Psychopathy, Moral Emotions and Aggression: The Moderating Role of Moral Disengagement

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Supplemental Material A: Methods & Procedures

Deviations from Pre-Registration

Hypotheses 1 and 2 slightly deviated from the pre-registration (https://aspredicted.org/bd5u9.pdf). In the pre-registration, we anticipated a relatively stronger connection between psychopathic traits and proactive aggression compared to the association between psychopathic traits and reactive aggression (H1). This expectation stemmed from extensive literature indicating a stronger connection between psychopathic traits and proactive, rather than reactive, aggression (e.g., Glenn et al., 2009; Woodworth et al., 2002). However, considering Blais et al.'s (2014) meta-analytic findings, we opted to abandon this expectation prior to conducting the analyses. Moreover, initially, we expected guilt's components to exhibit a relatively stronger link with proactive aggression compared to shame's components, supported by evidence favoring guilt's association with proactive aggression (H2; e.g., Broekhoef et al., 2021). Nevertheless, we decided to not test this expectation before performing the statistical analyses due to limited theoretical support, and to reduce manuscript length.

Furthermore, the design was adjusted after revisions from the manuscript's reviewers. First, instead of measuring psychopathic traits as a unitary construct, we employed the three-factor structure of the LSRP (Sellbom, 2011) by testing separate models each with either callousness, egocentricity or antisociality as independent variables (IVs). Second, sex and age were included in all models as covariates. Third, instead of bootstrapping to 5,000 resamples, we increased the number of iterations to 20,000.

Methods

Participants and Procedure

Participants were recruited via two separate projects, the approach, measures, and timing were similar in both projects. Besides the constructs examined in the present study, the following questionnaires were included in the survey: Antisocial Behavior Questionnaire (Sijtsema et al., 2013), Life Events (Garnefski et al., 2001), Brief Self-Control Scale (Tangney et al., 2004), Meaning in Life Questionnaire (Steger et al., 2006), Regret scale (Schwartz et al., 2002), Grit Scale (Duckworth et al., 2007), Richtlijn Sportdeelname Onderzoek (Bottenburg, 2000), Recent Life Events (Norbeck, 1984) and Depression Anxiety Stress Scale (de Beurs et al., 2001).

Measures

Four items from the Moral Disengagement Questionnaire (MDQ; Bandura et al., 1996; Detert et al., 2008) were slightly adjusted to better match the present study's demographic context. For instance, "using someone else's bike without permission is just 'borrowing'" was adjusted from the following original item: "looking at a friend's homework without permission is just 'borrowing it.'" Moreover, Table SA-1 depicts example items of the scales.

Data Analysis

Power Analysis

As G*Power software (Faul et al., 2007) lacks moderated mediation models, it was utilized to determine the minimum sample required for a moderation analysis with seven predictors. Results indicated that N_*= 153 participants were required for finding a medium effect (f^2 = 0.15) with a power of .95 and an alpha value of .05. Next, bivariate correlations were computed for all predictors. The highest absolute correlation (i.e., .65) was then used to compute the following equation (Montoya et al., 2021):

$$N_* / (1 - R^2)$$

Deletions

The recruited sample consisted of 477 participants. A Little's MCAR test (Little, 1988) indicated that the data was missing completely at random (X^2 (178) = 182.62, p = .39). However, 131 respondents did not answer the Reactive and Proactive Aggression Questionnaire (RPQ; Cima et al., 2013; Raine et al., 2006), which was placed as the second-to-last questionnaire in the survey, potentially indicating survey fatigue. As a result, these 131 participants were removed. An additional seven participants were removed because they were younger than 18 years old. Thereafter, two extreme multivariate outliers were detected with Mahalanobis distance and were subsequently removed. After these deletions, the final sample size was N = 333.

Table SA-1

Example Items of the Scales

Measure	Example Item
Callousness (LSRP)	Cheating is not justified because it is unfair to others [R].
Egocentricity (LSRP)	I tell other people what they want to hear so that they will do what I want them to do.
Antisocial (LSRP)	I find myself in the same kinds of trouble time after time.
Proactive Aggression (RPQ)	How many times have you forced someone to give money or other things to you?
Reactive Aggression (RPQ)	How many times have you yelled at others when they irritated you?
Guilt-NBE (GASP)	After realizing you have received too much change at a store, you decide to keep it because the salesclerk doesn't notice. What is the likelihood that you would feel uncomfortable about keeping the money?
Guilt-R (GASP)	While discussing a heated subject with friends, you suddenly realize you are shouting though nobody seems to notice. What is the likelihood that you would try to act more considerately toward your friends?
Shame-NSE (GASP)	You successfully exaggerate your damages in a lawsuit. Months later, your lies are discovered, and you are charged with perjury. What is the likelihood that you would think you are a despicable human being?
Shame-W (GASP)	You take office supplies (e.g., pens, paper) home for personal use and are caught by your boss. What is the likelihood that this would lead you to quit your job?
Moral Disengagement (MDQ)	It is OK to fight to protect your friends.

Note. [R] = reverse-coded item, LSRP = Levenson Self-Report Psychopathy Scale, RPQ = Reactive and Proactive Aggression Questionnaire, GASP = Guilt- and Shame-Proneness Scale, Guilt-NBE = guilt negative behavior-evaluation, Guilt-R = guilt-repair, Shame-NSE = shame negative self-evaluation, Shame-W = shame-withdraw, MDQ = Moral Disengagement Questionnaire.

Assumption Tests

Outliers were detected with Tukey's (1977) boxplot technique. Subsequently, the extreme outliers were winsorized. In other words, the extreme outliers were slightly modified to approach the variable's mean, thereby enhancing the normal distribution of the variables (Dixon, 1960). Accordingly, one lower case of guilt negative behavior-evaluation (NBE) (skewness = -0.58, kurtosis = -0.48), two upper cases of shame-withdraw (SW; skewness = 0.59, kurtosis = 0.18). For proactive aggression, eight upper outliers were winsorized (skewness = 2.94, kurtosis = 9.91). For reactive aggression, two cases were winsorized (skewness = 0.79, kurtosis = 0.42). It was decided to retain the remaining outliers of proactive aggression to avoid information loss and further data manipulation. Given the community-based sample, it was considered reasonable for the majority of participants to report low scores on proactive aggression, thus winsorizing additional outliers may have led to significant information loss and misrepresentation. Finally, since the conducted analyses are robust to assumptions violations (Hayes, 2013), it was opted not to transform proactive aggression or winsorize additional datapoints.

Supplemental Material B: Supplemental Results

Between-Sex Differences on Target Variables

Sex was included as a covariate in all models. To gather a better understanding on how males and females differed in the target variables, an independent samples *t*-test was performed (α = .05; Table SB-1). Furthermore, we examined whether correlations patterns differed between the sexes by performing separate Pearson's correlations (α = .05) for males and females (Table SB-2), and comparing these coefficients with Fisher's *r*-to-*z* test (Lenhard et al., 2014).

Overall, males exhibited stronger correlations than females on the following pairs of variables: (1) egocentricity and age (z = -2.74, p < .01), (2) proactive aggression and callousness (z = 2.48, p < .01), (3) proactive aggression and antisocial (z = 2.02, p < .05), (4) reactive aggression and proactive aggression (z = 2.36, p < .01), (5) moral disengagement and egocentricity (z = 1.88, p < .05), (6) moral disengagement and antisocial (z = 2.29, p < .05), (7) GR and proactive aggression (z = -2.98, p < .01), (8) NSE and proactive aggression (z = -2.11, p < .05), and (9) NSE and reactive (z = -2.27, p < .05). Moreover, age was negatively associated with the following variables only in the male sample: (1) callousness (z = -3.32, p < .001), (2) proactive aggression (z = -3.04, p < .01), (3) moral disengagement (z = -2.17, p < .05), and (4) reactive aggression (z = -2.86, p < .01). In the female sample, but not the male group, SW and NSE were positively associated (z = -2.14, p < .05). The remaining bivariate correlations were not significantly different between sexes. Finally, the following correlations were not significantly different between the sexes according to Fisher's *r*-to-*z* test, however, it is worth mentioning that these bivariate correlations were significant in the female sample, but not in the male sample: (1) SW and proactive aggression (positive link), (2) SW and reactive aggression (positive link), and (3) moral disengagement and NSE (negative link).

Table SB-1

Descriptives of Males and Females and Between-Groups Comparisons

Variables	Males		Females		*t*(df)	LL, UL	Cohen's *d*
	Mean	*SD*	Mean	*SD*			
Age	32.6	13.5	31.1	12.5	0.88 (331)	-1.79, 4.70	0.11
Callousness	2.0	0.6	1.6	0.5	6.08 (331)*	0.27, 0.53	0.79
Egocentricity	1.9	0.5	1.6	0.4	6.44 (331)*	0.24, 0.45	0.84
Antisociality	1.8	0.5	1.8	0.5	1.10 (331)	-0.05, 0.19	0.14
Proactive Aggression	14.1	2.8	12.7	1.4	4.16 (87.16)*	0.73, 2.05	0.76
Reactive Aggression	17.7	4.3	16.7	3.5	1.94 (106.71)	-0.02, 2.11	0.28
Guilt-NBE	4.5	1.4	5.5	1.2	-6.40 (331)*	-1.33, -0.70	-0.83
Guilt-Repair	4.6	1.2	5.3	1.0	-5.63 (331)*	-1.03, -0.50	-0.73
Shame-NSE	4.6	1.1	5.8	1.0	-9.12 (331)*	-1.47, -0.95	-1.19
Shame-Withdraw	2.4	0.9	3.0	1.1	-4.62 (156.01)*	-0.82, -0.33	-0.53
Moral Disengagement	1.9	0.3	1.7	0.3	5.07 (331)*	0.12, 0.27	0.66

Note. SD = standard deviation, df = degrees of freedom, LL = lower limit confidence interval, UL = upper limit confidence interval.

* $p < .001$

Table SB-2

Bivariate Correlations of Males and Females on Target Variables

	Age	Callousness	Egocentricity	Antisociality	Proactive Aggression	Reactive Aggression	NBE	GR	NSE	SW	Moral Disengagement
Age	1	.05	-.16*	-.25***	-.01	-.01	-.04	.07	.01	.06	-.09
Callousness	-.37**	1	.41***	.20**	.27***	.22**	-.51***	-.38***	-.34***	.06	.27***
Egocentricity	-.48***	.37**	1	.46***	.33***	.40***	-.43***	-.29***	-.31***	.20**	.43***
Antisociality	-.41***	.32**	.45***	1	.30***	.51***	-.25***	-.18**	-.22***	.18**	.28***
Proactive Aggression	-.39***	.54***	.38**	.52***	1	.49***	-.27***	-.18**	-.24***	.13*	.28***
Reactive Aggression	-.37**	.32**	.42***	.61***	.69***	1	-.27***	-.25***	-.27***	.15*	.30***
NBE	.22	-.46***	-.46***	-.35**	-.41***	-.40***	1	.56***	.63***	.07	-.40***
GR	.14	-.46***	-.30**	-.37**	-.52***	-.39**	.65***	1	.53***	.10	-.24***
NSE	.14	-.26*	-.25*	-.35**	-.48***	-.52***	.52***	.59***	1	.19**	-.24***
SW	-.01	.05	.22	.22	.14	.22	-.05	.02	-.09	1	.24***
Moral Disengagement	-.36**	.34**	.61***	.53***	.43***	.43***	-.27*	-.23*	-.18	.31**	1

Note. Coefficients below the diagonal are those of males (n = 77). Coefficients above the diagonal are those of females (n = 256). NBE = guilt negative behavior-evaluation, GR = guilt-repair, NSE = shame negative self-evaluation, SW = shame-withdraw. *p < .05, **p < .01, ***p < .001

Path A and Path B Coefficients in Moderated Mediation Models

Table SB-3 summarizes associations between psychopathic traits and moral emotions (path a) as indicated in the moderated mediation models. Overall, these findings did not deviate from mediation results.

Table SB-4 includes associations between moral emotions and aggression subtypes (path b); these are depicted according to the model tested (i.e., with either callousness, egocentricity or antisocial as IV). These findings were largely consistent with the mediation results, except for: (1) in the moderated mediation model with antisociality as IV, none of the moral emotions were associated with proactive aggression, and (2) GR emerged as a correlate of proactive aggression in the moderated mediation model with callousness as IV.

Table SB-3

Path a Coefficients in Moderated Mediation Models

	R^2	R	$F(5, 327)$	b	SE	$t(327)$	95 % CI	
							LL	UL
Callousness								
NBE**	.38	.62	47.74*	-1.03	0.12	-8.71	-1.25	-0.80
GR**	.25	.50	19.24*	-0.75	0.10	-6.76	-0.94	-0.54
NSE**	.30	.55	27.48*	-0.56	0.13	-4.16	-0.80	-0.31
SW	.12	.34	10.15*	-0.03	0.12	-0.24	-0.27	0.22
Egocentricity								

NBE**	.31	.55	32.39*	-1.04	0.17	-5.93	-1.38	-0.79
GR**	.18	.42	14.70*	-0.59	0.15	-3.84	-0.88	-0.29
NSE**	.28	.53	28.05*	-0.61	0.15	-4.01	-0.90	-0.31
SW**	.13	.36	11.50*	0.34	0.16	2.08	0.03	0.67
Antisociality								
NBE**	.25	.50	26.01*	-0.44	0.15	-2.82	-0.75	-0.14
GR**	.17	.41	11.86*	-0.33	0.14	-2.40	-0.60	-0.06
NSE**	.27	.52	25.43*	-0.44	0.16	-2.66	-0.75	-0.12
SW**	.14	.37	11.82*	0.34	0.14	2.42	0.07	0.62

Note. NBE = guilt negative behavior-evaluation, GR = guilt-repair, NSE = shame negative self-evaluation, SW = shame-withdraw, *SE* = standard error, CI = confidence interval, LL = lower limit, UL = upper limit.
*Significant associations were established if the 95% CI did not include zero.

**$p < .001$

Table SB-4

Path b Coefficients in Moderated Mediation Models

Proactive Aggression						Reactive Aggression					
	b	*SE*	*t*(323)	95 % CI			*b*	*SE*	*t*(323)	95 % CI	
				LL	*UL*					*LL*	*UL*
Callousness Model						Callousness Model					
NBE	0.01	0.10	0.06	-0.18	0.20	NBE	-0.06	0.20	-0.31	-0.46	0.33
GR*	-0.19	0.10	-1.96	-0.38	-0.01	GR	-0.34	0.21	-1.65	-0.75	0.07
NSE*	-0.29	0.14	-1.91	-0.58	-0.02	NSE*	-0.83	0.27	-3.01	-1.36	-0.31
SW*	0.19	0.07	2.52	0.04	0.33	SW*	0.56	0.17	3.28	0.22	0.89
Egocentricity Model						Egocentricity Model					
NBE	-0.07	0.10	-0.75	-0.26	0.12	NBE	0.04	0.20	0.20	-0.35	0.42
GR*	-0.22	0.10	-2.16	-0.42	-0.03	GR	-0.32	0.20	-1.61	-0.71	0.07
NSE*	-0.28	0.13	-2.05	-0.55	-0.03	NSE*	-0.79	0.26	-2.95	-1.29	-0.26
SW*	0.18	0.07	2.38	0.03	0.33	SW*	0.46	0.16	2.81	0.14	0.77
Antisociality Model						Antisociality Model					
NBE	-0.09	0.10	-0.89	-0.28	0.10	NBE	-0.04	0.19	-0.21	-0.42	0.34
GR	-0.17	0.10	-1.78	-0.37	0.01	GR	-0.24	0.20	-1.22	-0.63	0.14
NSE	-0.24	0.13	-1.82	-0.49	0.004	NSE*	-0.60	0.23	-2.56	-1.06	-0.15
SW	0.14	0.07	1.83	-0.01	0.28	SW*	0.32	0.15	2.11	0.03	0.61

Note. NBE = guilt negative behavior-evaluation, GR = guilt-repair, NSE = shame negative self-evaluation, SW = shame-withdraw, SE = standard error, CI = confidence interval, LL = lower limit, UL = upper limit. *Significant associations established if 95% CI did not include zero.

Associations Between Covariates and Aggression Subtypes Across Models

Associations between covariates (sex and age) and aggression subtypes were mixed and depended on the model tested. In the case of proactive aggression, being male was positively and significantly associated with this aggression subtype when moral emotions and moral disengagement were not included in the model. However, when these constructs were introduced, the effect was no longer significant. For instance, being male was positively associated with proactive aggression in the mediation model including callousness as IV (β = -0.20, *SE* = 0.23, *t*(329) = -3.90, *p* < .001, [-1.35, -0.45]), but this association was no longer significant in the moderated mediation model. Similarly, sex was not associated with reactive aggression in most models.

Turning to age, being younger was associated with heightened proactive aggression in some models, but paralleling results of sex, significant effects depended on the model being tested. For instance, in mediation models including callousness as IV, age (β = -0.12, *SE* = 0.01, *t*(329) = -2.55, *p* < .05, [-0.03, -0.004]) was (marginally) negatively associated with proactive aggression. However, these associations were no longer significant in the moderated mediation model. Likewise, age exhibited some negative, and non-significant, associations with reactive aggression. For instance, in the mediation model including callousness as IV, age was negatively associated with reactive aggression (β = -0.15, *SE* = 0.02, *t*(329) = -2.89, *p* < .05, [-0.08, -0.01]), but this effect was no longer significant when including moral disengagement in the model.

Associations Between Moral Emotions and Covariates Across Models

Across models including proactive and reactive aggression as dependent variables, higher scores on NBE, GR, NSE and SW were associated with being female (see Table SB-5 and SB-6). In contrast, age was not associated to moral emotions across models, except for a positive association with SW reported in the models including egocentricity (*b* = 0.01, *SE* = 0.01, *t*(327) = 1.94, [0.001, 0.02]) and antisociality (*b* = 0.01, *SE* = 0.01, *t*(327) = 2.22, [0.001, 0.02]) as IVs.

Table SB-5

Associations Between Sex and Moral Emotions in Mediation Models

	β	*SE*	*t*(329)	95% CI	
				LL	UL
Sex: Model Callousness					
NBE*	0.18	0.16	3.75	0.23	0.86
GR*	0.17	0.14	3.37	0.16	0.71
NSE*	0.35	0.14	7.18	0.67	1.23
SW*	0.24	0.13	4.25	0.37	0.89
Sex: Model Egocentricity					
NBE*	0.18	0.17	3.67	0.23	0.90
GR*	0.20	0.16	3.68	0.20	0.82
NSE*	0.35	0.15	6.98	0.67	1.23
SW*	0.30	0.13	5.36	0.53	1.04
Sex: Model Antisociality					
NBE*	0.32	0.16	6.31	0.65	1.28
GR*	0.28	0.14	5.52	0.45	1.00
NSE*	0.43	0.13	9.04	0.91	1.42
SW*	0.24	0.12	4.48	0.38	0.85

Note. Reported associations were present in both models with proactive aggression and reactive aggression as dependent variables. *SE* = standard error, CI = confidence interval, LL = lower limit, UL = upper limit, NBE = guilt negative behavior-evaluation, GR = guilt-repair, NSE = shame negative self-evaluation, SW = shame-withdraw.

*Significance established if the 95% CI did not include zero.

Table SB-6

Associations Between Sex and Moral Emotions in Moderated Mediation Models

	b	*SE*	*t*(327)	95% CI	
				LL	*UL*
Sex: Model Callousness					
NBE*	0.43	0.16	2.61	0.11	0.75
GR*	0.39	0.14	2.79	0.11	0.66
NSE*	0.88	0.15	5.95	0.60	1.17
SW*	0.75	0.13	5.84	0.50	1.00
Sex: Model Egocentricity					
NBE*	0.51	0.18	2.83	0.17	0.86
GR*	0.47	0.16	2.93	0.15	0.78
NSE*	0.91	0.15	6.17	0.62	1.20
SW*	0.83	0.13	6.55	0.58	1.08
Sex: Model Antisociality					
NBE*	0.74	0.18	4.11	0.39	1.09
GR*	0.58	0.15	3.87	0.29	0.87
NSE*	1.05	0.14	7.56	0.78	1.31
SW*	0.75	0.12	6.18	0.51	0.98

Note. Reported associations were present in models with proactive aggression and reactive aggression as dependent variables. *SE* = standard error, CI = confidence interval, LL = lower limit, UL = upper limit, NBE = guilt negative behavior-evaluation, GR = guilt-repair, NSE = shame negative self-evaluation, SW = shame-withdraw.

*Significance was established if the 95% CI did not include zero.

Associations Between Moral Disengagement -Aggression and -Moral Emotions

Moral disengagement was positively associated with proactive aggression in models including callousness (b = 0.77, SE = 0.32, [0.16, 1.42]), egocentricity (b = 0.80, SE = 0.31, [0.21, 1.43]) and antisociality (b = 0.88, SE = 0.35, [0.21, 1.57]) as IVs. Similarly, moral disengagement exhibited positive links with reactive aggression across models with callousness (b = 2.14, SE = 0.68, [0.80, 3.47]), egocentricity (b = 1.50, SE = 0.68, [0.20, 2.87]) and antisociality (b = 1.36, SE = 0.65, [0.10, 2.63]) as independent variables. Furthermore, moral disengagement was negatively associated with NBE and GR across models. Moral disengagement was negatively related to NSE in models including callousness and egocentricity as independent variables. In contrast, moral disengagement was positively associated with SW across models (see Table SB-7).

Table SB-7

Associations Between Moral Disengagement and Moral Emotions

	b	*SE*	*t*(327)	95% CI	
				LL	UL
Model: Callousness					
NBE*	-0.99	0.20	-4.93	-1.38	-0.61
GR*	-0.45	0.19	-2.35	-0.83	-0.10
NSE*	-0.48	0.19	-2.46	-0.85	-0.12
SW*	1.03	0.21	4.91	0.60	1.42
Model: Egocentricity					
NBE*	-0.83	0.22	-3.77	-1.26	-0.40
GR*	-0.43	0.21	-1.95	-0.85	-0.01
NSE	-0.36	0.20	-1.87	-0.75	0.02
SW*	0.80	0.22	3.59	0.35	1.22
Model: Antisociality					
NBE*	-1.25	0.22	-5.52	-1.69	-0.82
GR*	0.60	0.21	-2.87	-1.01	-0.21
NSE*	-0.52	0.20	-2.61	-0.91	-0.15
SW*	0.84	0.20	4.07	0.42	1.22

Note. Associations are depicted per model tested (i.e., with either callousness, egocentricity or antisocial as independent variable). NBE = guilt negative behavior-evaluation, GR = guilt-repair, NSE = shame negative self-evaluation, SW = shame-withdraw, *SE* = standard error, CI = confidence interval, LL = lower limit, UL = upper limit.

*Significance was established if the 95% CI did not include zero.

Supplemental Material C: Sensitivity Analyses

To gauge the robustness of the findings, separate sets of sensitivity analyses were performed.

First, analyses were performed including solely one mediator per model. Specifically, the mediation models were tested including one psychopathic trait (callous, egocentricity, or antisocial) as independent variable, one mediator (NBE, GR, NSE or SW), and one aggression subtype (proactive or reactive) as dependent variable. Moderated mediation models were performed, with each including one psychopathic trait (callous, egocentricity, or antisocial) as independent variable, one mediator (NBE, GR, NSE or SW), one aggression subtype (proactive or reactive) as dependent variable, and moral disengagement as moderator.

Second, to address possible tautological effects between guilt and psychopathic traits, we removed one item from the callousness LSRP subscale which referred to feeling of guilt. Namely, item 21: "I feel bad when my words or actions cause someone emotional pain". Therefore, the mean score of the callousness variable was computed again with three items. This subscale exhibited poor reliability ($\alpha = .44$), but had an average inter-item correlation of .21. Thereafter, we tested two separate mediation models including the new callousness variable as independent variable, moral emotions as mediators, and either proactive or reactive aggression as dependent variables. Then, we included moral disengagement as a moderator in the model. All supplementary analyses included age and sex as covariates and were bootstrapped with 20,000 resamples.

Sensitivity Analyses: Including One Mediator Per Model

Summary

- Path a findings were in line with manuscript's results.
- Path b findings were mixed. In contrast to manuscript's findings, NBE emerged as a possible correlate of both aggression subtypes, GR as a possible correlate of reactive aggression, and SW was no longer linked to either aggression subtype.
- Associations between psychopathic traits and aggression subtypes were fairly in line with manuscript's findings, with callousness being more robustly associated with proactive aggression and antisociality being linked to both aggression subtypes. Egocentricity was related to both subtypes, but seemed more robustly linked to reactive aggression.

- Indirect effects were mixed, revealing more significant associations than the manuscript's findings.
- Aligning with the manuscript, moral disengagement moderated relationships between psychopathic traits and proactive aggression. Similarly, moral disengagement moderated associations between psychopathic traits and reactive aggression; however, these results were mixed, with this effect not being significant in some models.
- In line with manuscript's findings, moral disengagement did not moderate the links between psychopathic traits and moral emotions, and there were no significant moderated mediation effects.

Detailed Results

Associations between the three psychopathic traits and moral emotions (Path a) were in line with manuscript's findings (see Table SC-1 for supplemental mediation analyses, and Table SC-5 for supplemental moderated mediation findings).

Moreover, NBE, GR and NSE were negatively associated with both aggression subtypes in the mediation models (Table SC-2) and moderated mediation models (Table SC-6). However, SW was positively associated with both aggression subtypes in the mediation model including callousness as IV (Table SC-2); nonetheless, SW was no longer associated with both aggression subtypes in the mediation models including egocentricity and antisocial as IVs. Similarly, SW was not associated with proactive aggression across moderated mediation models, and was only positively associated with reactive aggression in the moderated mediation model including callousness as independent variable (Table SC-6). These patterns of findings slightly deviate from those depicted in the manuscript where (1) NBE was not associated with any aggression subtype, (2) GR was only negatively associated with proactive aggression, (3) SW was positively associated with reactive aggression across models. In contrast, supplemental findings suggest that NBE, GR and NSE are negatively associated with both aggression subtypes, and SW might not be related to proactive and reactive aggression.

Furthermore, in all mediation models tested, the total and direct effects of psychopathic traits on aggression subtypes were positive and significant (Table SC-3). This deviates from the manuscript's findings where callousness and reactive aggression were no longer significantly related when including the mediators in the model. Nonetheless, moderated mediations found that callousness was not associated with reactive aggression,

except for in the model including SW as mediator (Table SC-7). Furthermore, egocentricity was not positively associated with proactive aggression in the model including NBE as mediator (Table SC-7). In general, these results somewhat align with manuscript's findings where the associations between callousness and reactive, and egocentricity and proactive, appear to be less robust.

Turning to indirect effects, findings revealed that NBE, GR and NSE mediated the relationships between all psychopathic traits and both aggression subtypes (see Table SC-4). In turn, SW did not explain the associations between psychopathic traits and aggression subtypes. In the manuscript, we found that (1) only NSE mediated the relationship between callousness and both aggression subtypes, (2) GR, NSE and SW mediated the relationship between egocentricity and antisocial with proactive aggression, (3) NSE and SW explained the link between egocentricity and antisocial with reactive aggression. As a result, supplementary analyses contradict the manuscript's findings in so far that (1) SW may not explain the link between egocentricity and antisociality with reactive aggression, (2) NBE may be a significant mediator, and (3) associations between callousness and aggression subtypes may also be explained by guilt components.

In line with manuscript's findings, moral disengagement moderated relationships between psychopathic traits and proactive aggression (see Tables SC-8 and SC-9). Similarly, moral disengagement moderated associations between psychopathic traits and reactive aggression; however, these results were mixed, with this effect not being significant in some models. Aligning with manuscript's findings, moral disengagement did not moderate the relationships between psychopathic traits and moral emotions, and there were no significant moderated mediation effects in any model.

Table SC-1

Effects of Psychopathic Traits on Moral Emotions (Path a) in Mediation Models

	R	R^2	*F*(3, 329)	β	*SE*	*t*(329)	LL	UL
Callousness								
NBE***	.58	.34	55.14**	-0.50	0.11	-10.58	-1.42	-0.98
GR***	.49	.24	34.15**	-0.41	0.10	-8.18	-1.02	-0.64
NSE***	.53	.28	41.83**	-0.32	0.11	-6.42	-0.89	-0.45
SW	.22	.05	5.39*	0.05	0.13	0.89	-0.15	0.35
Egocentricity								
NBE***	.52	.27	41.34**	-0.44	0.16	-8.66	-1.62	-0.99
GR***	.40	.16	21.08**	-0.31	0.14	-5.57	-1.03	-0.48
NSE***	.51	.26	38.46**	-0.30	0.14	-5.74	-1.04	-0.49
SW***	.29	.09	10.16**	0.22	0.15	3.80	0.25	0.85
Antisociality								
NBE***	.42	.17	23.17**	-0.27	0.15	-5.14	-1.03	-0.44
GR***	.36	.13	16.24**	-0.23	0.13	-4.20	-0.78	-0.25
NSE***	.49	.24	35.17**	-0.25	0.15	-4.99	-0.88	-0.30
SW***	.29	.08	9.71**	0.20	0.14	3.63	0.19	0.74

Note. NBE = guilt negative behavior-evaluations, GR = guilt-repair, NSE = shame negative self-evaluation, SW = shame-withdraw, *SE* = standard error, LL = lower limit confidence interval, UL = upper limit confidence interval.

*$p < .01$, **$p < .001$, ***Effects considered significant if the confidence interval did not include zero.

Table SC-2

Effects of Moral Emotions on Aggression (Path b) in Mediation Models

	β	*SE*	*t*(328)	LL	UL
Proactive Aggression					
NBE*	-0.16	0.10	-2.69	-0.44	-0.07
GR*	-0.19	0.11	-3.44	-0.58	-0.15
NSE*	-0.24	0.14	-4.36	-0.72	-0.17
SW*	0.09	0.08	1.90	0.02	0.34
Reactive Aggression					
NBE*	-0.25	0.18	-3.92	-1.05	-0.36
GR*	-0.23	0.20	-3.91	-1.20	-0.40
NSE*	-0.32	0.24	-5.41	-1.51	-0.59
SW*	0.15	0.17	2.87	0.17	0.85

Note. Path b coefficients slightly deviated across models, however, the pattern of findings were largely similar for NBE, GR and NSE. However, the association between SW and both aggression subtypes was significant in the callousness model, as depicted in the table, but it was not significant in the models including egocentricity or antisocial as independent variables. NBE = guilt negative behavior-evaluations, GR = guilt-repair, NSE = shame negative self-evaluation, SW = shame-withdraw, *SE* = standard error, LL = lower limit confidence interval, UL = upper limit confidence interval.

*Effects considered significant if the confidence interval did not include zero.

Table SC-3

Total and Direct Effects of Psychopathic Traits on Aggression Subtypes in Mediation Models

	R	R^2	*F*(df1, df2)	β	*SE*	*t*(df)	LL	UL
Callousness								
Total Effect								
Proactive Aggression**	.47	.22	31.46 (3, 329)*	0.37	0.19	7.27 (329)	1.03	1.79
Reactive Aggression**	.31	.10	11.66 (3, 329)*	0.25	0.38	4.60 (329)	1.00	2.50
Direct Effect								
Proactive Aggression**	.49	.24	25.86 (4, 328)*	0.29	0.22	4.98 (328)	0.67	1.55
Reactive Aggression**	.37	.14	12.96 (4, 328)*	0.13	0.43	2.09 (328)	0.06	1.72
Egocentricity								
Total Effect								
Proactive Aggression**	.43	.19	25.51 (3, 329)*	0.33	0.25	6.06 (329)	1.03	2.03
Reactive Aggression**	.43	.18	24.33 (3, 329)*	0.41	0.46	7.60 (329)	2.59	4.40
Direct Effect								
Proactive Aggression**	.47	.22	23.16 (4, 328)*	0.24	0.35	4.00 (328)	0.46	1.82
Reactive Aggression**	.45	.20	20.87 (4, 328)*	0.34	0.50	5.66 (328)	1.85	3.79
Antisociality								
Total Effect								
Proactive Aggression**	.46	.21	28.64 (3, 329)*	0.35	0.22	6.73 (329)	1.04	1.90
Reactive Aggression**	.55	.30	46.96 (3, 329)*	0.54	0.37	11.09 (329)	3.41	4.88
Direct Effect								
Proactive Aggression**	.50	.25	27.37 (4, 328)*	0.28	0.28	5.46 (328)	0.71	1.79
Reactive Aggression**	.57	.33	39.65 (4, 328)*	0.49	0.39	9.89 (328)	3.01	4.53

Notes. Total effects refer to associations between psychopathic traits and aggression subtypes when not considering the mediators. Direct effects refer to associations when mediators are included in the model. The coefficients slightly varied depending on model tested, however, the pattern of associations was the same across models. *SE* = standard error, LL = lower limit confidence interval, UL = upper limit confidence interval.

*$p < .001$, **Effects considered significant if confidence interval did not include zero.

Table SC-4

Indirect Effects of Moral Emotions

	β	*SE*	LL	UL
Callousness				
Proactive Aggression				
NBE*	0.08	0.03	0.02	0.14
GR*	0.08	0.02	0.04	0.13
NSE*	0.08	0.02	0.03	0.12
SW	0.01	0.01	-0.01	0.02
Reactive Aggression				
NBE*	0.12	0.03	0.06	0.18
GR*	0.10	0.03	0.05	0.15
NSE*	0.10	0.02	0.06	0.15
SW	0.01	0.01	-0.01	0.03
Egocentricity				
Proactive Aggression				
NBE*	0.09	0.03	0.05	0.15
GR*	0.07	0.02	0.04	0.11
NSE*	0.08	0.02	0.04	0.13
SW	0.01	0.01	-0.01	0.03
Reactive Aggression				
NBE*	0.08	0.03	0.03	0.13
GR*	0.06	0.02	0.03	0.10
NSE*	0.08	0.02	0.04	0.13
SW	0.02	0.01	-0.001	0.05
Antisociality				
Proactive Aggression				
NBE*	0.06	0.02	0.03	0.10
GR*	0.06	0.02	0.02	0.09
NSE*	0.07	0.02	0.03	0.12
SW	0.01	0.01	-0.01	0.03
Reactive Aggression				
NBE*	0.05	0.02	0.02	0.08
GR*	0.04	0.02	0.02	0.08
NSE*	0.06	0.02	0.02	0.11
SW	0.01	0.01	-0.01	0.04

*Effects considered significant if the confidence interval did not include zero.

Table SC-5

Effects of Psychopathic Traits on Moral Emotions (Path a) in Moderated Mediation Models

	R	R^2	*F*(5, 327)	*b*	*SE*	*t*(327)	LL	UL
Callousness								
NBE**	.62	.38	47.74*	-1.03	0.12	-8.71	-1.25	-0.80
GR**	.50	.25	19.24*	-0.75	0.10	-6.76	-0.94	-0.54
NSE**	.55	.30	27.48*	-0.56	0.13	-4.16	-0.80	-0.30
SW	.34	.12	10.15*	-0.03	0.12	-0.24	-0.27	0.21
Egocentricity								
NBE**	.55	.31	32.39*	-1.04	0.18	-5.93	-1.39	-0.69
GR**	.42	.18	14.70*	-0.59	0.15	-3.84	-0.88	-0.29
NSE**	.53	.28	28.05*	-0.61	0.15	-4.01	-0.90	-0.31
SW**	.36	.13	11.50*	0.34	0.16	2.08	0.03	0.67
Antisociality								
NBE**	.50	.25	26.01*	-0.44	0.16	-2.82	-0.76	-0.15
GR**	.41	.17	11.86*	-0.33	0.14	-2.40	-0.60	-0.06
NSE**	.52	.27	25.43*	-0.44	0.16	-2.66	-0.75	-0.12
SW**	.37	.14	11.82*	0.34	0.14	2.42	0.07	0.62

Notes. NBE = guilt negative behavior-evaluation, GR = guilt-repair, NSE = shame negative self-evaluation, SW = shame-withdraw, *SE* = standard error, LL = lower limit 95% confidence interval, UL = upper limit 95% confidence interval.

*$p < .001$, **Effects considered significant if the 95% confidence interval did not include zero.

Table SC-6

Effects of Moral Emotions on Aggression in Moderated Mediations

	b	*SE*	*t*(326)	LL	UL
Proactive Aggression					
NBE*	-0.19	0.09	-2.13	-0.36	-0.02
GR*	-0.30	0.10	-2.87	-0.49	-0.11
NSE*	-0.33	0.13	-2.50	-0.58	-0.09
SW	0.11	0.07	1.47	-0.03	0.24
Reactive Aggression					
NBE*	-0.53	0.19	-2.81	-0.90	-0.16
GR*	-0.68	0.19	-3.45	-1.06	-0.30
NSE*	-0.90	0.24	-3.66	-1.35	-0.43
SW*	0.34	0.17	2.04	0.03	0.67

Notes. Association between SW and reactive aggression was solely significant in the model including callousness as independent variable. In the models with egocentricity or antisocial as independent variable, this effect was no longer significant. NBE = guilt negative behavior-evaluation, GR = guilt-repair, NSE = shame negative self-evaluation, SW = shame-withdraw, *SE* = standard error, LL = lower limit 95% confidence interval, UL = upper limit 95% confidence interval.

*Effects considered significant if the 95% confidence interval did not include zero.

Table SC-7

Direct Effects of Psychopathic Traits on Aggression Subtypes in Moderated Mediations

	R	R^2	*F*(6, 326)	*b*	*SE*	*t*(326)	LL	UL
Callousness								
Proactive Aggression**	.59	.35	9.85*	0.84	0.24	3.22	0.36	1.30
Reactive Aggression	.44	.19	11.28*	0.60	0.41	1.46	-0.23	1.37
Egocentricity								
Proactive Aggression**	.58	.33	9.98*	0.55	0.25	2.10	0.06	1.05
Reactive Aggression**	.48	.23	15.39*	2.09	0.53	3.97	1.04	3.11
Antisociality								
Proactive Aggression**	.58	.33	10.31*	0.81	0.22	3.63	0.41	1.26
Reactive Aggression**	.59	.35	28.43*	3.37	0.43	7.81	2.54	4.23

Notes. Callousness was positively associated with reactive aggression in the model including SW as mediator ($R = .43$, $R^2 = .18$, $F(6, 326) = 11.32$, $p < .001$, $b = 1.15$, $SE = 0.37$, $t(326) = 3.16$, [0.40, 1.84]). As depicted in the table, in the models including guilt negative behavior-evaluation (NBE), guilt-repair (GR) or shame negative self evaluations (NSE) as mediators, the link between callousness and reactive aggression was not significant. Moreover, the association between egocentricity and proactive aggression was not significant in the model including NBE as mediator. *SE* = standard error, LL = lower limit 95% confidence interval, UL = upper limit confidence interval.

*$p < .001$, **Effects considered significant if the 95% confidence interval did not include zero.

Table SC-8

Interaction of Moral Disengagement on Associations Between Psychopathic Traits and Aggression

	R^2	$F(1, 326)$	b	SE	$t(326)$	LL	UL
Callousness							
Proactive Aggression****	.06	9.97**	2.66	0.76	3.16	1.18	4.18
Reactive Aggression[a]	.01	3.48	1.84	0.96	1.87	-0.13	3.63
Egocentricity							
Proactive Aggression****	.07	18.02***	3.48	0.79	4.25	1.90	4.99
Reactive Aggression****[b]	.01	4.20*	2.60	1.24	2.05	0.02	4.93
Antisociality							
Proactive Aggression****	.05	9.19**	2.73	0.86	3.03	1.08	4.48
Reactive Aggression[c]	.01	3.73	2.33	1.18	1.93	0.01	4.63

Notes. SE = standard error, LL = lower limit 95% confidence interval, UL = upper limit 95% confidence interval.

[a] Moral disengagement did not moderate the relationship between callousness and reactive aggression in the models including NBE, NSE and SW as mediators. However, this interaction was significant in the model including GR as mediator (R^2 = .01, $F(1, 326) = 4.08$, b = 1.83, SE = 0.89, $t(326) = 2.02$, [0.03, 3.51]).

[b] Moral disengagement moderated the link between egocentricity and reactive aggression in the models including guilt (NBE or GR) as mediators (as depicted in the table). However, this effect was not significant in the models including shame (NSE or SW) as mediators.

[c] According to the 95% confidence interval, moral disengagement moderated the relationship between antisocial and reactive aggression in the model including NBE as mediator; nevertheless, the F-test was not significant. Moreover, the interaction effect was not significant in the models including GR or NSE as mediators. In the model including SW as mediator, the interaction effect was significant according to the 95% confidence intervals, but the model was not significant according to the F-test.

*p < .05, **p < .01, ***p < .001, ****Effects considered significant if the 95% confidence interval did not include zero.

Table SC-9

Simple Slopes of Moderations

	b	*SE*	*t*(326)	LL	UL
Callousness					
Proactive Aggression					
Average MD*	0.84	0.26	3.22	0.33	1.36
High MD*	1.65	0.39	4.21	0.88	2.42
Reactive Aggression					
Average MD[a]	0.63	0.38	1.65	-0.12	1.39
High MD*	1.19	0.51	2.31	0.18	2.20
Egocentricity					
Proactive Aggression					
Average MD*[b]	0.74	0.25	2.93	0.24	1.23
High MD*	1.77	0.41	4.36	0.97	2.57
Reactive Aggression					
Low MD[c]	1.31	0.70	1.87	-0.07	2.68
Average MD*	2.09	0.53	3.97	1.06	3.13
High MD*	2.88	0.61	4.77	1.69	4.07
Antisociality					
Proactive Aggression					
Average MD*	0.81	0.22	3.63	0.37	1.25
High MD*	1.64	0.41	4.01	0.84	2.44
Reactive Aggression[d]					
Low MD*	2.67	0.65	4.08	1.38	3.94
Average MD*	3.37	0.43	7.81	2.52	4.22
High MD*	4.08	0.46	8.81	3.17	4.99

Notes. Only significant effects displayed. MD = moral disengagement, *SE* = standard error, LL = lower limit 95% confidence interval, UL = upper limit 95% confidence interval.

[a] This was significant on the model including SW as mediator.

[b] This was not significant in the model including NBE as mediator.

[c] This was significant in the model including GR as mediator. Moreover, this was also significant in models including NSE or SW as mediators; however, the interaction effect in general was not significant in these models.

[d] The association between antisocial and reactive aggression was significant at all levels of moral disengagement according to the slopes tests. However, the interaction effect in general was not significant.

*Effects considered significant if the 95% confidence interval did not include zero.

Sensitivity Analyses: Removing Guilt Item from LSRP

Summary

- Across models, callousness was positively associated with proactive aggression. While callousness was initially associated with reactive aggression, this link was no longer significant when including moral emotions and moral disengagement in the model. These findings are in line with the manuscript's results.
- In line with manuscript's findings, callousness was negatively associated with NBE, GR and NSE.
- Path b coefficients also aligned with manuscript's results, with GR being negatively associated with proactive aggression, NSE negatively linked to both aggression subtypes, and SW positively related to both aggression subtypes.
- Indirect effects were in line with manuscript's findings, with NSE mediating relationships between callousness and both aggression subtypes. In contrast to manuscript's findings, GR also emerged as a significant mediator, however, this association was marginal.
- High moral disengagement strengthened the relationship between callousness and both aggression subtypes. However, the moderating effect for reactive aggression was not significant in post-hoc tests.
- Aligning with manuscript's findings, moral disengagement did not moderate the relationship between callousness and moral emotions, and there were no significant moderated mediation effects.

Detailed Results

Results revealed that callousness and the covariates explained 19.3% of the variation in proactive aggression ($R = .44$, $F(3, 329) = 26.28$, $p < .001$). This proportion increased to 27.9% when including moral emotions in the model ($R = .53$, $F(7, 325) = 18.02$, $p < .001$), and to 36.1% when including moral disengagement in the model ($R = .60$, $F(9, 323) = 7.18$, $p < .001$). Callousness was positively linked to proactive aggression ($\beta = 0.29$, $SE = 0.17$, $t(329) = 5.63$, $p < .001$, [0.61, 1.27]), and this association remained significant when including moral emotions as mediators ($\beta = 0.18$, $SE = 0.23$, $t(325) = 3.21$, $p < .01$, [0.13, 1.03]), and moral disengagement as moderator ($b = 0.49$, $SE = 0.21$, $t(323) = 2.27$, $p < .05$, [0.08, 0.89]). Moreover, callousness and the covariates explained 7.2% of the variation in reactive aggression ($R = .27$, $F(3, 329) = 8.47$, $p < .001$). This proportion increased to 21.6%

when including moral emotions (R = .46, F(7, 325) = 12.77, p < .001), and to 25.2% when including moral disengagement in the model (R = .50, F(9, 323) = 11.13, p < .001). Callousness was positively associated with reactive aggression (β = 0.18, SE = 0.35, t(329) = 3.24, p < .01, [0.44, 1.81]); however, this association was no longer significant when including moral emotions and moral disengagement in the model.

Aligning with manuscript's findings, callousness was negatively associated with NBE, GR and NSE (see Tables SC-10 and SC-12). Similarly, GR and NSE were negatively linked, and SW positively related to proactive aggression. NSE was negatively, and SW positively associated with reactive aggression in the models (see Tables SC-11 and SC-13). Turning to indirect effects, findings revealed that NSE (β = 0.05, SE = 0.02, [0.01, 0.08]) mediated the relationship between callousness and proactive aggression. In addition, GR marginally mediated the association with proactive aggression (β = 0.04, SE = 0.02, [0.002, 0.08]). Lastly, only NSE mediated the association between callousness and reactive aggression (β = 0.06, SE = 0.02, [0.02, 0.10]).

Furthermore, moral disengagement moderated the relationship between callousness and proactive aggression (R^2 = .06, F(1, 323) = 11.67, p < .001, b = 2.39, SE = 0.67, [1.07, 3.68]). Specifically, the relationships between callousness and proactive aggression became stronger as moral disengagement values increased. This effect was significant at average (b = 0.49, SE = .22, t(323) = 2.27, p < .05, [0.07, 0.91]) and high (b = 1.21, SE = 0.37, t(323) = 3.31, p < .01, [0.49, 1.94]) values of moral disengagement. In addition, the interaction effect of moral disengagement on the relationship between callousness and reactive aggression was significant (b = 1.72, SE = 0.83, [0.06, 3.29]). However, simple slopes analysis and the Johnson-Neyman method revealed that the interaction was not significant at any values of moral disengagement. Findings revealed that moral disengagement did not moderate the associations between callousness and moral emotions. Lastly, there was no evidence of moderated mediation effects across models.

Table SC-10

Associations Between Callousness and Moral Emotions in Mediation Model

	R	R^2	*F*(3, 329)	β	*SE*	*t*(329)	LL	UL
NBE**	.53	.29	43.62*	-0.43	0.11	-8.79	-1.14	-0.73
GR**	.44	.20	26.59*	-0.33	0.09	-6.40	-0.78	-0.42
NSE**	.49	.24	35.11*	-0.21	0.10	-4.18	-0.61	-0.20
SW	.24	.06	6.45*	0.08	0.11	1.42	-0.07	0.37

Note. SE = standard error, LL = lower limit confidence interval, UL = upper limit confidence interval, NBE = guilt negative behavior-evaluation, GR = guilt-repair, NSE = shame negative self-evaluation, SW = shame-withdraw.

*$p < .001$, **Effects considered significant if the 95% confidence interval did not include zero.

Table SC-11

Associations Between Moral Emotions and Aggression Subtypes in Callousness Mediation Model

	Proactive Aggression					Reactive Aggression				
	β	SE	*t*(325)	LL	UL	β	SE	*t*(325)	LL	UL
NBE	-0.04	0.10	-0.60	-0.26	0.14	-0.24	0.19	-1.13	-0.63	0.13
GR	-0.12*	0.10	-1.80	-0.40	-0.01	-0.37	0.21	-1.61	-0.79	0.05
NSE	-0.22*	0.15	-3.09	-0.66	-0.08	-0.90*	0.26	-3.80	-1.40	-0.38
SW	0.15*	0.08	2.96	0.11	0.41	0.73*	0.17	4.25	0.40	1.07

Note. SE = standard error, LL = lower limit confidence interval, UL = upper limit confidence interval, NBE = guilt negative behavior-evaluation, GR = guilt-repair, NSE = shame negative self-evaluation, SW = shame-withdraw.

*Effects considered significant if the 95% confidence interval did not include zero.

Table SC-12

Associations Between Callousness and Moral Emotions in Moderated Mediation Model

	R	R^2	*F*(5, 327)	*b*	*SE*	*t*(327)	LL	UL
NBE**	.58	.34	41.28*	-0.79	0.11	-7.11	-1.00	-0.57
GR**	.46	.22	15.97*	-0.54	0.10	-5.37	-0.72	-0.34
NSE**	.51	.26	24.53*	-0.32	0.11	-2.76	-0.54	-0.10
SW	.34	.12	10.24*	0.02	0.11	0.15	-0.20	0.23

Note. SE = standard error, LL = lower limit confidence interval, UL = upper limit confidence interval, NBE = guilt negative behavior-evaluation, GR = guilt-repair, NSE = shame negative self-evaluation, SW = shame-withdraw.

*$p < .001$, **Effects considered significant if the 95% confidence interval did not include zero.

Table SC-13

Associations Between Moral Emotions and Aggression Subtypes in Callousness Moderated Mediation Model

	Proactive Aggression					Reactive Aggression				
	b	*SE*	*t*(325)	LL	UL	*b*	*SE*	*t*(325)	LL	UL
NBE	-0.03	0.10	-0.29	-0.22	0.17	-0.11	0.20	-0.57	-0.51	0.28
GR	-0.22*	0.10	-2.17	-0.41	-0.03	-0.37	0.21	-1.79	-0.76	0.04
NSE	-0.31*	0.14	-2.09	-0.60	-0.04	-0.83*	0.26	-3.07	-1.34	-0.32
SW	0.19*	0.07	2.57	0.05	0.33	0.57*	0.17	3.31	0.24	0.90

Note. SE = standard error, LL = lower limit confidence interval, UL = upper limit confidence interval, NBE = guilt negative behavior-evaluation, GR = guilt-repair, NSE = shame negative self-evaluation, SW = shame-withdraw.

*Effects considered significant if the 95% confidence interval did not include zero.

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