

Self-Sacrificing Prosociality Predicts the Pursuit of Outgroup Harm Relative to Ingroup Benefit

Supplementary Material

This document contains supplementary material and information about the measures and analyses employed in the three studies that are reported in the main paper. The game structure of the Volunteer's Dilemma (VoD) game utilized in Studies 1 and 2 are described. The repeated measures analyses of VoD and Intergroup Prisoner's Dilemma-Maximizing Differences games which were conducted in Studies 1 and 2 are outlined. Moderation analyses that utilized retributive justice orientation (which may indicate the role of retaliatory mindsets) as a moderator of the relationship between self-sacrificing prosociality in the VoD10-3 round and outgroup aggression in Study 2 are discussed. Moderation analyses based on the VoD10-10 round as an independent variable of self-sacrificing prosociality as well as vengeance and retributive justice as moderators in Study 2 are explained. The researcher-constructed vignettes to manipulate outgroup threat severity and items to measure support for policies toward ingroup benefit, ingroup defense, and outgroup aggression in Study 3 are detailed. Additional moderated serial mediational analyses based on different outcome variables in Study 3 are presented.

Volunteer's Dilemma game utilized in Studies 1 and 2

The Volunteer's Dilemma game is a social dilemma “where only one contributor or volunteer is needed to provide the group benefit” (Goeree et al., 2017; pp. 2). In a Volunteer's Dilemma game, if at least one of them decides to volunteer and incur a cost, the members of a group will benefit by not losing their payoffs. However, if no member volunteers, then each member will receive a lower payoff. This game is thus suited to be used as a measure of self-sacrificing prosociality (SSP). A member who volunteers to bear a cost for the group, regardless of whether other members volunteer, would be categorized as highly self-sacrificial toward the group.

In Studies 1 and 2, each round of the Volunteer's Dilemma game required the participants to choose between volunteering a portion of a 10-point personal endowment to their group, or keeping the points for themselves. A group member who volunteers is the only player to lose points, while the other four group members benefit by not losing any points. If no one volunteered, all members in the group will individually lose an equal number of points. The points deducted for volunteering (referred to as the cost for volunteering) as well as the points that would be deducted from each member if there was no volunteer (referred to as the cost to group if no member volunteered), varied at three levels – three, five, and 10 points. This arrangement resulted in a 3 x 3 matrix with nine cells that were utilized as game rounds (see Figure 1). For example, in the first cell, the cost of volunteering was three points and the cost to group if no member volunteered was three points. In the ninth cell, the cost of volunteering was ten points and the cost to group if no member volunteered was ten points.

		Cost to Self if volunteered		
		3 points	5 points	10 points
Cost to Group if no member volunteered	3 points			
	5 points			
	10 points			

Figure 1. Volunteer's Dilemma game matrix. Cells that are unshaded were utilized as the seven rounds and cells that are shaded in grey were omitted in Study 1. All cells were utilized as the nine rounds in Study 2.

Repeated measures analyses of VoD and IPD-MD games in Study 1

In the VoD game, participants volunteered 2.38 times on average ($SD = 2.17$). A 2 (cost to self for volunteering: 3 points or 10 points) x 2 (cost to group if no member volunteered: 3 points or 10 points) repeated-measures analysis was conducted to compare the willingness to volunteer in the VoD game.¹ The expectation that other group members will volunteer in the rounds was controlled for. This expectation should be taken into account as this assumption could influence one's willingness or

¹ Three rounds of the volunteer's dilemma were not included in the task: where the cost of volunteering was five and the points that would be deducted from each member if there was no volunteer was five; where the cost of volunteering was five and the points that would be deducted from each member if there was no volunteer was ten; and where the cost of volunteering was ten and the points that would be deducted from each member if there was no volunteer was five. The *a priori* omission of the two rounds in the experimental design limited the inclusion of rounds that involved five points, thus only four game rounds which were based on three or 10 points were submitted in subsequent statistical analyses.

reluctance to volunteer. There was a significant main effect for cost to self for volunteering, $F(1, 118) = 20.33, p < .001, \eta_p^2 = .15$. Participants volunteered more when the cost to self was a deduction of three points ($M = .50, SD = .04$) rather than 10 points ($M = .23, SD = .03$), $p < .001, d = 7.94$. There was a significant main effect for cost to group, $F(1, 118) = 6.77, p = .01, \eta_p^2 = .05$. Participants volunteered more when the cost to group was a deduction of ten points ($M = .42, SD = .04$) than three points ($M = .32, SD = .03$), $p = .002, d = 3.10$. There was no significant interaction effect, $F(1, 118) = .02, p = .88$.

For the IPD-MD game, participants contributed an average of 3.78 points ($SD = 2.71$) to pool A, 2.03 points ($SD = 1.71$) to pool B, and kept 4.19 points ($SD = 3.08$). To compare the amount of point contributions in the IPD-MD game, a 2 (pool type: A or B) $\times$ 6 (bonus reward: 0, 10, 30, 50, 70, 100) repeated-measures test was used. There was a significant main effect for pool type emerged, $F(1, 119) = 33.16, p < .001, \eta_p^2 = .22$. Participants contributed more to pool A ($M = 3.78, SD = .25$) than to pool B ($M = 2.03, SD = .16$), $p < .001, d = 8.34$. There was a significant main effect for bonus reward, $F(5, 595) = 3.88, p = .002, \eta_p^2 = .03$. Participants contributed more when the bonus reward was 70 points ($M = 3.20, SD = .16$) than 0 points ($M = 2.68, SD = .17$), 10 points ($M = 2.75, SD = .17$), 30 points ($M = 2.84, SD = .17$), and 100 points ($M = 2.95, SD = .16$), $p_s < .05, d_s < 3.12$ (see Figure 2). There was a significant difference between the bonus rewards of 50 points ($M = 3.00, SD = .16$) and the 0 points ($M = 2.95, SD = .16$), $p = .033, d = 1.92$. There was no significant interaction effect, $F(5, 595) = 1.11, p = .35$.

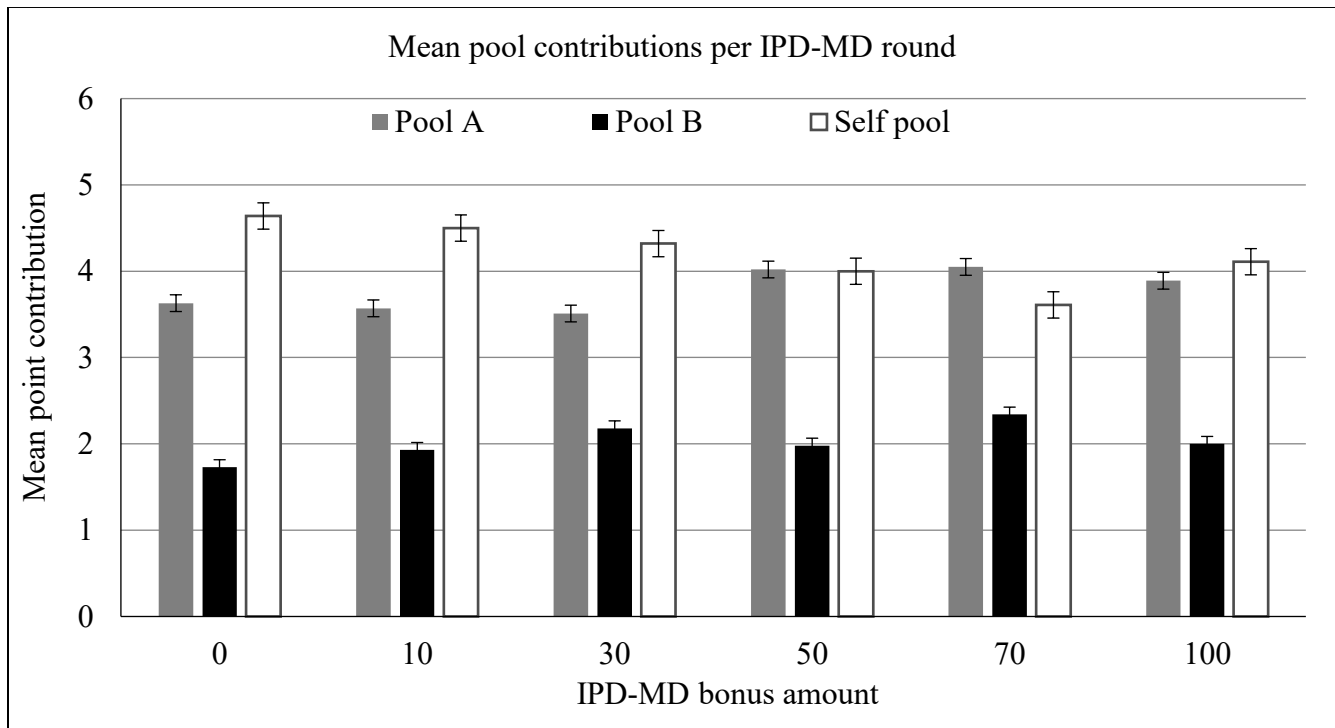


Figure 2. Graph of mean pool contributions in each IPD-MD game round.

Repeated measures analyses of VoD and IPD-MD games in Study 2

Participants volunteered 2.58 times on average ($SD = 2.08$) across the nine VoD rounds. A 3 (cost to self: 3 points, 5 points, 10 points) $\times$ 3 (cost to group: 3 points, 5 points, 10 points) repeated-measures test was conducted to compare the willingness to volunteer in the VoD game. The expectation that group

members will volunteer in the VoD game was included as covariate. There was a significant main effect for cost to self for volunteering, $F(2, 416) = 22.29, p < .001, \eta_p^2 = .10$. Participants volunteered more when the cost to self for volunteering was three points ($M = .45, SD = .03$), than five ($M = .28, SD = .02$) and ten points ($M = .14, SD = .02$), $p_s < .05, d_s < 14.05$. There was a significant main effect for cost to the group if no member volunteered, $F(2, 416) = 7.81, p < .001, \eta_p^2 = .04$. Participants volunteered more when the cost to the group was ten points ($M = .37, SD = .02$), than three points ($M = .22, SD = .02$) and five ($M = .28, SD = .02$), $p_s < .05, d_s < 7.51$. There was no significant interaction effect, $F(4, 832) = 2.06, p = .08$.

For the IPD-MD game, participants contributed an average of 3.05 points ($SD = 2.60$) to pool A, 1.48 points ($SD = 1.29$) to pool B, 1.31 points ($SD = 1.34$) to pool C, and kept 4.17 points ($SD = 2.99$) for themselves. Given that there was no significant effect of whether outgroup behaviors affected oneself together with the ingroup or only other ingroup members on participants' pool contribution patterns, $F(1, 207) = .16, p = .69$, the two levels of outgroup threat target were merged. A 2 (outgroup threat severity: none, low, high) $\times$ 3 (pool type: A, B, C) repeated-measures test compared the amount of point contributions. There was no significant main effect for outgroup threat severity, $F(2, 416) = 2.83, p = .06$. There was a significant main effect for pool type, $F(2, 416) = 24.52, p < .001, \eta_p^2 = .20$. Participants contributed significantly more to pool A ($M = 3.05, SD = .18$) than pool B ($M = 1.48, SD = .09$) and pool C ($M = 1.31, SD = .09$), $p_s < .001, d_s < .12.13$ (see Figure 3). No interaction effect was observed, $F(4, 832) = 1.17, p = .32$.

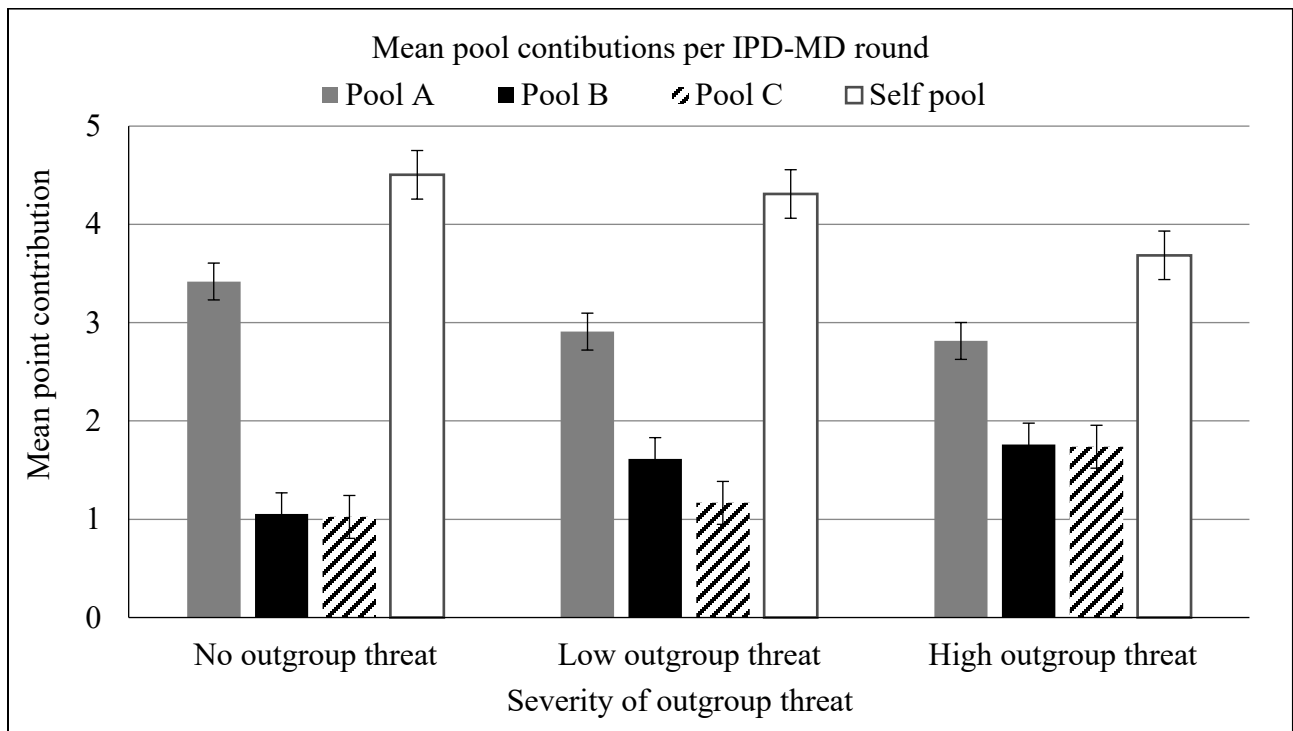


Figure 3. Graph of mean pool contributions for every level of outgroup threat in the IPD-MD game.

Retributive justice as an individual difference measure of retaliatory mindsets in Study 2

Even at the slightest perceived provocations that may not directly threaten the ingroup, highly self-sacrificing members with retributive justice orientations may reason that pre-emptive, aggressive

actions are rightful means of retaliation to restore justice and become willing to self-sacrifice to harm the outgroup. After answering the Vengeance scale, participants responded to the ‘get even’ subscale of the retribution as revenge scale and the proportionality subscale of the retribution as ‘just deserts’ scale designed by Gerber and Jackson (2013). Each item was rated on a 7-point Likert scale that ranged from 1 (not agree at all) to 7 (very strongly agree). Higher scores denoted a higher level of retributive justice ($\alpha = .80$). Retributive justice was tested as a moderator of SSP (using the VoD10-3 round) and pool C contributions when there was low outgroup threat. The game order effects and the expectation that other members would contribute were controlled for. The overall model was significant, $R^2 = .08$, $F(5, 204) = 3.43$, $p = .005$. There were no significant main effects of SSP, $b = -3.16$, $t(204) = -1.89$, $p = .06$, and for retributive justice, $b = .07$, $t(204) = .76$, $p = .45$. There was a significant interaction effect of retributive justice, $b = 1.10$, $t(204) = 2.52$, $p = .01$ (see Figure 4).

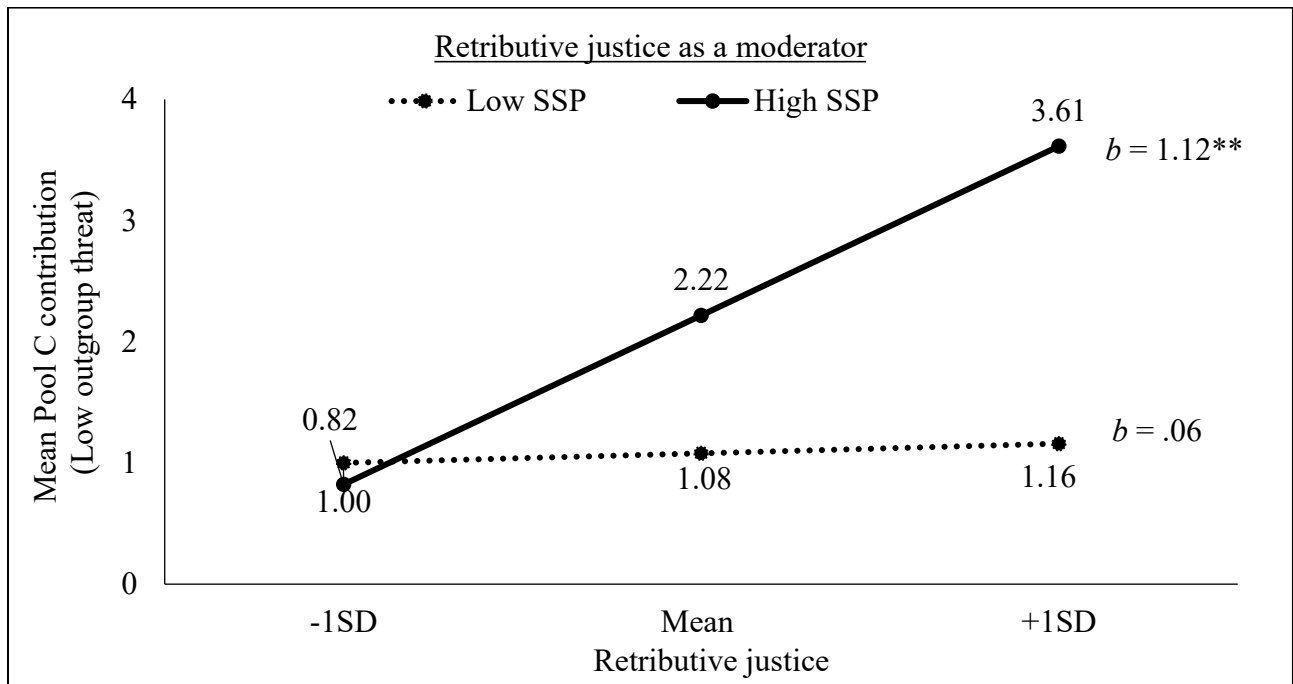


Figure 4. Graph of retributive justice moderating the association between SSP and pool C contributions during low outgroup threat. $*p \leq .05$, $**p \leq .01$, $***p \leq .001$.

Among members with high SSP, retributive justice significantly predicted pool C contributions, $b = 1.17$, $t(204) = 2.75$, $p = .007$. For members with low SSP, retributive justice did not predict pool C contributions, $b = .07$, $t(204) = .76$, $p = .45$. This moderation effect was only observed for pool C contributions when outgroup threat was low and was not found for contribution to pool C when the severity of outgroup threat was absent or high, as well as for contributions to pools A and B under the three severity levels of outgroup threat, $p_s > .09$. This finding may suggest that members with high SSP and a strong sense of retributive justice may more likely to harm the outgroup in the absence of direct outgroup threat, compared to solely helping the ingroup. Thus, this finding about retributive justice lends support to Hypothesis 2, which predicted vengeful mindsets (which may relate to the role of retaliatory mindsets) would moderate the link between SSP and outgroup aggression in the absence of outgroup threat. In the low outgroup threat level where the harm to ingroup was deliberate, highly self-sacrificing members could have been more retributive justice-seeking that entails them to proportionally

and justifiably punish the aggressors, which may have led them to prioritize harming the outgroup over benefitting the ingroup.

Moderation models based on VoD10-10 round as a measure of SSP for Study 2

In Study 2, the moderating effects of vengeance observed for VoD10-3 round ($n_{\text{low SSP}} = 190$; $n_{\text{high SSP}} = 20$) were similarly found for VoD10-10 ($n_{\text{low SSP}} = 166$; $n_{\text{high SSP}} = 44$). There were more individuals with high SSP in the VoD10-10 round compared to that in the VoD10-3 round. The two moderation models using SSP based on the VoD10-3 round as the independent variable, were analyzed with the VoD10-10 round as the independent variable. In the first model, the moderating variable was vengeance and the dependent variable was pool C contributions when there was no outgroup threat. The IPD-MD game order effects and the expectations that other members would contribute were controlled for. The overall model was significant, $R^2 = .11$, $F(5, 204) = 4.79$, $p < .001$. There was a significant interaction effect of vengeance moderating the association between SSP and pool C contributions when there was no threat from the outgroup, $b = .79$, $t(204) = 3.54$, $p < .001$ (see Figure 5). Among members with high SSP, vengeance predicted contributions to pool C, $b = .81$, $p < .001$. For members who had low SSP, vengeance did not predict contributions to pool C, $b = .02$, $p = .85$.

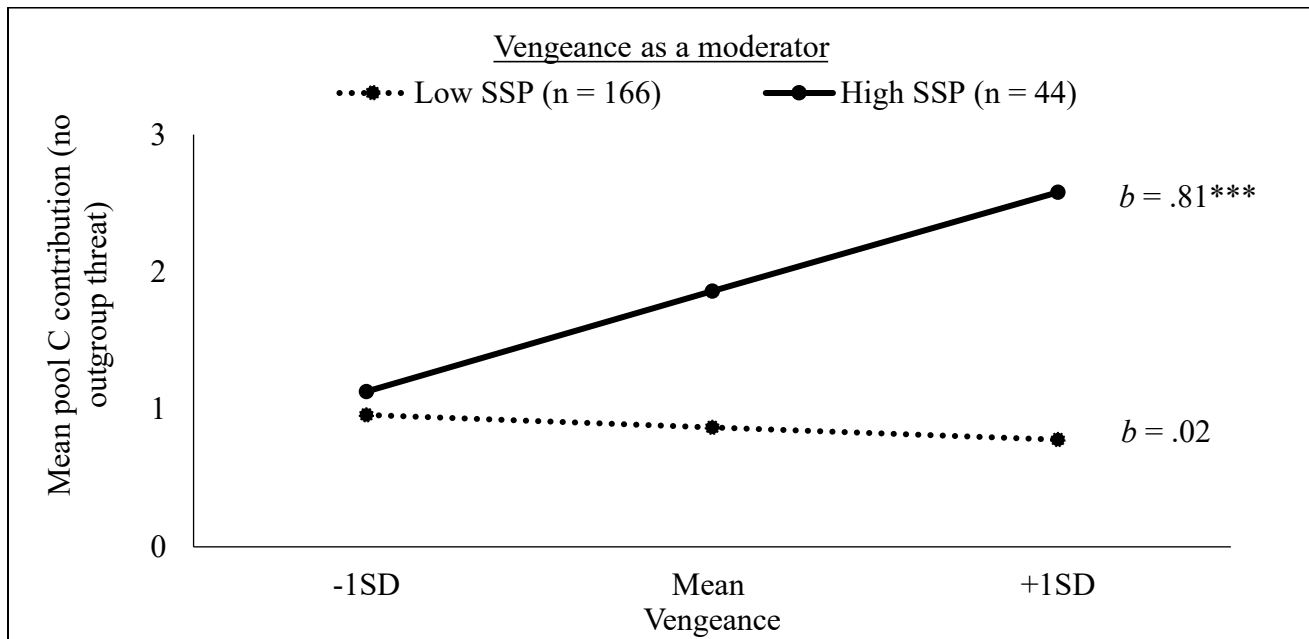


Figure 5. Moderating effect of vengeance on self-sacrificing prosociality based on VoD10-10 round and pool C contributions when outgroup threat was absent.

In the second model, the moderating variable was retributive justice and the dependent variable was pool C contributions when there was low outgroup threat. The IPD-MD game order effects and the expectations that other members would contribute were controlled for. The overall model was significant, $R^2 = .09$, $F(5, 204) = 3.86$, $p < .01$. There was a significant interaction effect of retributive justice moderating the association between SSP and pool C contributions when there was low threat from the outgroup, $b = .69$, $t(204) = 3.27$, $p < .01$ (see Figure 6). Among members with high SSP, retributive justice predicted contributions to pool C, $b = .61$, $p < .01$. For members who had low SSP, retributive justice did not predict contributions to pool C, $b = -.08$, $p = .43$.

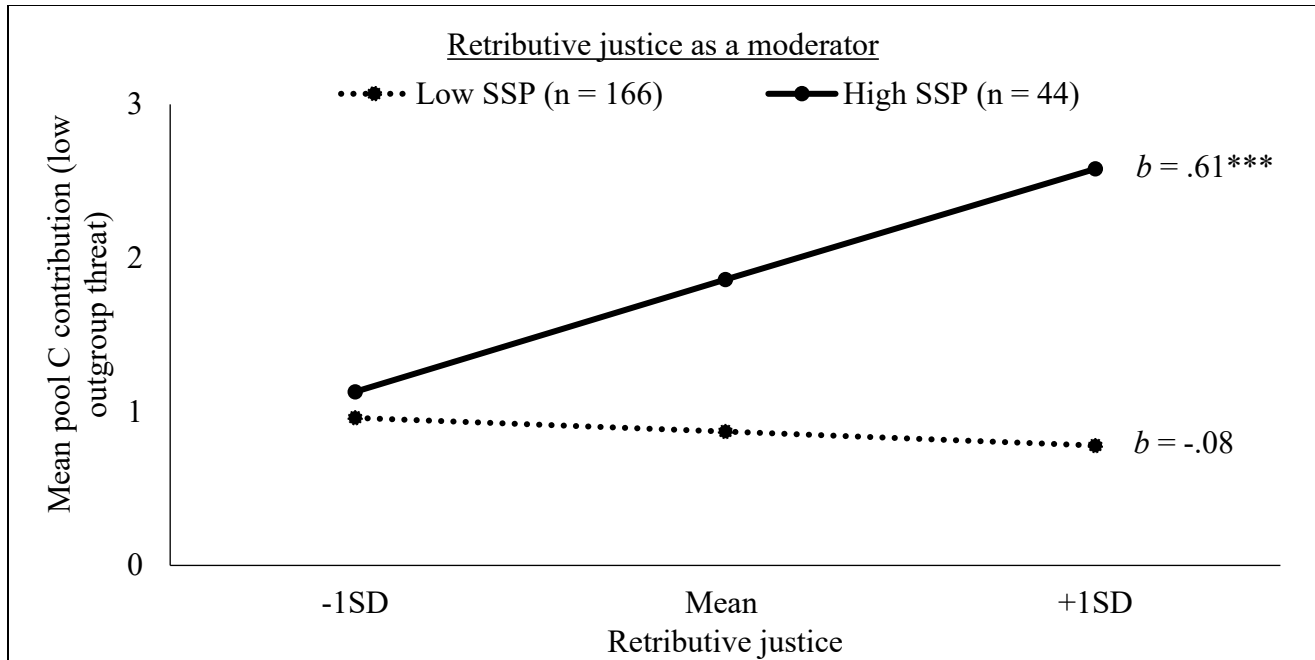


Figure 6. Moderating effect of retributive justice on self-sacrificing prosociality based on VD10-10 round and pool C contributions when outgroup threat was low.

Outgroup threat vignettes used in Study 3

The following vignettes were used in Study 3 to portray the ultraconservative Islamic group as gaining or losing membership strength and influence within the American society respectively.

Imagine an organization based in America who are ultraconservative Muslims and are advocating Islamic fundamentalist beliefs and practices. This group champions principles and values interpreted from orthodox Islamist doctrines that forbid marriages between Muslims and non-Muslims, depict pluralism and liberalism as incompatible with the Islamic civilization and encourage the enforcement of Sharia law as the way to solve and stop problems like racism, corruption, drug abuse, homosexuality and promiscuity. The group has issued an official announcement on its website that it is not linked to or sympathizes with any domestic or international terrorist network. These claims have indeed been confirmed to be accurate based on joint investigative probes conducted by the Department of Justice, Department of Homeland Security, and the FBI. The group has a growing community of strong supporters, mosque organizations, and charity donors across the U.S. The group has engaged in both online and offline efforts to spread awareness of its brand of Islam and increase membership, through several outreach programs that include distribution of pamphlets and audio-visual recordings of their sermons catered for children and adults. Overall, these efforts have been very successful. Recent events like private group discussions and talks on the historical development of Islamist theory that the group organized, have been well-attended. The growing members of this group are currently seeking for a better recognition of their interests in the U.S., and plan to conduct public rallies and demonstrations which are expected to receive high levels of interest and attendance.

Imagine an organization based in America who are ultraconservative Muslims and are advocating Islamic fundamentalist beliefs and practices. This group champions principles and values interpreted from orthodox Islamist doctrines that forbid marriages between Muslims and non-Muslims, depict pluralism and liberalism as incompatible with the Islamic civilization and encourage the enforcement of Sharia law as the way to solve and stop problems like racism, corruption, drug abuse, homosexuality and promiscuity. The group has issued an official announcement on its website that it is not linked to or sympathizes with any domestic or international terrorist network. These claims have indeed been confirmed to be accurate based on joint investigative probes conducted by the Department of Justice, Department of Homeland Security, and the FBI. The group has been losing support from its present members, mosque organizations, and charity donors across the U.S. The group has engaged in both online and offline efforts to spread awareness of its brand of Islam and increase membership, through several outreach programs that include distribution of pamphlets and audio-visual recordings of their sermons catered for children and adults. Overall, these efforts have been largely unsuccessful. Recent events like private group discussions and talks on the historical development of Islamist theory that the group organized, have been poorly attended. The remaining members of this group are currently seeking for a better recognition of their interests in the U.S. and have planned to conduct public rallies and demonstrations which are expected to receive limited levels of interest and attendance.

Policy support measures used in Study 3

Table 1 contains the 14-item scale that was used to measure the level of support for the three categories of policy measures. Items 1 to 4 were focused on improving the welfare of Americans, followed by items 5 to 10 that were aimed at restricting the outgroup, and items 11 to 14 were centered on bolstering security for Americans. The support toward each policy proposal was measured on a 10-point scale from not at all supportive (1) to very supportive (10) and was presented in a randomized order.

Table 1

The 14-item scale that measured the level of support for the three policy categories

Suppose that the government has additional funds collected from U.S. taxpayers that could be applied to different programs and policies. For each of the programs/policies described below, please indicate how much you support applying the additional funds to implement them. Please assume that each program/policy will be effective in accomplishing its goals if it is funded. You may click and drag the slider to respond to each program/policy according to the following scale.

1	Provide financial aid to low-income families
2	Improve quality of public schools
3	Support programs to improve affordability and quality of healthcare

4	Provide services for skill training and finding appropriate employment for job seekers
5	Secretly monitor and record every public and private event/meeting held by the Muslim group
6	Forcibly disband the Muslim group
7	Detain leaders and influential members in the Muslim group
8	Restrict rights of members of the Muslim group (e.g., gun ownership, voting, etc)
9	Wiretap and track communication activities of every member in the Muslim group
10	Ban the Muslim group from conducting public talks and circulating its material online and offline
11	Increase preparedness and effectiveness of emergency response services
12	Strengthen law enforcement agencies (manpower, equipment, technology)
13	Strengthen border security (manpower, equipment, technology)
14	Increase security measures at highly crowded events and public places

Additional analyses from Study 3

ANOVA analyses

A 2x2 between-subject ANOVA was used to analyze the effects of American identity salience and outgroup threat severity on policy support toward ingroup benefit, ingroup defense, and outgroup aggression; forced-choice policy measures, countermeasures against actual terror groups; and willingness to engage in increasingly hostile actions against the outgroup. There was no significant main effect of identity salience on the outcome variables, $F_s(1, 295) > .02$, $p_s > .63$. There was no significant main effect of outgroup threat severity on the outcome variables, $F_s(1, 295) > .001$, $p_s > .38$. There was no significant interaction effect of identity salience and outgroup threat severity on policy support for ingroup defense, forced-choice policy measures, support for measures against actual terror groups, and willingness to engage in increasingly hostile outgroup actions, $F_s(1, 295) > .48$, $p_s > .06$. There were significant interaction effects of identity salience and outgroup threat severity on policy support toward ingroup benefit and outgroup harm, $F_s(1, 295) < 3.92$, $p_s < .05$. However, pairwise comparisons showed that there was no significant difference between the conditions on policy support toward ingroup benefit

and outgroup harm, $p_s > .09$. After reading a vignette about the ultraorthodox Islamic group either losing or gaining strength and membership, participants were asked to rate their favorability of this group on a feeling thermometer scale that ranged from 0 (Unfavorable and cold) to 100 (Favorable and warm). Higher scores indicated higher levels of favorability toward the outgroup. There was no significant difference in favorability ratings of the Islamic group portrayed as strong ($n = 150$, $M = 26.95$, $SD = 24.14$) or weak ($n = 149$, $M = 24.27$, $SD = 24.53$), $F(1, 297) = .91$, $p = .34$. The outgroup threat severity variable was used as a covariate in subsequent analyses.

Moderated serial mediational pathways

Table 2 presents moderated mediational analyses that were conducted using eight different outcome variables which were (1) support for policies to benefit the welfare of Americans, (2) support for policies to bolster security for Americans, (3) support for restrictive policies towards the outgroup, (4) forced-choice support for the restrictive policy program toward the ultraorthodox group, (5) forced-choice support for the policy program to increase the welfare of Americans, (6) forced-choice support for the policy program to improve the security of Americans, (7) support for anti-terror policies, and (8) support for posse actions. The outgroup threat severity variable was controlled for.

Table 2

Regression coefficients of moderated mediational analyses with SSP and anticipations of outgroup hostility mediating the relationship between identity salience and outcome measures

	B	S.E	<i>t</i>	95% CI
Mediator variable models				
Readiness to self-sacrifice				
Constant	3.30***	.14	23.94	3.03, 3.57
Identity fusion	.47**	.16	2.94	.15, .78
Outgroup strength (covariate)	.10	.16	.65	-.21, .42
$F(2, 296) = 4.40^{**}$				
$R^2 = .03$				
Anticipations of outgroup hostility				
Constant	3.68***	.64	5.71	2.41, 4.94
Identity fusion	.24	.21	1.18	-.16, .65

Readiness to self-sacrifice	-.22	.17	-1.28	-.56, .12
Vengeance	-.24	.21	-1.16	-.64, .17
Readiness to self-sacrifice x Vengeance	.15**	.05	2.76	.04, .26
Outgroup strength (covariate)	.06	.20	.31	-.34, .47
$F(5, 293) = 6.03***$				
$R^2 = .09$				
Dependent variable models				
(1) Support for policies to benefit the welfare of Americans				
Constant	9.55***	.45	21.1	8.66, 10.44
Identity fusion	.18	.27	.68	-.35, .71
Readiness to self-sacrifice	-.45***	.10	-4.60	-.64, -.26
Anticipations of outgroup hostility	-.11	.07	-1.48	-.26, .04
Outgroup strength (covariate)	-.24	.27	-.89	-.76, .29
$F(4, 294) = 6.90***$				
$R^2 = .09$				
(2) Support for policies to bolster security for Americans				
Constant	2.43***	.45	5.39	1.54, 3.32
Identity fusion	-.51	.27	-1.88	-1.04, .02
Readiness to self-sacrifice	.66***	.10	6.75	.47, .85
Anticipations of outgroup hostility	.38***	.07	5.13	.23, .52

Outgroup strength (covariate)	-.09	.26	-.34	-.61, .43
$F(4, 294) = 21.48***$				
$R^2 = .23$				
(3) Support for punitive policies against the ultraconservative outgroup				
Constant	-2.19***	.49	-4.48	-3.16, -1.23
Identity fusion	-.51	.29	-1.73	-1.08, .07
Readiness to self-sacrifice	.52***	.11	4.90	.31, .73
Anticipations of outgroup hostility	.81***	.08	10.03	.65, .96
Outgroup strength (covariate)	-.20	.29	-.68	-.76, .37
$F(4, 294) = 36.26***$				
$R^2 = .33$				
(4) Support for restrictive policy program toward the ultraorthodox Islamic group (forced choice)				
Constant	-11.09***	2.75	-4.03	-16.51, -5.68
Identity fusion	-1.91	1.64	-1.16	-5.14, 1.32
Readiness to self-sacrifice	3.03***	.60	5.08	1.86, 4.20
Anticipations of outgroup hostility	2.94***	.45	6.52	2.05, 3.83
Outgroup strength (covariate)	2.10	1.61	1.31	-1.07, 5.28
$F(4, 294) = 21.10***$				
$R^2 = .22$				
(5) Support for the policy program to increase the welfare of Americans (forced choice)				

Constant	90.96***	4.23	21.51	82.64, 99.28
Identity fusion	5.01*	2.52	1.98	.04, 9.97
Readiness to self-sacrifice	-7.68***	.92	-8.39	-9.49, -5.88
Anticipations of outgroup hostility	-2.95***	.69	-4.26	-4.31, -1.58
Outgroup strength (covariate)	1.51	2.48	.61	-3.36, 6.39
$F(4, 294) = 25.83***$				
$R^2 = .26$				
(6) Support for the policy program to improve the security of Americans (forced choice)				
Constant	20.13***	3.74	5.39	12.77, 27.49
Identity fusion	-3.10	2.23	-1.39	-7.48, 1.29
Readiness to self-sacrifice	4.65***	.81	5.75	3.06, 6.25
Anticipations of outgroup hostility	.007	.61	.01	-1.20, 1.21
Outgroup strength (covariate)	-3.62	2.19	-1.65	-7.93, .69
$F(4, 294) = 9.04***$				
$R^2 = .11$				
(7) Support for anti-terror policies				
Constant	.20	.55	.37	-.87, 1.27
Identity fusion	-.64	.33	-1.96	-1.28, .004
Readiness to self-sacrifice	.76***	.12	6.40	.52, .99
Anticipations of outgroup hostility	.44***	.09	4.90	.26, .61

Outgroup strength (covariate)	-.08	.32	-.26	-.71, .55
$F(4, 294) = 19.44^{***}$				
$R^2 = .21$				
(8) Support for posse actions				
Constant	.31	.23	1.34	-.15, .77
Identity fusion	-.16	.14	-1.18	-.44, .11
Readiness to self-sacrifice	.37***	.05	7.30	.27, .47
Anticipations of outgroup hostility	.24***	.04	6.23	.16, .31
Outgroup strength (covariate)	-.03	.14	-.20	-.30, .24
$F(4, 294) = 27.64^{***}$				
$R^2 = .27$				
<i>Conditional Indirect effect at Vengeance $\pm 1SD$</i>				
-1SD (1.74)	.04	.10	.42	-.15, .23
Mean (2.97)	.23**	.07	3.04	.08, .37
+1SD (4.21)	.41***	.10	3.94	.21, .61

Note. The four outcome variables were support for punitive outgroup policies, support for punitive outgroup policies (forced choice), support for anti-terror policies, and support for posse actions.

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

References

- Gerber, M. M., & Jackson, J. (2013). Retribution as revenge and retribution as just deserts. *Social Justice Research*, 26(1), 61-80.
- Goeree, J. K., Holt, C. A., & Smith, A. M. (2017). An experimental examination of the volunteer's dilemma. *Games and Economic Behavior*, 102, 303-315.