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Does Third-Party Intervention Matter? A Video-Based Analysis of the Effect of Third-Party Intervention on the Continuation of Interpersonal Conflict Behaviour

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The article investigates whether third-party intervention influences the continuation of antagonist conflict behaviour in interpersonal conflicts. The analysis is based on a systematic coding of video footage of real-life conflicts from the streets of Amsterdam. A panel data analysis shows that intervention leads to discontinuation of conflict behaviour. The analysis furthermore finds that while physically forceful intervention stops conflict behaviour, expressions of disapproval have no noticeable effect. The social relationship between third parties and antagonists does not appear to matter for this effect. Third parties thus play an integral part in the development of interpersonal conflicts, but this influence depends on how they intervene. Future preventive efforts should emphasize that intervention works but must be performed in certain ways to be effective.

Key Words: intervention, third party, interpersonal conflicts, violence, video analysis

INTRODUCTION

When an interpersonal conflict erupts in a public space, there are often third parties present (Planty 2002), and they will typically try to de-escalate the conflict (Philpot *et al.* 2019b). The antagonists of the conflict, however, might not simply abide to this interference. Rubin details how: *'All too often, students of third-party roles seem to have made the assumption that disputants welcome outside intervention, that they view themselves as victims awaiting rescue by a white knight on a speeding charger. Perhaps they do not.'* (Rubin 1980: 389). Third-party intervention, thus, does not necessarily de-escalate a conflict. The antagonists of the conflict might disregard the interventions and attempt to carry on unfazed by the actions of the third parties.

The frequent interventions thus show the courage of the third parties and their willingness to intervene, but also beg the question of whether these interventions actually manage to de-escalate the on-going conflicts. While the circumstances under which a third party takes

action has received a lot of attention (for a review of this literature, see [Fischer et al. 2011](#)), the effect of the interventions on the development of interpersonal conflicts remains comparatively underexplored. This is especially relevant to investigate since intervention comes at a cost for the third parties: intervention in an interpersonal conflict or fight is a stressful and potentially even dangerous undertaking ([Liebst et al. 2018](#)). If intervention does not influence the development of the interpersonal conflicts, it would thus mean that the intervening third parties are exposed to an unnecessary risk.

The ambition of the current study is to investigate whether interventions by third parties influence the continuation of conflict behaviour by an antagonist already engaged in an interpersonal conflict. Furthermore, the study investigates the influence of different subtypes of intervention. The current study investigates this by way of video footage of naturally occurring conflicts. The use of video footage makes it possible to measure the influence of third-party interventions on a level that would be unreliable or even impossible through other empirical approaches ([Phillips and Cooney 2005](#); [Lindgaard and Bernasco 2018](#)). This allows—for the first time—an investigation of how intervention shapes the second-by-second development of conflict situations and a subdivision of types of intervention behaviours. This study thus brings us closer to an understanding of how third parties influence the development of interpersonal conflicts and whether this influence depends on the type of intervention.

The analysis shows that third-party intervention decreases the likelihood that an antagonist will continue to engage in conflict behaviour. The analysis furthermore finds that it is the physically forceful intervention that brings an end to the conflict behaviours. Expressed disapproval, on the other hand, does not have any measurable effect. This applies to third parties from both the in- and out-group of the antagonists.

Measuring the effect of intervention

While it continues to be an under-researched topic, the effect of third-party intervention on interpersonal conflicts has been addressed by a few empirical studies. The overall consensus among these studies seems to be that third-party intervention shapes the development of interpersonal conflicts ([Felson 1982, 1984](#); [Wells and Graham 1999](#); [Planty 2002](#); [Phillips and Cooney 2005](#); [Levine et al. 2011](#)). When third parties try to stop a conflict, they typically succeed in this endeavour (note, however, [Felson and Steadman 1983](#) find no effect of intervention on the outcome of conflicts). While thus reaching a similar overall conclusion, these studies measure the effect of intervention in two different ways. Some studies use a between-conflict measure of the effect of third-party interventions, while others use a within-conflict measure.

The studies that use a between-conflict measure of the effect of intervention use the overall situational severity to measure the effect of the intervention. These studies measure whether there is a connection between the presence of intervention by third parties and the likelihood that an interpersonal conflict reaches a certain level of severity. They are therefore investigating if third-party intervention prevents conflicts from reaching certain levels of severity. The level of severity is conceptualized in different ways across the studies. Felson and Steadman make a distinction between assault and homicide ([Felson and Steadman 1983](#)). Two studies conceptualize severe situations as conflicts that turn violent compared to situations that do not escalate to violence ([Phillips and Cooney 2005](#); [Levine et al. 2011](#)). Lastly, two studies use ordinal scales with multiple levels of severity that measure either the violence by the offender across the situation ([Felson et al. 1984](#)) or the severity of the situation overall ([Felson 1982](#)). Despite the diverging definitions of what constitutes a severe conflict, these studies all share the premise that a single measure of severity summarizes the entire situation.

The between-conflict measure of the effect of intervention, however, has a central drawback. Since these studies measure the highest severity across the situation, it means that once the situation has reached a certain level of aggression it does not matter how the situation develops

afterwards. In some situations, the highest level of severity might be reached before the third parties have taken action at all. In that case, the behaviour of the antagonist is explained with intervention behaviours that happen later in the conflict.

This issue is exacerbated by the fact that the severity of the conflict seems to influence the likelihood that third parties take action (Parks *et al.* 2013). In a study by Felson (1982), he, contrary to the hypothesis of the study, finds that there is a positive relationship between third-party intervention and the severity of the situation. He elaborates: '*However, the results in general indicate a positive rather than a negative relationship between mediation and severity, suggesting that mediating behavior is affected by the severity of the incident rather than the reverse*' (Felson 1982: 250). Intervention is thus more frequent in severe situations, not because the intervention escalates the situation, but because the severity of the situation makes the third parties intervene. This influence of conflict severity on third-party behaviour is corroborated by a meta-analytical review (Fischer *et al.* 2011). In order to overcome this bidirectional influence between the conflict severity and the intervention by third parties, it is necessary to look at the development within the conflict rather than the overall severity.

The second way to measure the effect of third-party intervention is within conflict. This measure does not focus on the situational level of severity, but rather if third-party interventions lead to de-escalation within the conflict. It is not based on preventing the situation from reaching a certain level of severity, but whether or not intervention leads to a less aggression compared to how the situation was or would otherwise have been. Since de-escalation is a relative concept, this measure typically requires something within the situation to compare the conflict development to in order to determine whether the conflict has de-escalated or not. This need for comparison is approached in different ways in the existing research.

In an observational study of conflicts in bars, trained observers are asked to estimate whether there is: '*less aggression after third-party involvement compared with the level of aggression before third-party involvement*' (Wells and Graham 1999: 464). This study thus compares the change in aggression before and after the intervention. Another study measuring the effect of intervention within the conflict is the previously mentioned study by Felson (1982). After finding a positive correlation between intervention and the overall severity of the conflict, he conducts an auxiliary analysis to overcome the bidirectional influence biasing the first approach. To do this, he records the behaviour-by-behaviour development of conflict situations through interviews with conflict parties. This analysis shows that the behaviour that follows after a mediating intervention is less likely to be aggressive compared to the likelihood across the situation at large. Lastly, a survey-based study asks respondents whether the involvement of third parties helped or worsened the conflict situation (Planty 2002). While appealing in its simplicity, this approach lacks clear definitions of what helped or worsened means. It does not point explicitly towards any comparison, but rather leaves this to the respondents of the survey to figure out on their own.

The need for comparison for the within-conflict measure leads to some methodological challenges because this requires a high resolution of what transpires throughout the conflict situation. If we are to investigate whether a situation improves when a third-party intervention takes place, we need to know not just when the interventions takes place but also what the conflict situation was like before and after the intervention. It is not easy to obtain descriptions this minute for an interpersonal conflict. Conflicts typically happen fast and are difficult for the involved parties to remember. Antagonists struggle to recall even the presence of third parties (Phillips and Cooney 2005; Bernasco *et al.* 2013) and the need to record the chronology of the situation only complicates matters further. Furthermore, research has shown that observing social behaviour *in situ* can lead to issues of reliability (Morrison *et al.* 2016).

The ambition of this article is to investigate if third-party intervention has an effect on the continuation of conflict behaviour by antagonists of interpersonal conflicts. The effect of intervention is conceptualized as whether the likelihood that antagonists continue to engage in con-

flict behaviour decreases after a third-party intervenes. This means that the current study uses a within-conflict measure, since it does not measure the situational severity overall, but rather compares the development after an intervention happens to other similar periods of the conflict without intervention. In order to limit the bidirectional influence between intervention behaviour and the antagonist behaviour, I use a time-lagged version of intervention in the analysis. The analysis, thus, investigates whether intervention behaviour influences the antagonist behaviour just after the intervention has taken place.

Expressed disapproval and physically forceful intervention

The influence of third-party intervention on interpersonal conflict is oftentimes explained with the theory of impression management (Felson and Steadman 1983). This theory reasons that the way we act in social encounters is constructed to make other people perceive us in a favourable way. For interpersonal conflicts, this means that individuals regulate their aggressive behaviour in order to make it acceptable to the other people present in the situation, including the third parties (Felson 1978). This tradition has inspired a plethora of studies investigating how people actively try to manage the impression that they make on people (Tedeschi 2013). Luckenbill, for example, emphasizes the central position of the third parties in his analysis of criminal homicide (Luckenbill 1977). He argues that transactions resulting in homicide are character contests between the antagonists to gain a favourable situational identity. In order to obtain this identity, the antagonists not only pay attention to each other, but also to the third parties present in the situation. According to Luckenbill's analysis, homicide happens when the antagonists have reached a consensus that '*violence was a suitable if not required means for settling the contest*' (Luckenbill 1977: 177). The third parties present in the situation can, however, oppose this agreement and thereby challenge what means are legitimate for the antagonists in their pursuit of a favourable situational identity. In other words, if the third parties make it clear that violence or aggression is unacceptable, this will prove a less obvious path to a desired situational identity (Felson 1982).

While some interventions rely solely on the expression of disapproval, other intervention behaviours have a physically forceful component as well. With the physically forceful intervention behaviours, the third parties are in some way trying to restrain or remove an antagonist through the use of their own bodies. This could be a third party grabbing onto an antagonist and pulling the person backwards away from the conflict. The interventions that rely solely on expressed disapproval, on the other hand, are not physically forcing the antagonist to do anything but relying on the influence described by the impression management theory. This could be a third party holding up a hand with the palm turned towards an antagonist signalling for them to halt or pointing forcefully at an antagonist who is approaching another antagonist. In addition to investigating whether intervention in general influences the likelihood that an antagonist continues to perform conflict behaviour, the analysis also examines the effect of physically forceful interventions and expressed disapproval, respectively.

In-group and out-group intervention

According to the theory of impression management, the impressions different people have of us are not equally important to us. While all people might influence us, the impression of some people matters more than the impression of others. This difference in the importance of impressions means that some third parties have more power to influence antagonists than others. Hepburn describes how '*Individuals attracted to the audience (family, friends, spouse) are more susceptible to the influence of the audience*' (Hepburn 1973: 426). A similar influence has been proposed by the criminological research on *Handlers* and the way they can prevent crime. This line of research proposes that third parties with a social relationship to an antagonist have a 'handle' to influence this person that makes the intervention more effective (Felson 1995; Tillyer

and Eck 2011). Through knowing the antagonist, third parties will thus know what to do to calm the antagonist down more effectively. Following this, it seems third parties that have a social relationship to an antagonist are better equipped to influence an interpersonal conflict than someone who does not have this social bond.

In sum, the article first investigates if intervention by third parties de-escalates an ongoing conflict. Following this, it looks at subtypes of intervention and their influence on the conflict development. More specifically, it investigates the effect of expressed disapproval and physically forceful intervention and how the social relationship between the third party and antagonist might influence the effect of the intervention.

MATERIALS AND METHODS

Collecting the video footage

The video footage used for the analysis was collected from April to August 2017. The researcher was granted access to the video files by the Dutch Ministry of Internal Affairs. The footage was identified by camera operators employed by the municipality of Amsterdam, who watch live-streaming footage 24 hours a day from about 300 surveillance cameras throughout the city. These cameras are placed in public spaces that the mayor of Amsterdam's office has selected as hot spots of crime and disorder, typically shopping, touristic, public transport and nightlife areas. The cameras automatically record and save all footage for 28 days. The camera operators were instructed to record the presence of any conflict irrespective of whether it escalated to physical violence or not. Based on these records, a police officer exported the relevant video recordings, which were then handed over to the research group. We asked to receive as much footage leading up to and following the conflict as possible. In total, this amounted to 165 video recordings. The footage of each situation was assessed for its utility for the study. Only videos that conform to the following criteria are included in the analysis:

1. An interpersonal conflict is visible in the recorded footage
2. The quality of the video (resolution, brightness and frames per second) is sufficiently high to allow the coding
3. There are no or only negligible breaks in the recording

Whether the quality of a video is sufficiently high to code the behaviours relevant to the study was evaluated for each video. The videos were evaluated on a case-by-case basis because the codability of a video depends on the interplay between a number of factors (e.g. if the conflict happens further from the camera, a higher resolution is necessary to encode the interaction). The requirement of sufficiently high quality entails a conviction that the presence of the behaviours would be detectable if they were performed. Out of the original sample of 165 situations, 25 did not depict a conflict, 36 lacked sufficiently high resolution, and 72 had parts of the conflict missing (the categories are not mutually exclusive). If it was clear from the recording that the start or end of the conflict situation was missing from the footage, the video in question was thus not included in the final sample. This results in a final sample of 52 situations. The final analysis, thus, utilizes 31% of the collected videos. This level of data utilization is comparable to previous research based on video footage of interpersonal conflicts (Philpot *et al.* 2019b).

Coding the video footage

The video footage was coded using Behavioral Observation Research Interactive Software (BORIS) (Friard and Gamba 2016). This program allows one to code observed behaviours and

their exact timing. The current study investigates the developments of the antagonist behaviour. In the analysis, anybody who is directly engaged in conflict behaviour at some point during the video is defined as an antagonist. This definition of an antagonist encompasses individuals who have intervened as third parties first and then later get directly involved in the conflict (or vice versa). I chose this inclusive definition because previous research has argued that role changes are common in interpersonal conflicts (Felson *et al.* 1984).

For each of the antagonists, I coded the conflict behaviours of this individual throughout the conflict situation. The coding of the current study is based on a coding scheme available in Appendix 1 developed through watching a small subsample of the video footage and in conversation with existing coding schemes used to analyse antagonist and third-party behaviours (Lindegaard *et al.* 2017; Philpot 2017; Liebst *et al.* 2018). The conflict behaviours include both physical and non-physical behaviours (see Appendix 1 for more information). Each behaviour was coded with a time-stamp, which shows exactly when the behaviour happened in the chronology of the conflict situation.

Since the aim of the current study is to see how the intervention of third parties shape the behaviour of antagonists, I also coded the third-party intervention behaviours towards each antagonist. Every non-violent behaviour that is directed towards an antagonist by someone who the antagonist is not engaged in a conflict with is coded as a third-party intervention behaviour. The intervention behaviours are coded with a time-stamp to know exactly when each intervention behaviour happens in the development of the conflict. Furthermore, I also coded whether the intervention behaviour is physically forceful (pushing, holding back, hauling off, and blocking movement) or expressing disapproval (calming hand gestures, non-forceful touching and aggressive gestures). It is worth noting that the videos have no sound, which means that the behaviours are strictly based on what is observable.

Lastly, the social relationship between the intervening third parties and the antagonists was coded. This measure is based on the display of tie signs visible in the videos. The visibility of social relationships in public behaviour have been observed in both qualitative (Hall 1966; Goffman 2009) and quantitative research (McPhail and Wohlstein 1982; Ge *et al.* 2012; Solera *et al.* 2013; Liebst *et al.* 2018). Based on this literature, I inferred the social relationships based on physical proximity, people arriving and leaving the scene together, people wearing matching clothes or uniforms and people standing close together engaged in casual conversation, holding hands or similar tie signs.

Data structure

In order to analyse the interpersonal conflicts, each situation is divided into a number of 3-second time segments (the findings based on 3-second segments overall seem to generalize to shorter and longer segment durations as discussed below). For example, if a conflict situation has a time span of 15 seconds, it will be divided into five time segments each referring to a specific 3-second period of the situation. The time segments are then encoded for each antagonist of the conflict. The unit of measurement is thus 3-second segments per antagonist of which there can be (and often is) more than one of per situation. Since the ambition of the current article is to study the continuation of conflict, the analysis is only based on time segments directly preceded by conflict behaviour by the same antagonist. From the coded material, I thus select all time segments where an antagonist performs a conflict behaviour in the previous time segment. For each of these segments, I first record the presence or absence of conflict behaviour by that specific antagonist within the time segment. This variable thus measures the continuation or discontinuation of conflict behaviour. Second, for each of the selected time segments, I register whether there is an intervention towards the antagonist in the preceding time segment and the subtype of this intervention. This variable is used to investigate if third-party intervention influences the

chance of the continuation of conflict behaviour. I use the preceding time segment to limit the bidirectional influence of the antagonist behaviour on intervention behaviour, as detailed above.

Since the current study investigates the influence of intervention on the continuation of conflict behaviour, there must be at least one instance with conflict behaviour in two consecutive time segments. If that is not the case, there are no observations of continued engagement in the conflict and it is impossible to measure whether the intervention influences the likelihood that the antagonist continues to engage in the conflict or not. In other words, antagonists that only perform isolated acts of conflict behaviour are excluded from the analysis.¹ This amounts the exclusion of 18 antagonists out of the original 140 of the coded empirical material. Half of the excluded antagonists only perform conflict behaviours in a single time segment and more than 80% of the excluded antagonists perform conflict behaviours in no more than two (non-consecutive) time segments or less across the conflict situation.

Assessment of reliability

The video footage was coded by the author of the article. To estimate the reliability of the codes, a trained graduate student independently coded 11 videos. Cohen's Kappa (κ) was used to estimate the agreement between the two coders. Agreement was defined as both coders identifying the same behaviour performed by the same actor towards the same target within three seconds. All of the measures used in the analysis reach a substantial interrater agreement with a kappa above 0.6 ($\kappa_{\text{intervention behaviour}} = 0.71$, $\kappa_{\text{phys. forceful int.}} = 0.69$, $\kappa_{\text{exp. disappr.}} = 0.63$, $\kappa_{\text{antagonist behaviour}} = 0.72$, $\kappa_{\text{social relation}} = 0.89$). These results demonstrate that the analysis is based on reliable observations (Landis and Koch 1977).

Statistical model

The article investigates if third-party intervention influences the continuation of conflict behaviour by an antagonist. To investigate this, I use repeated observations of each antagonist across the conflict situations. The analysis of the article is thus conducted on the repeated behaviours of individual antagonists rather than the behaviours in the situation at large. The number of observations for an antagonist is the same as the number of time segments where that antagonist performs conflict behaviour. This means that the number of observations varies from one antagonist to the other. The data for the current study are therefore an unbalanced panel. In order to analyse the data, I use a fixed-effect panel data model with a logit link since the dependent variable is a binary variable measuring if the specific antagonist continues the conflict behaviour or not.

The strength of panel data model is that it removes all time constant within-person bias from the observations. It removes the within person bias since the data of the current investigation is measuring multiple behaviours within each antagonist. The fixed-effect panel data model estimates whether changes across these repeated observations of each antagonist shows that a change in an independent variable is correlated with a change in the outcome behaviour. This means that stable confounding factors that might bias the results are automatically taken into account in the estimation of the model.² This includes both observed (e.g. gender of the antagonist) and unobserved (e.g. genetic disposition) variables (Halaby 2004). Since some of the antagonists are from the same situations (i.e. the antagonists are nested in situations), I estimate the model with cluster-corrected standard errors to correct for any potential inter-dependences between the antagonists that are sampled from the same situations.

1 This is the reason that two is the lowest number of observations per antagonist in Figure 1.

2 Here it is worth noting that while the social relationship between a third party and an antagonist does not change throughout the situation, this variable is not necessarily stable across the situation because more than one third party can intervene towards an antagonist throughout the conflict. While each relationship thus remains the same, an antagonist can be the target of intervention by third parties from both their in- and out-group within the same situation.

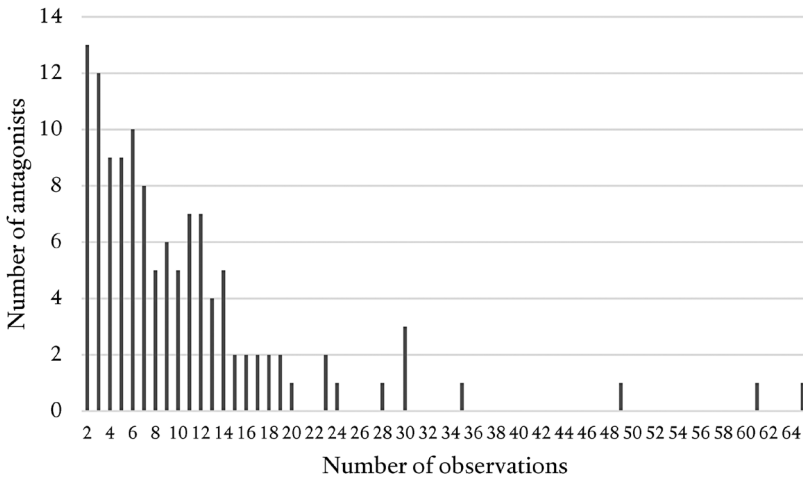


Figure 1. Number of antagonists per number of observations in the data frame.

Descriptive statistics

The current analysis is based on a varying number of repeated observations per antagonist from the observed conflict situations. Across the 52 situations investigated, there are 1274 observations of 122 antagonists. This means that there are on average are 10.4 observations per antagonist. **Figure 1** shows how the antagonists in the empirical material (y-axis) are distributed across the number of observations (x-axis).

Figure 1 shows that the lowest number of observations for an antagonist is 2 (the model requires variation on the outcome variable and thus necessitates at least two observations) and the highest number of observations for an antagonist is 65. The most frequent number of observations per antagonist is 2. There are 13 antagonists with two observations in the sample. The general trend of the figure appears to be, that the higher the number of observations, the fewer antagonists.

The dependent variable of the analysis is a binary variable measuring the presence of absence of continued conflict behaviour (conflict behaviour in the time segment following another time segment with conflict behaviour). Four hundred and seventy-eight of the 1,274 observations in the data are instances of continued conflict behaviour. The first independent variable of the analysis is intervention towards the antagonist in the preceding time segment. In the data, there are intervention preceding the outcome variable in 234 of 1,274 observations. Of the 1,274 observations, there are 108 observations where an in-group third party makes a physically forceful intervention. There are 88 observations where an out-group third party makes a physically forceful intervention. Furthermore, there are 32 observations where an in-group third-party expresses disapproval and 38 observations of an out-group third-party expressing disapproval.

RESULTS

Based on the fixed-effects panel data analysis, this section first reports whether intervention in general influences the likelihood that an antagonist continues to engage in a conflict behaviour. After this, the results of how the different subtypes of intervention behaviour influence the continuation of conflict behaviour will be presented. Section 1 of **Table 1** shows the influence of intervention on the likelihood of continuation of conflict behaviour.

Table 1. Fixed-effects panel data regressions with cluster-corrected standard errors of the influence of intervention on the continuation of conflict behaviour

	Odds ratio	Standard error	<i>p</i> -value	95% confidence interval	
(1) Intervention	0.512	0.088	<0.001	0.366	0.716
(2) Expressed disapproval by in-group	0.815	0.307	0.587	0.389	1.705
Physically forceful in-group intervention	0.458	0.106	0.001	0.291	0.720
Expressed disapproval by out-group	1.716	0.618	0.134	0.847	3.477
Physically forceful out-group intervention	0.467	0.146	0.015	0.253	0.863
(3) Intervention (violence)	0.492	0.171	0.041	0.249	0.972

Section 1 of [Table 1](#) shows that there is a decreased likelihood that the conflict behaviour of the antagonist will continue after a third party has intervened towards this person. The influence of the third-party intervention on the behaviour of the antagonist in the following time segment is statistically significant ($p < 0.001$). The odds ratio of the panel data regression shows that the odds that the aggression of the antagonist will continue when there is no intervention is almost twice the size compared to when there is an intervention. This indicates that intervention towards an antagonist negatively influences the likelihood that the antagonist continues to engage in conflict behaviour.

Section 2 of [Table 1](#) shows a panel data fixed-effects model when intervention is divided into physically forceful intervention and expressed disapproval performed by a third party from either the in-group and out group of the antagonist. In this model, the intervention is thus divided in four subgroups: expressed disapproval by an in-group member, physically forceful intervention by an in-group member, expressed disapproval by an out-group member, and lastly physically forceful intervention by an out-group member.

The first independent variable in section 2 of [Table 1](#) is expressed disapproval by an in-group third party. This variable does not have a statistically significant influence on the outcome variable. The second independent variable is the in-group physically forceful intervention. This variable has a statistically significant influence on the outcome variable ($p = 0.001$). The odds ratio for this variable shows that when there is a physically forceful intervention by an in-group member the odds that the conflict will continue in the following time segment is less than half the size of when there is no intervention.

The third variable in section 2 of [Table 1](#) is the expressed disapproval by out-group third parties. This variable does not have a statistically significant relationship with the outcome variable. The fourth and last of the independent variables is the physically forceful intervention by an out-group third party. This variable is statistically significant ($p = 0.015$). This type of intervention has an odds ratio of 0.467, which indicates the odds that an antagonist continues the conflict behaviour in a time segment following a physically forceful intervention by an out-group third party is just below half the size of segments where this type of intervention does not happen.

Overall, the model with the subtypes of intervention behaviour presented in section 2 of [Table 1](#) shows that irrespective of the social relationship between the antagonist and the third party, it appears that the physically forceful interventions decrease the likelihood of continued conflict behaviour, while there is no evidence that interventions relying solely on expressed disapproval influence the dependent variable.

Robustness of findings

A central decision of the analysis is the delimitation of the conflict into three-second time segments. This is, however, to a certain extent, an arbitrary duration. The segments could also have been 2 or 4 seconds in length. In order to investigate whether this decision is decisive for the results of the analysis, I reran the analysis with varying durations of time segments spanning from 1 to 5 seconds. The results of these estimations can be seen in Figure 2.

Figure 2 shows that the odds ratio for intervention on the continuation of conflict across the five different durations of time segments. This figure shows no major changes in the odds ratio across the different lengths of time segments and that the confidence intervals consistently fall below one, which means that intervention remains statistically significant across the configurations.

The odds ratio for the physically forceful intervention subtypes across the different lengths of time segments are shown in Appendix 2. This shows that the in-group physically forceful intervention is consistently statistically significant and only shows small variations in odds ratio across the different configurations. The out-group physically forceful intervention, however, is only statistically significant when the time segments are 3 seconds or longer. Furthermore, there appears to be an increase in the odds ratio for this variable as the time segments increase in length. Neither of the subtypes of expressing disapproval reach statistical significance across the various segment durations.

A second aspect of the analysis that might influence the conclusion of the study is the fact that there are relatively few observations of the subtypes of expressed disapproval in the empirical material. A way to increase the number of observations of expressed disapproval is to aggregate the in-group and out-group interventions. When the in-group and out-group categories are pooled, the conclusion of the study remains unchanged (see Appendix 2 for regression output). The physically forceful intervention has a statistically significant influence on the continuation of conflict behaviour ($p < 0.001$), while the expression of disapproval continues to be not statistically significant ($p = 0.664$).

A third decision of the analysis that might influence the outcome is that the dependent variable includes all conflict behaviours by the antagonist, whether physical or not. Another option would

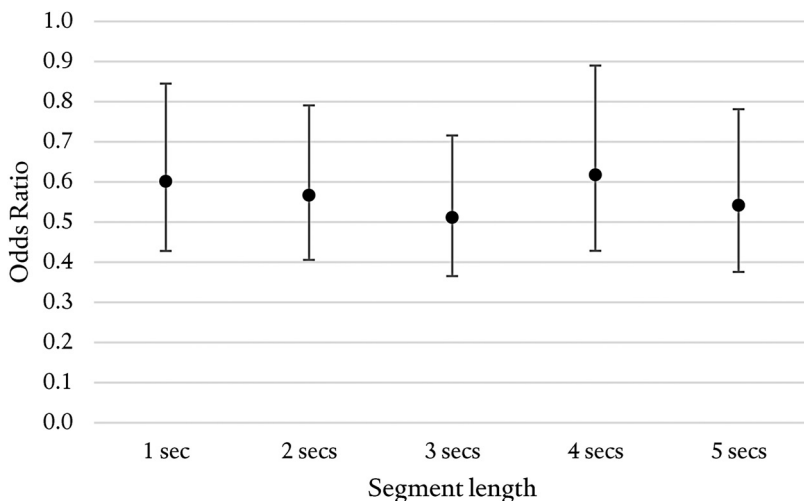


Figure 2. The influence (odds ratio) of intervention on the continuation of conflict behaviour with varying lengths of time segments.

have been to only look at the violent behaviours of the antagonist. The results of this analysis can be seen in section 3 in [Table 1](#). This model yields similar results to the model investigating the influence of intervention on conflict behaviour in general.³ The intervention makes it approximately half as likely that the violent behaviour will continue and this measure remains statistically significant ($p = 0.041$) with the alternative specification of the dependent variable.

A fourth aspect that could influence the outcome of the model is the fact that the analysis only includes intervention behaviours from the directly preceding time segment. It could be that the inclusion of interventions further back will reveal that it is actually these interventions that influence the behaviour of the antagonists. To investigate this, I estimate the model while controlling for the intervention behaviours in the time segment preceding the intervention behaviours already included in the analysis. The addition of the intervention behaviours two time segments before the outcome variable, however, does not change the results of the analysis (see Appendix 2 for regression output). The only variable that is statistically significant remains the physically forceful intervention that takes place in the time segment immediately before the outcome variable.

Lastly, an assumption of the current model is that it is intervention in the time segment preceding the outcome variable that influences the continuation of conflict. I included a time lag in order to limit the bidirectional influence between intervention behaviour and conflict behaviour. In order to investigate whether this decision is consequential for the findings of the study, I reran the analysis with a variable measuring intervention by third parties in the same time segment as the dependent variable. The results of this analysis show that the concurrent intervention does not have a statistically significant influence on the continuation of conflict behaviour (see Appendix 2 for regression output). While this does not inform us whether it was a correct decision to lag the intervention variable or not, it shows that this decision was decisive for the outcome of the analysis.

DISCUSSION

The article investigated the effect of third-party intervention on the continuation of conflict behaviour. Based on video footage of real-life interpersonal conflicts, I used a fixed-effect panel data model with cluster-corrected standard errors to estimate whether intervention behaviour influences whether antagonists continue to engage in an already ongoing conflict. The analysis showed that the odds that an antagonist continues to engage in conflict behaviour is almost twice as high when there is no intervention compared to when there is. The overall finding of the article converges with the general finding in the empirical literature that intervention makes a difference. This study extends this finding to the second-by-second development of conflicts. Furthermore, when intervention is divided into subtypes, the analysis shows that the physically forceful intervention (interventions where the third parties in some way use their body to forcefully withhold, restrain, or remove an antagonist) influences the odds that conflict behaviour will continue, while the expression of disapproval (interventions where a third party expresses disapproval of the situation by e.g. gently touching, holding a hand in front of, or making calming hand gestures towards an antagonist) does not have any observable effect. This applies to third parties from both the in- and the out-group of the antagonists.

The analysis of this study thus shows that interventions are not only frequent in interpersonal conflicts, as shown by previous research ([Philpot et al. 2019a](#)), but also appear to influence the behaviour of the antagonists engaged in conflict behaviour. It is thus not too late to intervene in a conflict that has already started. Quite on the contrary, it appears that interventions have a clear de-escalatory influence on the behaviour of the antagonist. This means that the actively

3 This alternative specification reduces the number of observations in the analysis because the number of observations here is limited to the number of segments preceded by violent behaviours instead of conflict behaviour in general. For this reason, the effect the behavioural subtypes are not investigated further.

intervening third parties are not acting in vain, but rather shape the way conflicts develop and help restore order when a situation has gone awry. These findings underline the integral role that third parties often play in the step-by-step development of interpersonal conflicts.

The current study also casts new light on the way third parties can influence a conflict. The influence of third-party intervention is often explained through third parties communicating to the antagonists how to obtain a favourable situational identity (Felson 1978). While all intervention behaviour arguably expresses disapproval of the current behaviour, the analysis only finds that physical forcefulness makes antagonists discontinue the conflict behaviour. The results of the current study, thus, indicate that in order to de-escalate an ongoing conflict, the third parties might have to use their bodies and get physically involved in the conflict themselves.

The current study focuses on whether intervention influences the likelihood that conflict behaviour continues. Previous research, however, argues that the processes that lead to the initiation and continuation of a conflict are distinct (Felson 1984). If the processes that lead to initiation and continuation of a conflict are different, this could mean that the way third parties can influence these processes differs, too. Expressed disapproval could play a role in preventing the initiation of conflict, even though the current study does not find any evidence of its influence on the (dis)continuation of conflict.

Following the existing literature, I expected that the influence of third-party intervention would be stronger for in-group third parties compared to out-group third parties. Previous literature argues that we care more about the impression we leave on people we know and that in-group third parties also will know which ‘handles’ to use when trying to influence the antagonists (Hepburn 1973; Tillyer and Eck 2011). The findings for the in-group and out-group interventions in the analysis are, however, similar. For both groups, the physically forceful intervention has a negative effect on the continuation of the conflict while the expressed disapproval does not have any observable influence. The physically forceful intervention furthermore has a similar effect-size for the two groups. We therefore do not see the expected difference in effect based on social group. It appears that when the conflict has started the effect of a third party from the in-group and the out-group intervening in the same way has a similar effect.

Social identity theory informs us that situational cues will make some group identities more salient than other. While the social relationship is a factor that has proved to be influential in past research of third-party behaviour (e.g. Liebst *et al.* 2019), it is—following social identity theory—only one factor that could shape the salient in- and out-groups in the conflict situations. Previous research, e.g., found that aspects such as clothing can engender specific group identities (Levine *et al.* 2005). It could thus be that social relationships are relevant for the conception of in-group and out-group in some situations, while other situations the clothing of the involved parties make another social identity salient. A more fine-grained conception of which social groups a salient in the situation might reveal that these group identities influence the effect of intervention.

While previous research thus argues that social relationships give third parties ‘handles’ to know how to de-escalate an antagonist and make their disapproval more important to the antagonists, the current analysis does not find evidence that this group is more successful in influencing the behaviour of the antagonist compared to the influence of the out-group third parties. Rather, the effect appears to be almost identical between the two. This means that while third parties are more likely to intervene when they know someone involved in a conflict (Phillips and Cooney 2005; Liebst *et al.* 2019), are more likely to target an antagonist they have a social relationship to (Ejbye-Ernst *et al.* 2020), and are more likely to be victimized themselves if they know someone who has been victimized in the conflict (Liebst *et al.* 2018), it does not appear that the effect of intervention by a third party with a social relationship to an antagonist is different from that of someone who does not have such a relationship. Social relationships thus structure and influence many aspects of

third-party behaviour, but from the current analysis, it does not seem that the effect of intervention on on-going conflict is one of them. When it comes to stopping conflict behaviour, it thus appears to be more about *what* you do than *who* you are.

The findings of the current study have consequences for the prevention of conflict and violence. One of the circumstances that lead third parties to hesitate to intervene in a conflict is that they do not feel confident that they have the skills to intervene effectively (Latané and Darley 1968). The current study shows, however, that third-party intervention makes a difference in the continuation of interpersonal conflicts. Furthermore, it shows for the first time that when third parties intervene with their body and physically withhold or separate the antagonists, their intervention influences the continuation of conflict behaviour. The study does not find any evidence for the influence of the non-physical expression of disapproval on the conflict development. The current study thus brings us a step closer to providing concrete information for third parties wanting to stop an ongoing conflict. The study furthermore shows that no matter the social relationship of the third parties they have the capacity to de-escalate a conflict situation.

Previous studies on third-party intervention have indicated that there is a bidirectional relationship between third-party intervention and the behaviour of the antagonist: conflict behaviour by the antagonist motivates third-party intervention, while intervention influences the conflict behaviour. While the primary investigation of this study looks at intervention in the preceding time segment, the effect of concurrent intervention was investigated in the robustness check of the model. This analysis showed that while preceding intervention lowers the likelihood of the continuation of conflict, the concurrent intervention does not appear to influence the continuation of the conflict. This difference is probably an expression of the bidirectional influence between third-party intervention behaviour and antagonist conflict behaviour. The concurrent intervention does not have significant influence because it is both reducing the severity of the conflict but also motivated by it.⁴

This finding underlines the complex relationship between third-party intervention and antagonist conflict behaviour. This corroborates findings from previous research (Felson 1982) and shows the necessity of taking this bidirectional influence into account when investigating the influence of third-party behaviour on interpersonal conflicts. Not only do the two variables influence each other but they do so in opposite directions, which could cancel out or even reverse the effect of intervention if not treated with care. This underscores the necessity of using a within-conflict measure of the effect of intervention that accounts for this bidirectional influence. Only by accounting for the development within the conflict is it possible to understand how some situations get out of control while others do not. This also emphasizes the shortcoming of the studies that use a between-conflict measure of the effect of intervention. These studies might find a correlation between intervention and overall situational severity, but we are not able to discern how much of it can be attributed to the effect intervention has on the behaviour of the antagonists and how much can be attributed to the reversed influence.

A limitation of the current study is that it only investigates the immediate effect of intervention. The outcome of the analysis only measures the effect of intervention on antagonist behaviour in a single segment. This means that the analysis is limited to investigations of how the intervention shapes the immediate development of the antagonist behaviour. It might be that the conflict later re-escalates, even though the intervention de-escalates the antagonist behaviour just after the intervention. While the 'long term' situational effect of intervention thus is beyond the current study, the robustness check of the model shows that at the influence of the interventions remains significant when the time segments are extended in duration from three

4 An alternative explanation for this missing connection between concurrent intervention and conflict continuation is that the effect of intervention is not immediate, but rather takes a few seconds to take effect.

to five seconds. This shows that while the current study investigates the immediate effect of intervention it is not limited to a three-second period following the intervention.

Another limitation of the current analysis is the lack of sound. While the video footage offers a high resolution of the behaviour that transpires throughout the conflict situation, it does not have any sound. This means that the types of intervention included in the current analysis are limited to the visible behaviours of the third parties. Any interventions that are based solely on the third parties speaking or shouting are thus not included in the analysis. These types of behaviour are beyond the current study and require videos that contain sound or an alternative data source to investigate further. This also means that the findings of the current study should be viewed in this light. It might be that the verbal utterances allow non-physically forceful interventions to influence the conflict development. If that is the case, then the addition of sound to the video clips would allow us to see the difference between different types of non-physical intervention. This would require use of other types of video footage than surveillance footage, which rarely contains sound. An option would be to use footage from phones or body cameras as used by other researchers (e.g. Whitehead *et al.* 2018; Friis *et al.* 2020).

A third limitation of the current study is a potential bias in the way the videos are sampled. The videos are all collected from surveillance cameras placed in areas selected because they are hot spots of crime and disorder. It could be that these areas function in specific ways, which could potentially influence the effect of intervention behaviour. The videos furthermore might be oversampled from the nightlife of Amsterdam. It could be that alcohol influences the receptiveness of the antagonists engaged in conflict behaviour making them less susceptible to the influence of third-party interventions. To overcome this potential limitation in the generalizability of the results, we would need a sample of videos from other types of locations.

This article has showed how third-party interventions matter and help de-escalate ongoing conflicts in public spaces. Future studies might investigate this further by looking at whether third-party interventions also influence interpersonal conflicts that happen in private spaces. The study also found that physically forceful intervention de-escalates ongoing conflicts. Future studies might investigate if physically forceful intervention also poses a higher risk of victimization for the third-party intervening compared to expressing disapproval. The results of the analysis did not show any noticeable difference in the effect of intervention by third parties from the in-group and the out-group on the continuation of conflict. Future studies might investigate this further by examining if this also holds true for the initiation of conflict.

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APPENDIX 1. BEHAVIOURAL CODING SCHEME

Behaviour	Definition	Conflict behaviour	Intervention behaviour	Physically forceful intervention	Expressed disapproval
Calming hand gestures	Slow, calming gestures performed with open hands usually with the palm of the hand facing the ground or directed towards the receiver. Actors gesticulating with their hands while talking should only be coded if the gestures in themselves seem to be calming. Not all slow gestures are thus calming hand gestures.		X		X
Aggressive gestures	Fast, angry and expressive gestures. Aggressive gestures typically involve pointing at someone in a forceful manner, palms turned upwards, simulating hitting or slapping, movements that incite the other party to attack (e.g. waving them closer). Aggressive gestures also include hitting objects.	X	X		X

Behaviour	Definition	Conflict behaviour	Intervention behaviour	Physically forceful intervention	Expressed disapproval
Invading space	The actor moves his face very close to the face of the receiver without touching him/her. This usually involves just a few centimetres of distance between the actor and receiver, but could be slightly more.	X			
Non-forceful touching	Stroking or gently touching the receiver without physically holding him/her back or trying to move him/her in a particular direction.		X		X
Blocking or holding a person back	Either blocking an antagonist from crossing a specific point or holding on to an antagonist trying to fixate them at a specific point.		X	X	
Hauling a person off	The actor is actively trying to change the course, position, path, or direction of the receiver by holding on to the receiver and (attempt to) lead, pull or carry that individual in some direction.	X	X	X	
Throwing or aggressively pulling a person	A forceful and fast paced pull where the actor grips the receiver and throws or aggressively pulls them. The actor will typically try to forcefully move the receiver of the act while the actor remains more or less in the same spot.	X			
Push	The actor uses his or her arms, chest or shoulder to increase the distance between the actor and the receiver or push the receiver sideways.	X	X	X	
Hitting	The actor hits the receiver with a clenched or open hand. A hit is when the actor uses his/her hand to strike someone else with relative high velocity.	X			

Behaviour	Definition	Conflict behaviour	Intervention behaviour	Physically forceful intervention	Expressed disapproval
Striking with object	The actor uses an object to strike the receiver either by hitting them or throwing the object at them.	X			
Kicking	Kicking the receiver with foot or knee. The actor uses his/her foot or leg to strike the receiver.	X			
Wrestling/ grappling	Grappling/wrestling is a behaviour seen when the actor and receiver are in close combat. Grappling/wrestling is characterized by the actor holding onto, shaking, moving or struggling with a receiver often in a chaotic and messy fashion.	X			

APPENDIX 2. ROBUSTNESS OF MODEL

The influence of in-group physically forceful intervention on the continuation of conflict behaviour (odds ratio) with varying lengths of time segments.

The influence of out-group physically forceful intervention on the continuation of conflict behaviour (odds ratio) with varying lengths of time segments.

Fixed-effects panel data regression with cluster-corrected standard errors of the influence of pooled subtypes of intervention on the continuation of conflict behaviour

	Odds ratio	Standard error	<i>p</i> -value	95% confidence interval	
Expressed disapproval	1.119	0.291	0.664	0.673	1.863
Physically forceful intervention	0.416	0.078	<0.001	0.288	0.601

Fixed-effects panel data regression with cluster-corrected standard errors of the influence of concurrent intervention on the continuation of conflict behaviour

	Odds ratio	Standard error	<i>p</i> -value	95% confidence interval	
Concurrent intervention	0.889	0.167	0.532	0.616	1.285

Fixed-effects panel data regression with cluster-corrected standard errors of the influence of lag 1 and 2 intervention behaviour on the continuation of conflict behaviour

	Odds ratio	Standard error	<i>p</i> -value	95% confidence interval	
Expressed disapproval (lag 1)	1.189	0.315	0.513	0.708	1.998
Expressed disapproval (lag 2)	0.827	0.257	0.541	0.449	1.521
Physically forceful intervention (lag 1)	0.365	0.081	<0.001	0.236	0.563
Physically forceful intervention (lag 2)	1.430	0.393	0.193	0.834	2.451