indirect effect on physical and verbal aggression via an increase in anger and hostility.
- The indirect effect of sensitivity to punishment on physical and verbal aggression is moderated by emotion regulation ability.
- These results could help to inform the design of prevention and intervention programs for reducing the impact of aggressive behaviour on our society.

References

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