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‘Return of the Repressed’: Exposure to Police Violence increases Protest and Self-Sacrifice intentions for the *Yellow Vests*.

Jais Adam-Troian[1], Elif Çelebi[2], Yara Mahfud[3]

Abstract

Worldwide, it is not uncommon to observe violent police reactions against social movements. These are often rationalized by decision-makers as efficient ways to contain violence from protesters. In France for instance, the ongoing Yellow Vests protests have generated an unprecedented number of casualties, injuries and convictions among protesters. But was this response efficient in diminishing violence stemming from the Yellow Vests? To this day, little is known about the psychological consequences of police violence in the context of protests. Combining insights from Significance Quest Theory and the Social Identity perspective on collective action, we predicted that exposure to police violence could ‘backfire’ and lead to *increased* radicalization of protesters. A cross-sectional investigation of 523 Yellow Vests yielded evidence for this hypothesis. We found positive direct effects of exposure to police violence on intentions to attend future demonstrations and to self-sacrifice for the Yellow Vests. Moreover, these effects were serially mediated by perceived Loss of Significance and Identification with the Yellow Vests. Paradoxically, these results highlight for the first time the mechanism through which political repression may contribute to the formation of radical politicized identities. Thus, we recommend that decision-makers privilege the use of de-escalation techniques in protest policing whenever possible.

Keywords: Yellow Vests Protest, Police Violence, Radicalization, Significance Quest, Significance Loss, Politicized Identities.

***Corresponding Author*:** Jais Adam-Troian, American University of Sharjah, University of Sharjah, Sharjah, UAE, jadam@aus.edu, +905539054791.

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[1] PhD., Department of International Studies, American University of Sharjah, UAE
[2] PhD., Department of Psychology, Istanbul Şehir University, Turkey
[3] PhD., Department of Psychology, Paris-5 University, France

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Abstract

Worldwide, it is not uncommon to observe violent police reactions against social movements. These are often rationalized by decision-makers as efficient ways to contain violence from protesters. In France for instance, the ongoing Yellow Vests protests have generated an unprecedented number of casualties, injuries and convictions among protesters. But was this response efficient in diminishing violence stemming from the Yellow Vests? To this day, little is known about the psychological consequences of police violence in the context of protests. Combining insights from Significance Quest Theory and the Social Identity perspective on collective action, we predicted that exposure to police violence could ‘backfire’ and lead to *increased* radicalization of protesters. A cross-sectional investigation of 523 Yellow Vests yielded evidence for this hypothesis. We found positive direct effects of exposure to police violence on intentions to attend future demonstrations and to self-sacrifice for the Yellow Vests. Moreover, these effects were serially mediated by perceived Loss of Significance and Identification with the Yellow Vests. Paradoxically, these results highlight for the first time the mechanism through which political repression may contribute to the formation of radical politicized identities. Thus, we recommend that decision-makers consider the use of de-escalation techniques in protest policing whenever possible.

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1. Introduction

Since November the 17th of 2018, protesters from the so-called 'Yellow Vests' (YV) movement have been consistently demonstrating every Saturday of each week. Departing from their original concerns for tax fairness, the YV now expanded their demands to include institutional reforms aiming to increase direct democratic processes (e.g. the possibility to conduct citizen-initiated referendums). Starting as a series of peaceful demonstrations, the YV movement quickly escalated into violence along with increasing police violence on their members.

During these protests, one person died and 4190 were injured, often with permanent disfigurement, cranial damages, eye-losses due to the use of grenades and rubber ammunition launchers by French law enforcement agents (Jetten, Mols, & Selvanathan, 2020). More than 8700 YV were placed into custody, which lead to 2000 convictions, including 390 prison sentences. This unprecedented level of police violence was noted by the United Nations' High Commissioner to Human Rights (see UN, 2019) which observed that '*restrictions on rights have also resulted in a high number of arrests and detentions, searches and confiscations of demonstrators' possessions, and serious injuries have been caused by a disproportionate use of so-called 'non-lethal' weapons like grenades and defensive bullets or 'flashballs'* (UN, 2019; p.1).

The umbrella term 'police violence' designates the use of force by law enforcement agents in a disproportionate way. Police violence in response to social movements frequently occurs worldwide (e.g. the 2013 Gezi protests in Turkey, 2018 Venezuelan Protests, 2019 Hong Kong Protests). This includes exertion of violence on non-violent protesters or using weapons in a way that is forbidden by law enforcement's code of conduct (e.g. firing dispersion grenades directly on a protester and not on the ground).

Police violence exerted on citizens from minority groups has been the focus of epidemiological and psychological research (e.g. Alang, McAlpine, McCreedy, & Hardeman, 2017). In fact, evidence shows that police officers disproportionately target minority group members for random 'stop-and-search' procedures (Del Toro et al., 2019). Though this kind of behaviour from police agents is often enacted with the intention to prevent crime among 'at-risk' populations, research shows that they may actually produce the *reverse* effect. Besides consequent damages on health (DeVylder, Oh, Nam, Sharpe, Lehmann, & Link, 2017), police abuse (which sometimes includes violence) is a risk factor in and of itself for criminal behaviour among minority youth (due to the psychological distress and strain they generate, see Del Toro et al., 2019).

In a similar way, States use police violence with the intention to prevent social movements from growing into riots, to contain violence among them or even suppress them. Despite the appeal of this crowd management strategy among policy makers and law enforcement (sometimes stemming from stereotypes of crowds behaving as '*mad mobs*'; Drury, Stott, & Farsides, 2003) an intergroup relations approach to police violence in the context of protests suggests it often leads to deleterious consequences (e.g. protester's radicalization in response; see Reicher, Stott, Cronin, & Adang, 2004). Yet, few studies have investigated the consequences of exposure to police violence (EPV) during protests, let alone in terms of subsequent protest attendance and enactment of protest violence. Therefore, given the prevalence of repressive responses to protests worldwide and their unprecedented scale in the context of the YV movement, we set out to investigate whether EPV could affect individuals' protest behaviour.

1.1.Police violence in protest contexts.

Scarce but cumulating empirical evidence currently points at a general propensity of EPV to generate backlash among protesters. Studies of aggregated data from large social movements

show that use of violence by law enforcement increases dissident mobilization (Anisin, 2016) and that repressive policing may increase protest participation (Aytaç, Schiumerini, & Stokes, 2018). Relatedly, findings from social psychology have established that perceived unfair and violent treatment from law enforcement agents is linked with increased levels of violence in protests (Jetten and al., 2020). For instance, in the context of Occupy Wall Street protests, protesters who perceived police use of force as unjust were significantly more likely to legitimize use of violence against law enforcement (Maguire, Barak, Wells & Katz, 2018). In fact, among the sample investigated by Maguire et al. (2018), perception of unfair treatment by police was the strongest positive predictor of endorsement of violence against law enforcement.

This phenomenon seems to be rooted in several factors. First, there is evidence for considering the role of procedural justice perceptions in shaping judgments of violence as a legitimate means to attain one's goals. As an illustration, Jackson, Huq, Bradford, & Tyler (2013) found a positive correlation between perceptions that police act illegitimately and support for political violence among a representative sample of male minority youth in the UK. Therefore, the extent to which police violence is seen as illegitimate might explain why EPV leads to increased violence among protesters. More generally, daily encounters (i.e. quality and quantity of intergroup contact) between citizens and police officers have a lasting impact and can shape subsequent interactions in various other intergroup contexts (such as protests; O'Brien, Tyler, & Meares, 2019)

In addition, a potent explanation for the link between EPV and protesters' violence can be found in emotional reactions such as anger and moral outrage, which both increase the tendency to engage in physical violence. As such, it has been demonstrated that police arrest counts in protests are linked with strong moral and emotional reactions (Mooijman, Hoover, Lin, Ji & Dehghani, 2018). In line with this, a study investigating a sample of anti-Morsi protesters in Egypt found that perceived risk of being harmed drove feelings of anger, which in return were

associated with increased intentions to engage in collective action (albeit non-violent; see Ayanian & Tausch, 2016).

Finally, there is ample evidence that identity-related factors can also lead EPV to generate backlash in terms of increased intentions to engage in both peaceful and violent collective action. Additional results from Ayanian & Tausch (2016) did show an indirect effect of risk perception on collective action intentions through increased identification with the protesters' group. Relatedly, converging evidence obtained in the context of the 2011 London Riots, highlight how 'stop-and-search' procedures perceived as abusive can create a strong anti-police identity among members of minority groups subjected to these, which facilitates the legitimation of violence directed at law enforcement (Stott, Ball, Drury, Neville, Reicher, Boardman, & Choudhury, 2018).

1.2. Police Violence from a Significance Quest perspective.

Although research has so far established that EPV may facilitate collective action and violence against the police, evidence remains scattered across various theoretical frameworks and the processes at play need further examination. As we have seen, EPV is tied with perceptions of illegitimacy, feelings such as anger and identity-related processes which all lead to increased support for anti-police violence and further collective action. To integrate these different mechanisms under a more general theory, we turned to Significance Quest Theory (Kruglanski et al, 2014), which could provide an overarching framework to study the effects of EPV on protester behaviour.

According to Significance Quest Theory, individuals have a fundamental need to feel meaningful: they need to perceive that their actions have purpose (e.g. deriving satisfaction from one's work), to feel that they are respected and achieve socially valued life-goals (e.g. having a desirable social status, being acknowledged for contributing to one's community; see

Bélanger et al., 2019). When this need is threatened, individuals will be more motivated to engage in actions aimed at restoring their sense of significance, which can lead them to join groups that offer strong social support, clear-cut narratives to make sense of their situation and social rewards for radical action (i.e. extremist religious or political groups).

From this perspective, extreme behaviours are compensatory behaviors which result from a need to restore individual significance. In line with this, research has established that significance loss leads to increased extremism. For instance, individuals prompted with memories of humiliating events displayed increased support for terrorist organizations and extremist political views (Webber et al., 2017). Significance Loss can take many forms, from social exclusion to feelings of injustice, deprivation and economic losses (Bélanger, Schumpe, Nociti, Moyano, Dandeneau, Chamberland, & Vallerand, 2019). Relatedly, results from a representative sample of individuals incarcerated for violent crimes in the US show that economic and social losses (i.e. loosing one's job; divorce) were independent and positive predictors of commitment of ideologically motivated violence (e.g. hate crimes; Jasko, LaFree, & Kruglanski, 2016). In a similar way, perceived discrimination and exclusion generate feelings of significance loss which leads individuals to legitimize political violence and increase their intentions to join terrorist groups (Bélanger et al., 2019)

There is thus growing evidence showing that experiencing Significance Loss in the form of humiliation increases intentions to engage in violent political behaviour (Jasko, et al., 2016; Webber et al. 2017) including in the context of collective action (Adam-Troian, Baidada, Arciszewski, Apostolidis, Celebi, & Yurtbakan, 2019). This is because Significance Quest theory allows to take into account the role of social networks and identity related factors in facilitating extreme behaviour (see Kruglanski, Jasko, Webber, Chernikova, & Molinario, 2018). Significance Gain motivates both peaceful activism and radical protest behaviour (Jasko, Szastok, Grzymala-Moszczynska, Maj, & Kruglanski, 2019) and Significance Loss is a main

driver of radical intentions for the YV cause (e.g. engaging in terrorist activities for the cause) as well as a positive correlate of YV identity (Mahfud & Adam-Troian, 2019). Experiencing infringement of dignity or feelings of failure leads to increased collectivistic values which facilitates social means of coping with such situations (Kruglanski, Gelfand, & Gunaratna, 2012).

In sum, Significance Quest Theory provides us with a specific causal account of how EPV might affect protesters' behaviour by making them experience outrage, injustice and anger (i.e. Significance Loss). For instance, though we have no direct evidence linking EPV to Loss of Significance, custodies perceived as unjustified, public outrage following the arrest of 151 junior high school students fastened and forced to kneel down, as well as police use of force deemed disproportionate have been described as humiliating experiences by the YV in the media (see Mahfud & Adam-Troian, 2019). Significance Loss, in turn, could explain why EPV may lead protesters to identify more strongly with their ingroup and to display increased collective action intentions and aggressiveness against the police, categorized as an 'enemy' outgroup. In fact, protests do not occur in a social vacuum. Insights from the social identity approach to protest behaviour highlight that the nature of intergroup contexts (i.e. police-crowd dynamics) and the way protesters perceive this context all crucially determine how they will behave in response to police behavior (see Stott, Radburn, & Savigar, 2020, in press). Thus, in line with both an intergroup take on protest behavior and Significance Quest Theory, one would expect that EPV could constitute experiences of Significance Loss contributing to the formation or reinforcement of protesters' *politicized identity*.

1.3. From politicized to radicalized identities

Politicized identity is defined as identification with a group involved in a power struggle (e.g. protester groups) and - more specifically - refers to '*a form of collective identity that underlies group members' explicit motivations to engage in such a power struggle.'* (Simon &

Klandermans, 2001; p.323). As a group of individuals self-consciously involved in collective action over shared economic grievances against a government for more than a year still, the YV movement is a typical example of politicized identity.

So far, social psychological research on collective action (e.g. Social-identity Model of Collective Action; Van Zomeren, Postmes, & Spears, 2008) has highlighted the role of social identities and group-level processes in shaping protester behaviour. Alongside such factors as perceived protest efficacy (Van Zomeren, Spears, Fischer, & Leach, 2004), feelings of unfairness (Van den Bos, 2018), contempt, anger (Sabucedo, Dono, Grigoryev, Gómez-Román, & Alzate, 2019) and deprivation (Iyer, Schmader, & Lickel, 2007; Walker & Mann, 1987) the most potent predictor of engagement in collective action remains one's feeling of identification with the protesting group (Klandermans, 2014).

Politicized identity is a predictor of protest behaviour across a wide range of issues (e.g. gender equality; Liss, Crawford, & Popp, 2004). It is also the strongest and most temporally proximal predictor of future protest intentions in longitudinal studies (Thomas, Zubielevitch, Sibley, & Osborne, 2019). Finally, politicized identity was found to best predict intentions to engage in collective action, over and above various identities in a meta-analysis from Van Zomeren et al. (2008). Nonetheless, collective action does not necessarily entail violence. There is indeed a theoretical distinction between activism and radicalism, though these constructs were found to be empirically related (activism may sometimes facilitate radicalism; see Moskalenko & McCauley, 2009). Yet, research shows that politicized identity is also the most important predictor of intentions to engage in both activism and radical action for the YV (with $.50 < rs < .70$, see Mahfud & Adam-Troian, 2019).

Because of politicized identity's importance in motivating protest behaviour, one would typically expect that EPV - beyond physical harm – could constitute a potent self-related threat susceptible of leading individuals to engage in more radical behaviour in reaction. In fact,

individuals tend to have a positive image of themselves (Tajfel, 1981) and humiliating experiences (McGregor, Zanna, Holmes, & Spencer, 2001), such as EPV (perceived unfair arrests, unjust treatment or degrading physical abuse) constitute important threats to that image (Steele, 1988). Typically, threatened individuals engage in behaviours which aim to restore their feeling of meaningfulness and being in control (Jonas et al., 2014).

Since politicized identities provide individuals with meaning and group-based control, and since control threats generate increased identification with groups (Fritsche, Jonas, Ablasser, Beyer, Kuban, Manger, & Schultz, 2013), EPV could paradoxically lead individuals to *increase* their sense of identification with the protesting group (Hogg, Kruglanski, & Van Den Bos, 2013; Hogg, 2014; Xu & McGregor, 2018). Higher identification entails enhanced perceptions of similarity between group members and oneself, thus increases perceptions of social support and provides individuals with a sense of collective empowerment (Drury, & Reicher, 2000) which could facilitate coping with stressful events like EPV.

One of the consequences of increased identification with the group is a higher likelihood of committing extreme behaviour such as sacrificing oneself for the cause, hence increased radicalization (Swann, Gómez, Huici, Morales, & Hixon, 2010; Atran, 2016). This is in line with recent evidence showing that experiencing collective dysphoric experiences (e.g. natural disasters, terror attacks) results in increased feelings of fusion with one's group (leading to more violent extreme behaviour such as sacrificing oneself for the group; see Whitehouse et al., 2017). This specific process of self-threat compensation through increased radicalism is a direct prediction of Significance Quest Theory (Kruglanski et al, 2014), and is in line with findings linking perceptions of a shared 'common fate' with the formation of collective identities in group situations (Drury, 2018).

In line with both literatures on Significance Quest and the social identity perspective on collective action, we have seen that politicized identity was a direct predictor of protest

intentions and that Significance Loss could directly bolster politicized identity as well as indirectly affect both peaceful and radical behaviours through politicized identity. We could therefore hypothesize that EPV leads to increased radicalism and activism because it would generate Significance Loss, leading to increased levels of identification with the protesting group.

1.4.The Present Study

We therefore set out to conduct a test of a sequential model of reactions to EPV, which was designed by combining both Significance Quest and Social Identity Perspectives on collective action. The test would be carried out in France, in the context of the YV protests. The model can be seen in figure 1. In line with it, we hypothesized that:

H1: EPV should be positively related to Significance Loss, Politicized Identity (Identification with the YV) and Protest Intentions (radical and non-radical).

H2: Significance Loss should be positively related to Politicized Identity and Protest Intentions.

H3: Politicized Identity should be positively related to Protest Intentions.

H4: EPV should have a serial indirect effect on Protest Intentions through increased Significance Loss leading to increased Identification with the YV.

[INSERT FIGURE 1 HERE]

1.5. Ethical and transparency statement

The study was conducted in accordance with the 1964 Helsinki declaration (WMO, 1964) and its later amendments, the French legislation on research involving human participants, the ethical principles of the French Code of Ethics for Psychologists (CNCDP, 2012), and the 2016 APA Ethical Principles of Psychologists and Code of Conduct (APA, 2017). No participant

data was suppressed from raw database. All measures were reported. The raw data underlying our findings are openly accessible at [OSFLINK]. Ethics approval was obtained from [ANONYMIZED INSTITUTION] ethics board (n°29-2019).

2. Method

To test our hypothesized model, we conducted a cross-sectional investigation of a large sample of YV protesters.

2.1.Participants

According to simulations, an estimated 462 to 558 participants are needed to detect indirect effects in mediation analyses using bootstrap methods with 80% power for associations between all variables of small size (b = .14; see Fritz & McKinnon, 2007, table 3, p.237). We therefore decided to reach N = 500 participants. Online questionnaire links were randomly disseminated among YV social network groups, and sample size was regularly checked by investigators. Data collection occurred between July and August of 2019 (summer holidays, less protests) and stopped when our target sample size was reached. Our final sample is made of 523 self-identified YV protesters (48.7% male; M_{age} = 44.0, *SD* = 12.6), guaranteeing enough power to detect small indirect effects and stable correlation estimates (Schönbrodt & Perugini, 2013).

2.2. Materials & Procedure

The study was introduced as a study on YV lifestyle, health and political opinions conducted by psychology researchers. It contained two parts, one epidemiological and one psychosocial. The epidemiological part of the survey examined mental health constructs (e.g. depression, PTSD) and was designed to address other research questions. The psychosocial part of the survey - the focus of the present analysis - contained the series of measures listed below (due to the total length of the survey, short measures were used whenever possible, all scale items are detailed in Appendix 1):

Sample Quality Control. Respondent's self-reported identification as a YV member was assessed by a categorical (binary) item, while number of protests attended was measured continuously ('*How many Yellow Vests protests did you attend?'*). This last item will be used as a covariate and to exclude outlier participants. When data collection ended, YV were beginning their 43rd weekly protest. This means data from a respondent reporting more than 43 (+1 if upcoming attendance is counted) attendance counts should be considered as potentially biased. Respondents attended 18.0 protests on average (*SD* = 12.7) and none declared suspicious attendance counts.

Exposure to Police Violence. EPV was measured with two items regarding physical violence. Respondents were asked if, among all the protests they attended, they had been exposed to police brutality in the form of being physically harassed, pushed or 'beaten up'. 58.2% (N = 302) answered positively. Similarly, respondents were asked if they had been hit by a rubber ammunition shot from a rubber ammunition launcher from members of law enforcement. 25.3% (N = 131) answered positively. These two measures were strongly related $\chi^2(1) = 42.0$, $p < .001$ and were thus summed to compute a single exposure index (ranging from 0 to 2). In total, 37.5% of respondents (n = 193) had not been exposed to police violence, 41.7% (n = 215) reported at least one exposure and 20.8% (n = 107) reported both.

Significance Loss. To measure perceived loss of significance, we used a measure taken and adapted from Webber et al. (2017, study 1). We asked participants how often they experienced situations during which law enforcement made them feel ashamed, humiliated, and laughed at them (5-point Likert, from 1 '*never*' to '*all the time'*, M = 2.60, SD = 1.17, α = .82).

Identification with the Yellow vests. We used a validated single-item measure of identification with the YV (see Postmes, Haslam, & Jans, 2013; 7-point Likert, from 1 '*not at all*' to 7 '*completely*', M = 6.29, SD = 1.26).

Intentions to Self-Sacrifice for the YV. Among all existing measures of radical behaviour, we decided to use intentions to self-sacrifice because it is probably the most radical and costly behaviour that could be enacted for a cause. Previous research also showed that Significance Loss could lead to greater intentions to self-sacrifice (see Dugas et al., 2016). Our measure of intentions to self-sacrifice for the YV was created by taking and adapting the two-item measure from Swann and al. (2010, e.g. '*I would sacrifice my life if it saved another Yellow Vests member's life'*) to which added an item tapping into self-sacrifice '*if it helped achieving the political objectives of the Yellow Vests*' for increased reliability (7-point Likert, from 1 '*not at all*' to 7 '*completely*', $M = 4.32$, $SD = 1.94$, $\alpha = .94$).

Intentions to protest. We the asked participants if they intended to attend the following YV protest (Yes/No, $\%_{yes} = 90.2$).

Political Ideology. A single-item measure of political ideology was used, allowing us to also compute a political extremism score as indicated by participants' scores distance from the middle of the scale (7-point Likert, from 1 '*far-left*' to 7 '*far-right*', $M = 3.08$, $SD = 1.49$; political extremism ranged from 0 to 3, $M = 1.32$, $SD = 1.15$).

Demographics. Participants were asked to indicate their gender, age, and yearly income (brackets from '*less than 30,000€*' coded 1 to '*more than 120,000€*'coded 5, Median = 1, '*< 30,000€*'). In this study, 68.2% of participants declared a less than 30,000€ yearly income, 26.1% earning between 31,000 and 60,000€, 3.4% between 61,000 and 90,000€, .8% between 91,000 and 120,000€ and 1.5% more than 120,000€.

3. Results

3.1. Correlation analyses.

To test our first three hypotheses, we first conducted Pearson bivariate correlations analyses between our five variables of interest. Then we ran the same analyses using partial correlations

adjusting for participants' income, sex, age, number of protests attended, political ideology and extremism (see table 1).

H1. EPV was positively related to Significance Loss, $r = .30$, $p < .001$, Protest Intentions, $r = .18$, $p < .001$, and Self-sacrifice for a cause $r = .25$, $p < .001$ but not to Identification with the YV, $r = -.02$, $p = .66$. This pattern remained unchanged to adjustments, except for the link between EPV and Protest Intentions, which became smaller $r = .08$, $p = .064$. These results provided partial evidence for H1.

H2. Significance Loss was positively related to Identification with the YV, $r = .18$, $p < .001$, Protest Intentions, $r = .19$, $p < .001$, and Self-sacrifice for a cause $r = .24$, $p < .001$. These links held when adjusting for other factors, therefore, H2 cannot be rejected.

H3. Finally, Identification with the YV was also positively linked with both Protest Intentions, $r = .18$, $p < .001$, and Self-sacrifice for a cause $r = .31$, $p < .001$, even in partial correlation analyses. Thus, H3 cannot be rejected.

[INSERT TABLE 1 HERE]

3.2. Mediation analyses

In order to test H4, we performed bootstrap mediation analyses with the help of PROCESS (Model 6; $N_{trials} = 5000$; Hayes, 2012). More information regarding bootstrap methods and the inner workings of PROCESS can be obtained in Hayes (2017). Two models were ran separately for each dependent variable because their estimation differed. Self-sacrifice intentions was a continuous variable, hence subject to standard OLS regression modelling. However, Intentions to Protest, as a binary outcome, relied on logistic regression modelling. In each model, EPV was specified as the independent variable, Significance Loss the first mediator and Identification with the YV as the second mediator. Since EPV was a categorical measure, two contrasts were computed each time comparing One-EPV to No-EPV and Two-EPV to No-EPV

(indicator coding). Then, models were computed again with Income, Sex, Age, Number of Protests Attended, Political Ideology & Extremism as covariates to assess the robustness of our indirect effects. All regression analyses behind the mediation models can be found in Appendix 2.

Supporting H4, analyses suggested indirect effects of EPV on both intentions to Protest, β = .04, 95%CI[.01; .09] and to Self-sacrifice for the YV, β = .04, 95%CI[.02; .06] when comparing One-EPV with No-EPV (see figure 2). These indirect effects were robust to adjustment, with β = .05, 95%CI[.01; .11] for Protest Intentions and β = .03, 95%CI[.01; .06] for Intentions to Self-sacrifice for the YV. Effects of similar magnitude were found when comparing individuals exposed to two-EPV with those exposed to none with β = .05, 95%CI[.01; .11] for Protest Intentions and β = .04, 95%CI[.02; .08] for Intentions to Self-sacrifice for the YV. These were also robust to adjustment, β = .05, 95%CI[.01; .13] for Protest Intentions and β = .04, 95%CI[.02; .07] for Intentions to Self-sacrifice for the YV.

[INSERT FIGURE 2 HERE]

In addition to these expected findings, our mediation analyses highlighted significant 'short' indirect effects of EPV through Significance Loss on both intentions to Protest, β = .27, 95%CI[.04; .61] and to Self-sacrifice for the YV, β = .07, 95%CI[.02; .14] when comparing One-EPV with No-EPV (see figure 2). Similar effects were found when comparing individuals exposed to two-EPV with those exposed to none with β = .33, 95%CI[.05; .77] for Protest Intentions and β = .09, 95%CI[.02; .17] for Intentions to Self-sacrifice for the YV. All these indirect effects were robust to adjustments (see adjusted models in appendix 2), and, interestingly, no substantial 'short' indirect effect of EPV on both outcomes were observed through identification with the YV.

4. Discussion

In this cross-sectional investigation among a sample of YV protesters, we wanted to test whether EPV could be associated with increased radicalism, and whether this increase could be due to EPV's strengthening effect on protesters' politicized identities. As predicted by our theoretical model, combining both Significance Quest and Social identity approaches to collective action, our results showed that, indeed, being exposed to police violence led protesters to experience Significance Loss, for which they compensated through increased identification with the movement, leading to more extreme behavioural intentions in the end. The indirect effect of EPV was observed on measures of activism (protest intentions) and radicalism (self-sacrifice for the YV) intentions. Moreover, the sizes of indirect effects when comparing one and two EPV to none were similar, indicating that experiencing police violence could be sufficient to trigger a radicalization process, independently of EPV's intensity. In addition to these empirical findings, we must stress this is the first time Significance Quest Theory is explicitly combined with Social Identity Theory to better predict violent extreme behaviour, let alone in the context of protests.

This serially mediated process is also in line with major approaches to radical behaviour in the fields of social and political psychology. For instance, our model fits studies showing that radical groups, action and extreme identities attract individuals motivated by self-uncertainty reduction needs (Hogg, 2000). Also, the notion that high identification with the group (i.e. group fusion) may lead individuals to commit self-sacrifice for their cause under specifically threatening circumstances is a well-established finding from the devoted actor perspective (Atran, 2016). Indeed, this approach states that radical groups provide individuals with a 'group of comrades' (which is the motivational basis for their extreme behaviour). This also aligns closely with findings from the social identity approach to protest violence (see Klandermans, 2004; Stott et al., 2018). More directly, a Significance Quest perspective on police violence also

converges with research pointing at compensatory control in the face of powerlessness (Kay & Eibach, 2013) as a source of subsequent radicalization.

In addition to the 'full' indirect effects we wished to probe, our results revealed interesting statistical patterns regarding other potential mediation processes. There was a significant indirect effect of EPV on both outcomes through Significance Loss, but this was not the case regarding the indirect effect through politicized identity. Thus, Significance Loss still predicts protest behaviour when adjusting for politicized identity, and EPV seems to increase politicized identity only to the extent that it generates feelings of Significance Loss. What this suggests is that Significance Loss might constitute a key antecedent of identity-related factors in shaping protest intentions. Finally, because research shows that Significance Gain can motivate individuals to engage in collective action (Jasko et al., 2019), future research should aim to provide a more accurate model of protest intentions by including Significance Loss, Gain and other crucial factors (e.g. from van Zomeren et al., 2008) to assess how they impact intentions to engage in peaceful (versus radical) action. It is also possible that Significance Loss and Gain differently motivate individuals according to their prior levels of politicized identity.

An ironic implication of our investigation is that the French State's response to the YV movement may have been a direct contributor to the violence authorities aimed to contain. In line with prior empirical findings (e.g. McCauley & Moskalenko, 2016), what our results show is that EPV may paradoxically lead protesters to engage in more radical action because of significance and identity concerns, an issue that was not addressed by the government's official communications. This might explain why the YV protests kept growing even after the government announced a 10 billion € worth package of economic measures targeting the low and middle classes in December of 2018. Also, our model fits very well with the idea that non-violent protesters might radicalize after repeated protesting due to EPV. This should be especially true in movements like the YV, which aggregates all sorts of individuals, from first-

time protesters to radical 'black-block' members. These results therefore point at the need for further research on the effects of EPV, as well as on the potential benefits of using non-violent crowd management techniques in the face of heated protests.

Previous research in the social identity approach to crowd behaviour and collective action lead to similar observations. For instance, findings obtained in the framework of the Elaborated Social Identity Model (Stott et al., 2018) reveal how protesters' interactions with law enforcement shape social environments which lead them to ultimately perceive protest violence as a legitimate strategy: EPV increases perceptions of police illegitimacy, conflicts with the law enforcement and ultimately fuels ingroup identification and outgroup derogation (i.e. 'us protesters' *vs.* 'them State'). Similarly, research on hooliganism showed that it is when police use force in low-risk contexts (preventively or in the absence of substantial violence among hooligans) that the highest levels of subsequent disorder are found, which lead researchers to conclude communication-based police strategies were more efficient (Stott and Pearson 2007).

On the other hand, our results were obtained on a sample of very active protesters (YV who attended 18 protests on average). This is corroborated by our sample's average level of YV identification was above 6 (on a 7-points Likert scale), indicating that we were investigating already politicized individuals. Accordingly, if EPV may radicalize protesters, this effect might be limited to already committed ones. Because protest crowds are made of different types of social groups attending, it is plausible that EPV as a policing strategy might actually be effective in diminishing the number of protesters who belong to less committed groups. Evidence shows that news of violence in protests decreases non-involved citizens' intentions to participate (Gutting, 2019). Also, though risk perceptions of physical abuse, torture and arrest by law enforcement negatively predicts protest intentions among non-politicized citizens, it has the reverse effect for those displaying strong politicized identity (like YV in our sample; see Ayanian, & Tausch, 2016). Thus, a finer grained analysis might lead to the conclusion that

display of violence may actually constitute a rational strategy for law enforcement, because deterrence lowers participation and therefore reduces the likelihood of protest growth and political success (see Chenoweth, Stephan, & Stephan, 2011).

4.1. Limitations

Generalizability. As mentioned above, we must stress that our sample was very specific. We conducted our investigation on a sample of YV protesters, thus highly politicized individuals. Though the sample was obtained on general YV social media groups (without particular topics except being a YV member and YV news), we cannot guarantee that it was not made of respondents self-selected around specific grievances since we could not assess what prompted non-participation. Thus, we cannot rule out the presence of social desirability concerns regarding measures such as intentions to self-sacrifice, though it is unlikely to affect the links between our constructs (but more likely prevalence estimates).

Also, it is very possible that Significance Loss effects might be moderated by cultural contexts, such as collectivist or honour cultures, which motivates even more aggressive responses in the face of public humiliation (Cohen, Nisbett, Bowdle, & Schwarz, 1996; our study was conducted in France, an individualist, low-honour cultural context). For all these reasons, more studies are needed using samples from less engaged activists for different causes and in different settings (e.g. Hong Kong anti-extradition law protesters, Algerian pro-democracy youth) to gain more accurate effect estimates and external validity.

Power and effect sizes. Here, observed indirect effects' sizes were rather small ($b < .10$). This may be due to the online setting of our survey, although research established that online and laboratory investigations usually give effect sizes of same magnitude (see Paolacci, Chandler, & Ipeirotis, 2010). Besides, our effects were of size that is typical in research on Significance Quest Theory research (e.g. Webber and al., 2017; Bélanger et al., 2019).

Therefore, we think these might reflect accurate parameter estimates (especially given the large sample under investigation). Also, the links between all our variables (except for the correlation between EPV and Identification with the YV) were above the $b = .14$ used to compute power analyses. Thus, we think our tests were sufficiently, if not overly powered.

Statistical considerations. Causality should be discussed with caution because of the cross-sectional nature of our design. For this reason, there is a possibility that our measure of Significance Loss tapped into participants' retrospective feelings of shame and humiliation and further research should be conducted to obtain *in vivo* assessments of such constructs. In line with these measurement concerns, the single-item format of our social identification and political ideology scales might be problematic. Our measure of social identification has been subjected to extensive validation (Reysen, Katzarska-Miller, Nesbit, & Pierce, 2013) but estimates might still be slightly biased due to increased variability on single item scales. In the case of political ideology however, concerns might extend to the generalizability of our results in non-Western contexts, where economic and social conservatism are more likely to correlate *positively* which thus changes the nature of what is measured by the left-right label (see Malka, Lelkes, & Soto, 2019).

We also wanted to advise caution regarding evidence for the predicted mediation process. Indirect effects may be a signature of mediation mechanisms even in the absence of direct links between some variables in the model, but they might also be due to unmeasured confounding variables (Loeys, Moerkerke, & Vansteelandt, 2014; Fiedler, Harris, & Schott, 2018). Further experimental tests should be used to corroborate these findings (Bullock & Ha, 2011). Also, simulation results show that bootstrap estimation procedures may, under some circumstances, produce more type I errors than the joint-significance approach from Baron & Kenny (1986; see Yzerbyt, Muller, Batailler, & Judd, 2019). Here, bootstrap estimates were the only parsimonious alternative to test a serial mediation process but given that the links between -

almost – all variables in the model hold independent of each other, joint significance tests should yield similar indirect effects for each single mediation component of the chain.

Finally, estimates of direct effects in our models indicate the potential presence of 'suppressor effects' (McKinnon, Krull, & Lockwood, 2000) due to the non-significant (and in the opposed direction) effect of EPV on Identification with the YV. We think this phenomenon might be worth receiving further attention in subsequent investigations.

Robustness of the findings. Still, we wished to emphasize the robustness of our findings, which went in the predicted direction and consistently despite the inclusion of 'heavy' potential confounds in the model. These also replicate well previous findings on the YV movement, showing the role of both Significance Loss and YV politicized identity (Mahfud & Adam-Troian, 2019) in driving radical and non-radical protest intentions.

4.2.Conclusion

Within the boundaries of the abovementioned methodological limitations, we can safely infer that EPV is associated with increased intentions to engage in both radical and non-radical action. This is the first time that such an association is found, and more so regarding the investigated mechanism. What this study suggests is that, far from deterring protesters to engage in collective action, repressive police responses might backfire by fuelling individuals' commitment to 'cause and comrades'. In sum, police violence may contribute to the formation of radical politicized identities among protesters. Thus, decision-makers should prioritize the use of 'de-escalation' techniques for crowd management, if they want to avoid intractable cycles of protest-police violence.

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6. Figures

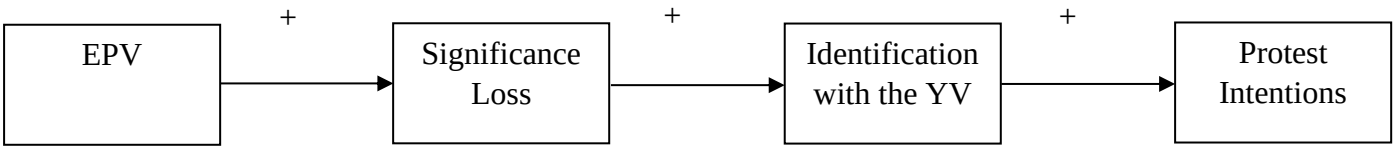

Figure 1. Theoretical model of the reactions to EPV.

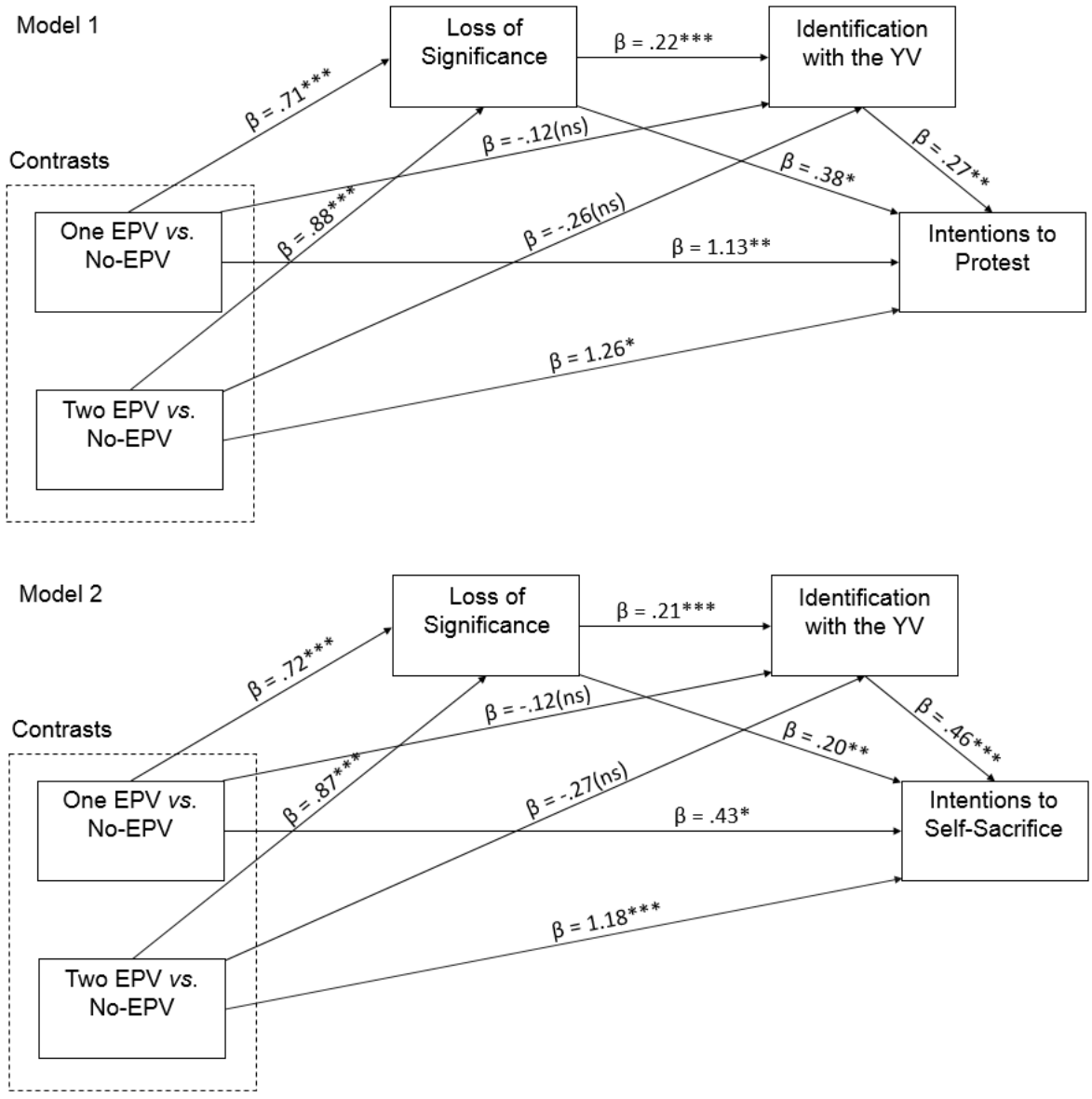

Figure 2. Serial mediation models. Numbers represent *beta* coefficients for each path.* $p < .05$, ** $p < .01$, *** $p < .001$. EPV = Exposure to Police Violence.

7. Tables

Table 1.

Summary of Bivariate and Partial Correlation Analyses between EPV, Significance Loss, Identification with the Yellow Vests, Protest Intentions and Self-sacrifice Intentions (N = 523).

	1	2	3	4	5
Bivariate					
EPV	-				
Significance Loss	.30***	-			
Identification with the YV	-.02	.18***	-		
Protest Intentions	.18***	.19***	.18***	-	

Self-sacrifice Intentions	.25***	.24***	.31***	.22***	-
Partial					
EPV	-				
Significance Loss	.25***	-			
Identification with the YV	-.03	.17***	-		
Protest Intentions	.08†	.14**	.15**	-	
Self-sacrifice Intentions	.18***	.20***	.32***	.20***	-

Note. *Control variables for partial correlations are Income, Sex, Age, Number of Protests Attended, Political Ideology & Extremism. Numbers represent Pearson correlation coefficients.* $^{\dagger}p < .10$, $*p < .05$, $** p < .01$, $*** p < .001$.

8. Appendices

8.1. Appendix 1

Loss of Significance
Across all the protests you attended, how often did you experience situations where law enforcement…

1. *Humiliated you*
2. *Shamed you*
3. *Laughed at you*

Self-Sacrifice Intentions Scale
To what extent do you agree with the statement…

1. *I would sacrifice my life if it saved another Yellow Vests member's life*
2. *I would sacrifice my life if it gave the Yellow Vests status or monetary reward*
3. *I would sacrifice my life if it helped achieving the political objectives of the Yellow Vests*

Protest intentions item

1. *Do you intend to participate in the next Yellow Vests protest?*

Political Ideology item

1. *Please select the number that best fits your political orientation*

Identification with the Yellow Vests item

2. *To what extent do you identify with the members of the Yellow Vests ?*

Income
What was your household's raw income last year ?

1. *Less than 30,000€*
2. *Between 31,000 and 60,000€*
3. *Between 61,000 and 90,000€*
4. *Between 91,000 and 120,000€*
5. *More than 120,000€*

8.2. Appendix 2

Mediation model for self-sacrifice intentions (unadjusted)

```
************** PROCESS Procedure for SPSS Version 3.3 ******************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 6
    Y  : SELF_SAC
    X  : POL_VIOL
   M1  : LOS_FDO
   M2  : ID_GJ

Sample
Size:  515

Coding of categorical X variable for analysis:
 POL_VIOL       X1       X2
     ,000     ,000     ,000
    1,000    1,000     ,000
    2,000     ,000    1,000

**************************************************************************
OUTCOME VARIABLE:
 LOS_FDO

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      ,3236      ,1047     1,2259    29,9504     2,0000   512,0000      ,0000

Model
             coeff         se          t          p       LLCI       ULCI
constant     2,1140      ,0797    26,5247      ,0000     1,9574     2,2706
X1            ,7201      ,1098     6,5591      ,0000      ,5044      ,9358
X2            ,8735      ,1335     6,5459      ,0000      ,6114     1,1357

Standardized coefficients
        coeff
X1      ,6166
X2      ,7480

**************************************************************************
OUTCOME VARIABLE:
 ID_GJ

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      ,1882      ,0354     1,5385     6,2525     3,0000   511,0000      ,0004

Model
             coeff         se          t          p       LLCI       ULCI
constant     5,8444      ,1376    42,4832      ,0000     5,5742     6,1147
X1           -,1211      ,1281     -,9453      ,3449     -,3726      ,1305
X2           -,2687      ,1556    -1,7267      ,0848     -,5745      ,0370
LOS_FDO       ,2108      ,0495     4,2586      ,0000      ,1136      ,3081

Standardized coefficients
             coeff
X1          -,0961
X2          -,2134
LOS_FDO      ,1955

**************************************************************************
OUTCOME VARIABLE:
 SELF_SAC

Model Summary
```

R	R-sq	MSE	F	df1	df2	p
,4203	,1766	3,1050	27,3536	4,0000	510,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	,4961	,4161	1,1924	,2337	-,3213	1,3135
X1	,4310	,1821	2,3668	,0183	,0732	,7887
X2	1,1840	,2217	5,3395	,0000	,7483	1,6196
LOS_FDO	,1981	,0716	2,7672	,0059	,0574	,3387
ID_GJ	,4567	,0628	7,2672	,0000	,3332	,5802

Standardized coefficients

	coeff
X1	,2228
X2	,6121
LOS_FDO	,1196
ID_GJ	,2973

********** TOTAL EFFECT MODEL **********
OUTCOME VARIABLE:
SELF_SAC

Model Summary

R	R-sq	MSE	F	df1	df2	p
,2512	,0631	3,5194	17,2428	2,0000	512,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	3,7876	,1350	28,0481	,0000	3,5223	4,0529
X1	,5876	,1860	3,1589	,0017	,2222	,9531
X2	1,3184	,2261	5,8305	,0000	,8741	1,7626

Standardized coefficients

	coeff
X1	,3038
X2	,6815

********** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **********

Relative total effects of X on Y:

	Effect	se	t	p	LLCI	ULCI	c_ps
X1	,5876	,1860	3,1589	,0017	,2222	,9531	,3038
X2	1,3184	,2261	5,8305	,0000	,8741	1,7626	,6815

Omnibus test of total effect of X on Y:

R2-chng	F	df1	df2	p
,0631	17,2428	2,0000	512,0000	,0000

Relative direct effects of X on Y

	Effect	se	t	p	LLCI	ULCI	c'_ps
X1	,4310	,1821	2,3668	,0183	,0732	,7887	,2228
X2	1,1840	,2217	5,3395	,0000	,7483	1,6196	,6121

Omnibus test of direct effect of X on Y:

R2-chng	F	df1	df2	p
,0461	14,2782	2,0000	510,0000	,0000

Relative indirect effects of X on Y

POL_VIOL -> LOS_FDO -> SELF_SAC

	Effect	BootSE	BootLLCI	BootULCI
X1	,1426	,0597	,0336	,2687
X2	,1730	,0722	,0404	,3199

POL_VIOL -> ID_GJ -> SELF_SAC

```
       Effect     BootSE   BootLLCI   BootULCI
X1     -,0553      ,0570     -,1671      ,0529
X2     -,1227      ,0814     -,2955      ,0233

 POL_VIOL    ->    LOS_FDO     ->    ID_GJ       ->    SELF_SAC

       Effect     BootSE   BootLLCI   BootULCI
X1      ,0693      ,0233      ,0305      ,1210
X2      ,0841      ,0290      ,0363      ,1479

Partially standardized relative indirect effect(s) of X on Y:

 POL_VIOL    ->    LOS_FDO     ->    SELF_SAC

       Effect     BootSE   BootLLCI   BootULCI
X1      ,0737      ,0309      ,0173      ,1397
X2      ,0894      ,0374      ,0212      ,1661

 POL_VIOL    ->    ID_GJ       ->    SELF_SAC

       Effect     BootSE   BootLLCI   BootULCI
X1     -,0286      ,0295     -,0870      ,0275
X2     -,0634      ,0421     -,1531      ,0120

 POL_VIOL    ->    LOS_FDO     ->    ID_GJ       ->    SELF_SAC

       Effect     BootSE   BootLLCI   BootULCI
X1      ,0358      ,0119      ,0159      ,0619
X2      ,0435      ,0148      ,0191      ,0762

************************ ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

NOTE: Standardized coefficients for dichotomous or multicategorical X are in
      partially standardized form.

NOTE: Variables names longer than eight characters can produce incorrect output.
      Shorter variable names are recommended.

------ END MATRIX -----
```

Mediation model for self-sacrifice intentions (adjusted)

```
*************** PROCESS Procedure for SPSS Version 3.3 *******************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 6
    Y  : SELF_SAC
    X  : POL_VIOL
   M1  : LOS_FDO
   M2  : ID_GJ

Covariates:
 SEX      AGE      POL      INCOME_L POLXTRM  NB_MANIF

Sample
Size:  515
```

Coding of categorical X variable for analysis:

POL_VIOL	X1	X2
,000	,000	,000
1,000	1,000	,000
2,000	,000	1,000

****

OUTCOME VARIABLE:
LOS_FDO

Model Summary

R	R-sq	MSE	F	df1	df2	p
,3407	,1161	1,2248	8,3045	8,0000	506,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	1,8598	,2749	6,7647	,0000	1,3197	2,3999
X1	,6592	,1165	5,6559	,0000	,4302	,8881
X2	,7777	,1468	5,2962	,0000	,4892	1,0662
SEX	,0971	,1012	,9595	,3378	-,1017	,2958
AGE	-,0011	,0040	-,2635	,7923	-,0090	,0069
POL	,0369	,0410	,9011	,3680	-,0436	,1175
INCOME_L	-,0658	,0673	-,9781	,3285	-,1979	,0664
POLXTRM	,0671	,0527	1,2728	,2037	-,0365	,1706
NB_MANIF	,0069	,0041	1,6762	,0943	-,0012	,0151

Standardized coefficients

	coeff
X1	,5644
X2	,6659
SEX	,0416
AGE	-,0114
POL	,0469
INCOME_L	-,0417
POLXTRM	,0660
NB_MANIF	,0754

****

OUTCOME VARIABLE:
ID_GJ

Model Summary

R	R-sq	MSE	F	df1	df2	p
,2202	,0485	1,5357	2,8600	9,0000	505,0000	,0027

Model

	coeff	se	t	p	LLCI	ULCI
constant	5,9799	,3215	18,6019	,0000	5,3483	6,6115
X1	-,1783	,1346	-1,3251	,1857	-,4427	,0861
X2	-,3067	,1689	-1,8154	,0701	-,6385	,0252
LOS_FDO	,2074	,0498	4,1665	,0000	,1096	,3052
SEX	-,2035	,1134	-1,7945	,0733	-,4262	,0193
AGE	-,0018	,0045	-,3919	,6953	-,0106	,0071
POL	-,0198	,0459	-,4312	,6665	-,1100	,0704
INCOME_L	-,0262	,0754	-,3477	,7282	-,1743	,1219
POLXTRM	,0200	,0591	,3392	,7346	-,0961	,1361
NB_MANIF	,0071	,0046	1,5223	,1286	-,0021	,0162

Standardized coefficients

	coeff
X1	-,1416
X2	-,2435
LOS_FDO	,1924
SEX	-,0808
AGE	-,0177
POL	-,0233
INCOME_L	-,0154
POLXTRM	,0183
NB_MANIF	,0713

****
OUTCOME VARIABLE:
 SELF_SAC

Model Summary

R	R-sq	MSE	F	df1	df2	p
,4502	,2027	3,0425	12,8151	10,0000	504,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	,4342	,5874	,7392	,4601	-,7199	1,5882
X1	,3381	,1897	1,7818	,0754	-,0347	,7108
X2	,9359	,2385	3,9234	,0001	,4672	1,4046
LOS_FDO	,1773	,0713	2,4879	,0132	,0373	,3173
ID_GJ	,4664	,0626	7,4460	,0000	,3433	,5894
SEX	,4719	,1601	2,9477	,0033	,1574	,7864
AGE	-,0050	,0064	-,7809	,4352	-,0175	,0075
POL	,0591	,0647	,9137	,3613	-,0680	,1861
INCOME_L	-,2378	,1061	-2,2406	,0255	-,4462	-,0293
POLXTRM	-,0649	,0832	-,7807	,4353	-,2284	,0985
NB_MANIF	,0077	,0066	1,1775	,2395	-,0052	,0206

Standardized coefficients

	coeff
X1	,1748
X2	,4838
LOS_FDO	,1070
ID_GJ	,3036
SEX	,1220
AGE	-,0322
POL	,0453
INCOME_L	-,0909
POLXTRM	-,0386
NB_MANIF	,0507

************************** TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:
 SELF_SAC

Model Summary

R	R-sq	MSE	F	df1	df2	p
,3014	,0908	3,4558	6,3184	8,0000	506,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	3,7327	,4618	8,0828	,0000	2,8254	4,6400
X1	,4355	,1958	2,2248	,0265	,0509	,8201
X2	1,0060	,2467	4,0785	,0001	,5214	1,4906
SEX	,4036	,1699	2,3753	,0179	,0698	,7374
AGE	-,0061	,0068	-,8977	,3698	-,0194	,0072
POL	,0600	,0688	,8710	,3842	-,0753	,1952
INCOME_L	-,2680	,1130	-2,3723	,0180	-,4900	-,0461
POLXTRM	-,0372	,0885	-,4205	,6743	-,2111	,1367
NB_MANIF	,0129	,0070	1,8585	,0637	-,0007	,0266

Standardized coefficients

	coeff
X1	,2252
X2	,5201
SEX	,1044
AGE	-,0395
POL	,0460
INCOME_L	-,1025
POLXTRM	-,0221
NB_MANIF	,0848

********** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **********

Relative total effects of X on Y:

	Effect	se	t	p	LLCI	ULCI	c_ps
X1	,4355	,1958	2,2248	,0265	,0509	,8201	,2252
X2	1,0060	,2467	4,0785	,0001	,5214	1,4906	,5201

Omnibus test of total effect of X on Y:

R2-chng	F	df1	df2	p
,0300	8,3385	2,0000	506,0000	,0003

Relative direct effects of X on Y

	Effect	se	t	p	LLCI	ULCI	c'_ps
X1	,3381	,1897	1,7818	,0754	-,0347	,7108	,1748
X2	,9359	,2385	3,9234	,0001	,4672	1,4046	,4838

Omnibus test of direct effect of X on Y:

R2-chng	F	df1	df2	p
,0246	7,7607	2,0000	504,0000	,0005

Relative indirect effects of X on Y

POL_VIOL -> LOS_FDO -> SELF_SAC

	Effect	BootSE	BootLLCI	BootULCI
X1	,1169	,0557	,0177	,2365
X2	,1379	,0666	,0203	,2817

POL_VIOL -> ID_GJ -> SELF_SAC

	Effect	BootSE	BootLLCI	BootULCI

```
X1     -,0832      ,0609     -,2079      ,0269
X2     -,1430      ,0963     -,3484      ,0280

 POL_VIOL    ->    LOS_FDO     ->    ID_GJ       ->    SELF_SAC

       Effect     BootSE   BootLLCI   BootULCI
X1      ,0638      ,0212      ,0273      ,1110
X2      ,0752      ,0265      ,0310      ,1351

Partially standardized relative indirect effect(s) of X on Y:

 POL_VIOL    ->    LOS_FDO     ->    SELF_SAC

       Effect     BootSE   BootLLCI   BootULCI
X1      ,0604      ,0289      ,0092      ,1223
X2      ,0713      ,0345      ,0104      ,1453

 POL_VIOL    ->    ID_GJ       ->    SELF_SAC

       Effect     BootSE   BootLLCI   BootULCI
X1     -,0430      ,0315     -,1075      ,0137
X2     -,0739      ,0496     -,1800      ,0145

 POL_VIOL    ->    LOS_FDO     ->    ID_GJ       ->    SELF_SAC

       Effect     BootSE   BootLLCI   BootULCI
X1      ,0330      ,0108      ,0141      ,0570
X2      ,0389      ,0135      ,0162      ,0695

************************ ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

NOTE: Standardized coefficients for dichotomous or multicategorical X are
in
      partially standardized form.

NOTE: Variables names longer than eight characters can produce incorrect
output.
      Shorter variable names are recommended.

------ END MATRIX -----
```

Mediation model for protest intentions (unadjusted)

```
*************** PROCESS Procedure for SPSS Version 3.3 ******************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 6
    Y  : INT_PROT
    X  : POL_VIOL
   M1  : LOS_FDO
```

```
   M2  : ID_GJ

Sample
Size:  511

Coding of categorical X variable for analysis:
 POL_VIOL       X1       X2
     ,000     ,000     ,000
    1,000    1,000     ,000
    2,000     ,000    1,000

**************************************************************************
OUTCOME VARIABLE:
 LOS_FDO

Model Summary
          R       R-sq        MSE          F        df1        df2
p
      ,3237      ,1048     1,2240    29,7316     2,0000   508,0000
,0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     2,1094      ,0798    26,4186      ,0000     1,9525     2,2662
X1            ,7122      ,1101     6,4689      ,0000      ,4959      ,9285
X2            ,8812      ,1339     6,5822      ,0000      ,6182     1,1442

**************************************************************************
OUTCOME VARIABLE:
 ID_GJ

Model Summary
          R       R-sq        MSE          F        df1        df2
p
      ,1919      ,0368     1,5320     6,4582     3,0000   507,0000
,0003

Model
              coeff         se          t          p       LLCI       ULCI
constant     5,8418      ,1376    42,4467      ,0000     5,5714     6,1122
X1           -,1219      ,1281     -,9512      ,3420     -,3736      ,1299
X2           -,2606      ,1560    -1,6700      ,0955     -,5671      ,0460
LOS_FDO       ,2157      ,0496     4,3464      ,0000      ,1182      ,3133

**************************************************************************
OUTCOME VARIABLE:
 INT_PROT

Coding of binary Y for logistic regression analysis:
  INT_PROT  Analysis
       ,00       ,00
      1,00      1,00

Model Summary
       -2LL    ModelLL         df          p   McFadden   CoxSnell
Nagelkrk
   289,5056    37,8688     4,0000      ,0000      ,1157      ,0714
,1510

Model
             coeff         se          Z          p       LLCI       ULCI
```

```
constant     -,8971      ,6334    -1,4163      ,1567    -2,1385      ,3444
X1           1,1277      ,3847     2,9314      ,0034      ,3737     1,8817
X2           1,2593      ,5244     2,4013      ,0163      ,2314     2,2872
LOS_FDO       ,3778      ,1677     2,2524      ,0243      ,0491      ,7065
ID_GJ         ,2773      ,0988     2,8058      ,0050      ,0836      ,4711

These results are expressed in a log-odds metric.

****************** DIRECT AND INDIRECT EFFECTS OF X ON Y *****************

Relative direct effects of X on Y
       Effect         se          Z          p       LLCI       ULCI
X1     1,1277      ,3847     2,9314      ,0034      ,3737     1,8817
X2     1,2593      ,5244     2,4013      ,0163      ,2314     2,2872

Omnibus likelihood ratio test of direct effect of X on Y:
     Chi-sq         df          p
    12,1357     2,0000      ,0023
----------

Relative indirect effects of X on Y

 POL_VIOL    ->    LOS_FDO     ->    INT_PROT

       Effect     BootSE   BootLLCI   BootULCI
X1      ,2691      ,1439      ,0419      ,6131
X2      ,3329      ,1799      ,0482      ,7666

 POL_VIOL    ->    ID_GJ       ->    INT_PROT

       Effect     BootSE   BootLLCI   BootULCI
X1     -,0338      ,0385     -,1216      ,0339
X2     -,0723      ,0605     -,2174      ,0132

 POL_VIOL    ->    LOS_FDO     ->    ID_GJ       ->    INT_PROT

       Effect     BootSE   BootLLCI   BootULCI
X1      ,0426      ,0220      ,0077      ,0932
X2      ,0527      ,0265      ,0100      ,1116

********************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

NOTE: Total effect model not available with dichotomous Y

NOTE: Effect size option not available with dichotomous Y

NOTE: Direct and indirect effects of X on Y are on a log-odds metric.

NOTE: Variables names longer than eight characters can produce incorrect
output.
      Shorter variable names are recommended.

------ END MATRIX -----
```

Mediation model for protest intentions (adjusted)

```
************** PROCESS Procedure for SPSS Version 3.3 ******************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 6
    Y  : INT_PROT
    X  : POL_VIOL
   M1  : LOS_FDO
   M2  : ID_GJ

Covariates:
 NB_MANIF POLXTRM  AGE      SEX      POL      INCOME_L

Sample
Size:  511

Coding of categorical X variable for analysis:
 POL_VIOL       X1       X2
     ,000     ,000     ,000
    1,000    1,000     ,000
    2,000     ,000    1,000

**************************************************************************
OUTCOME VARIABLE:
 LOS_FDO

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      ,3401      ,1157     1,2236     8,2100     8,0000   502,0000      ,0000

Model
             coeff         se          t          p       LLCI       ULCI
constant     1,8363      ,2757     6,6601      ,0000     1,2946     2,3780
X1            ,6557      ,1168     5,6138      ,0000      ,4262      ,8852
X2            ,7956      ,1475     5,3944      ,0000      ,5058     1,0853
NB_MANIF      ,0068      ,0042     1,6302      ,1037     -,0014      ,0149
POLXTRM       ,0732      ,0528     1,3859      ,1664     -,0306      ,1769
AGE          -,0007      ,0040     -,1769      ,8596     -,0087      ,0072
SEX           ,0811      ,1015      ,7985      ,4249     -,1184      ,2805
POL           ,0369      ,0410      ,9007      ,3682     -,0436      ,1175
INCOME_L     -,0599      ,0673     -,8895      ,3741     -,1922      ,0724

**************************************************************************
OUTCOME VARIABLE:
 ID_GJ

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      ,2212      ,0489     1,5308     2,8629     9,0000   501,0000      ,0027

Model
             coeff         se          t          p       LLCI       ULCI
constant     6,0268      ,3217    18,7327      ,0000     5,3947     6,6589
X1           -,1776      ,1347    -1,3187      ,1879     -,4422      ,0870
X2           -,2974      ,1697    -1,7525      ,0803     -,6307      ,0360
LOS_FDO       ,2116      ,0499     4,2387      ,0000      ,1135      ,3097
NB_MANIF      ,0063      ,0047     1,3526      ,1768     -,0029      ,0155
POLXTRM       ,0221      ,0592      ,3728      ,7095     -,0942      ,1383
AGE          -,0025      ,0045     -,5466      ,5849     -,0114      ,0064
SEX          -,1850      ,1136    -1,6285      ,1040     -,4082      ,0382
POL          -,0239      ,0459     -,5208      ,6027     -,1141      ,0663
INCOME_L     -,0346      ,0754     -,4587      ,6466     -,1826      ,1135

**************************************************************************
OUTCOME VARIABLE:
```

INT_PROT

Coding of binary Y for logistic regression analysis:

INT_PROT	Analysis
,00	,00
1,00	1,00

Model Summary

-2LL	ModelLL	df	p	McFadden	CoxSnell	Nagelkrk
243,4884	83,8860	10,0000	,0000	,2562	,1514	,3200

Model

	coeff	se	Z	p	LLCI	ULCI
constant	-1,8975	1,1980	-1,5839	,1132	-4,2455	,4505
X1	,4241	,4217	1,0057	,3145	-,4024	1,2507
X2	,4600	,6015	,7647	,4444	-,7190	1,6390
LOS_FDO	,2115	,1577	1,3411	,1799	-,0976	,5207
ID_GJ	,3209	,1132	2,8353	,0046	,0991	,5427
NB_MANIF	,1160	,0244	4,7617	,0000	,0683	,1638
POLXTRM	-,0232	,1664	-,1393	,8892	-,3494	,3030
AGE	,0166	,0145	1,1446	,2524	-,0118	,0450
SEX	,6838	,3646	1,8751	,0608	-,0309	1,3984
POL	-,2471	,1206	-2,0497	,0404	-,4835	-,0108
INCOME_L	-,1306	,1928	-,6777	,4980	-,5085	,2472

These results are expressed in a log-odds metric.

********** DIRECT AND INDIRECT EFFECTS OF X ON Y **********

Relative direct effects of X on Y

Effect	se	Z	p	LLCI	ULCI
X1 ,4241	,4217	1,0057	,3145	-,4024	1,2507
X2 ,4600	,6015	,7647	,4444	-,7190	1,6390

Omnibus likelihood ratio test of direct effect of X on Y:

Chi-sq	df	p
1,2479	2,0000	,5358

Relative indirect effects of X on Y

POL_VIOL -> LOS_FDO -> INT_PROT

Effect	BootSE	BootLLCI	BootULCI
X1 ,1387	,1132	-,0584	,3899
X2 ,1683	,1388	-,0736	,4800

POL_VIOL -> ID_GJ -> INT_PROT

Effect	BootSE	BootLLCI	BootULCI
X1 -,0570	,0531	-,1847	,0244
X2 -,0954	,0847	-,3019	,0194

POL_VIOL -> LOS_FDO -> ID_GJ -> INT_PROT

Effect	BootSE	BootLLCI	BootULCI
X1 ,0445	,0251	,0082	,1051
X2 ,0540	,0300	,0110	,1258

********** ANALYSIS NOTES AND ERRORS **********

Level of confidence for all confidence intervals in output:
95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

NOTE: Total effect model not available with dichotomous Y

```
NOTE: Effect size option not available with dichotomous Y

NOTE: Direct and indirect effects of X on Y are on a log-odds metric.

NOTE: Variables names longer than eight characters can produce incorrect output.
      Shorter variable names are recommended.

------ END MATRIX -----
```