

# Examining the relationship between bystander actions and police use of force during public arrests

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## Abstract

**Purpose** – Previous studies on policing have included the presence of bystanders as one of the factors that could explain police use of force, yet the findings of these studies are inconsistent. The actions of bystanders beyond their presence are, however, largely overlooked in this literature. The aim of the current study is to address this gap in the literature and investigate what bystanders of police arrests do and how their actions relate to police use of force.

**Design/methodology/approach** – We analyzed CCTV video footage of 180 arrests, and coded the actions of bystanders, suspects and police officers.

**Findings** – The results showed that bystanders perform a wide range of actions. The number of people in the audience and helping behavior of bystanders were positively associated with police use of force, while the number of bystanders present and obstructing bystander behavior were negatively associated with use of force. Bystander helping and obstructing was only significant in relation to a narrow definition of force.

**Originality/value** – The findings suggest that only measuring bystander presence does not provide a full picture of how bystanders could influence police use of force during arrests. Future research should look further into how interactions between police officers, suspects and bystanders unfold.

**Keywords** Police use of force, Bystanders, Video analysis, Police-citizen interactions

**Paper type** Research article

## Introduction

An extensive body of literature has studied the factors that might relate to police use of force. These factors can largely be divided into the following three categories: personal characteristics of suspects and officers, community characteristics and encounter characteristics. A recent meta-analysis on this finds that out of these three the encounter characteristics show the strongest correlation with officers' decision to use force. While some of the encounter characteristics have been thoroughly studied, like suspect resistance (Bolger, 2015; Piza and Sytsma, 2024), other aspects of the encounters are still not well understood. Specifically, the behavior of bystanders present in the encounters between police officers and citizens have received comparatively little attention. Moreover, the results in the meta-analysis pertaining to the relationship between bystanders and police use of force are inconsistent: Most studies do not find a significant relationship (See Bolger, 2015; Klahm and Tillyer, 2010), some studies have found that a larger audience relates positively to the chance of police use of force (Crawford and Burns, 1998; Piza *et al.*, 2022;

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Rabe-Hemp and Schuck, 2007), while other studies have found that the presence of bystanders relates to less escalation (Engel, 2000; Piza *et al.*, 2022).

These mixed findings might be related to the way bystanders typically have been studied in these encounters. While suspects are evaluated based on their actions such as resistance, demeanor or criminal behavior (McCluskey *et al.*, 2005; Reisig *et al.*, 2004), bystanders are typically considered solely in terms of their presence or absence. However, research on bystanders of conflict and crime has shown that bystanders are often active in a multitude of ways, and that depending on their actions, they can either de-escalate or escalate conflicts (Philpot *et al.*, 2020; Reynald, 2009; Wells and Graham, 1999; Ejbye-Ernst, 2023). These findings suggest that bystanders are not merely passive observers but can also be a group of active interveners who can influence conflicts in both different ways.

In the policing literature, however, little is known about what actions bystanders actually perform, and how these different actions might relate to police use of force. This lack of knowledge about what bystanders do makes it challenging for officers to understand this behavior and react to it in the right way. Learning more about what bystanders do and how it might relate to police use of force is, thus, an important first step towards developing de-escalation or maybe even cooperation strategies for how police officers can deal with bystanders. The aim of the current study is, therefore, to analyze what bystanders of police arrests do and how their actions relate to police use of force during the arrest.

#### *Defining the bystander audience: merely being present or actively watching?*

Being watched is a regular part of police work (Van Bruchem *et al.*, 2024). As such, most literature on the relationship between bystanders and police use of force has focused on how the presence of an audience relates to use of force. This literature suggests that the presence of an audience or the size of the audience increases police use of force (e.g. Garner *et al.*, 2002; Piza *et al.*, 2022; Terrill and Mastrofski, 2002; Terrill, 2005).

Several explanations have been proposed to account for the increased use of force by the police in the presence of a (larger) audience. One key explanation is that officers may feel a heightened need to establish authority and maintain control (Crawford and Burns, 1998; Terrill and Mastrofski, 2002). When a (larger) audience is present, the police may feel increased pressure to demonstrate control to prevent any potential disorder within the crowd and to reinforce their authority.

Beyond an effort to maintain control, a (larger) audience may also lead to more use of force by the police for another reason, Reisig *et al.* (2004) suggested that a greater number of bystanders increases the likelihood of suspect disrespect towards the police as a way to avoid public humiliation. Since the presence of a (larger) audience amplifies the pressure on both police officers and suspects to protect their social identity, they may be quicker to retaliate when faced with perceived resistance or disrespect and in some instances even resort to violence (Felson, 1982). This reasoning is based on impression management theory, which posits that individuals are concerned with how they are perceived by others, and adjust their behavior to create a favorable impression (Goffman, 1959).

A review of the literature and a meta-analysis conclude, however, that there is little empirical evidence for the relationship between bystander presence and police use of force (Bolger, 2015; Klahm and Tillyer, 2010). Some studies did find a statistically significant relationship. For example, Rabe-Hemp and Schuck (2007) found that bystander presence increased the likelihood of officer victimization. Garner *et al.* (2002) found that officers used more force when bystanders were present, but especially when bystanders were antagonistic towards the police. Additionally, Crawford and Burns (1998) found that officers were more likely to use restraints during arrests when bystanders were present. A more recent study found that the arrival of bystanders increased the likelihood the police would use force with 88% (Piza *et al.*, 2022). Contrastingly, Engel (2000) found that the chance of police use of force decreased when bystanders were present. In line with this, results of a recent study by Sytsma

*et al.* (2021) suggest that (some) bystanders can have a civilizing effect on suspects. To summarize, studies that have investigated the effect of bystander presence on police use of force have shown mixed results: some studies find that bystanders have an escalating effect while other studies find a de-escalating effect. Most studies, however, do not find a significant relationship. The question is, what might explain these mixed results?

First, it could be explained by the way that “the audience” is operationalized. Studies have measured whether bystanders were present or not (Rabe-Hemp and Schuck, 2007; Sytsma *et al.*, 2021), the number of present bystanders (Garner *et al.*, 2002; Terril, 2005) or the arrival of bystanders (Piza *et al.*, 2022). The actions bystanders must perform in order to form an audience are not clearly defined in the literature, while most studies base their argument for including this factor on Tedeschi and Felson’s (1994) work, that discusses the effect of an audience (e.g. Terrill, 2005). The audience is defined as a group of “third party onlookers” (Felson, 1978). An important part of this definition is that the audience is doing something, namely that they are actively watching the event. There is an important difference between being present and being part of an audience (Van Baak *et al.*, 2024). Especially in public space where it could just be a coincidence that an arrest happens right where someone is waiting for the bus or walking by on their way to the grocery store. Following Felson’s theory (1982) impression management and the escalation of aggression and violence, it is important that the conflict parties are aware that an audience is watching, as the audience is the target of the impression they want to convey. Therefore, police officers may be less concerned about bystanders that do not seem to pay much attention or are standing at a distance, while bystanders who are visibly watching, cheering or even filming the incident, might have more influence on their behavior. Additionally, the definitions of use of force by the police vary from including lower levels of force, for instance verbal commands, to stricter definitions only including physical aggression (Bolger, 2015). A force continuum is often used in policing research and practice, yet there is quite some variation in the categorizations of different actions across police departments (Terrill *et al.*, 2013).

Second, there could be a theoretical explanation for the mixed findings. It could be that the relationship between bystanders and police use of force is different or more complex than the audience effect suggests. In the discussed literature, scholars assume officers would use more force to protect their social identity (Crawford and Burns, 1998; Terril and Mastrofski, 2002), while it could also be argued that officers would use less force to protect their social identity, as excessive coercion or force by police officers can threaten police legitimacy (Terrill *et al.*, 2016; Sunshine and Tyler, 2003). Additionally, a growing audience could also be interpreted as a growing group of possible witnesses to any (excessive) use of force, which could make officers more cautious (Terril and Mastrofski, 2002), especially since bystanders regularly film police use of force and share videos on the Internet (Newell, 2019). Finally, an alternative hypothesis is that a small audience might increase police use of force, as officers want to assert authority, while a large audience might decrease police use of force, because of the threat of a large crowd becoming aggressive (Engel, 2000). In line with these alternative hypotheses, officers detailed in a qualitative study that they strategically choose a quiet place to perform an arrest, in order to avoid bystander interference (Van Bruchem *et al.*, 2024). This reasoning leads to the first research question, namely: *how does the number of bystanders present and the size of a watching audience relate to the use of force by police officers during arrests?*

### *Bystander actions beyond watching*

As discussed in the previous section, numerous studies have investigated the relationship between bystander presence and police use of force. What these present bystanders do and how this relates to police use of force has, on the other hand, received considerably less attention. Supplementary to the audience effect, Felson *et al.* (1984) proposed that encouraging violence and aggressive actions by third parties could lead to escalation between conflict parties, while condemning remarks and mediation could prevent violence. While most discussed studies do

not explore the effect of different bystander actions further, a few studies distinguish between different roles that bystanders perform, such as: uninvolved, neutral or (non)antagonistic (Piza *et al.*, 2022; Sytsma *et al.*, 2021). Chillar *et al.* (2021) found that non-antagonistic bystanders decreased the risk of police use of force, while Piza *et al.* (2022) found that only the arrival of neutral bystanders increased the risk of force, while the arrival of antagonistic and uninvolved bystanders had no effect. These results suggest that what bystanders do impacts police use of force in different ways, yet it remains unclear what specific actions are impactful and in what ways.

Research outside the policing literature that studies bystander intervention in public conflicts between citizens has also found that bystanders often intervene (Philpot *et al.*, 2020), and that their interventions are impactful (Levine *et al.*, 2011; Ejbye-Ernst, 2023). In contrast to the police use of force literature, studies on bystander intervention in citizen conflicts find that bystanders mainly have a de-escalating effect, but sometimes also act aggressively which could lead to further escalation (Wells and Graham, 1999; Ejbye-Ernst *et al.*, 2022a). Bystanders are even more likely to inhibit escalation as the group of bystanders grows (Levine, 2011), opposing the idea that escalation is more likely when the audience grows (Terrill, 2005). This body of literature has described different bystander behaviors, providing more insight in how bystanders might escalate or de-escalate conflicts. Bystanders intervene for instance by disapproving gestures, by coming in between or by separating the conflict parties or by calming gestures and touches (Ejbye-Ernst *et al.*, 2022b). Besides these intervening actions, bystanders also perform more assisting actions, for instance practical tasks, such as calling the police, helping the victim, telling others what happened (Bloch *et al.*, 2018) or attentive actions such as moving closer, cheering and filming (Van Baak *et al.*, 2024).

These studies on bystander intervention in citizen conflicts, however, do not investigate situations where police officers are present. The interactions with police presence are typically excluded from these analyses because the scholars argue that involvement of these professionals would change the interaction between bystanders and conflict parties (Philpot *et al.*, 2020; Levine *et al.*, 2011). Following this logic, it is unclear how well the insights from the bystander studies from the citizen conflicts translate to the police-citizen conflicts. A qualitative interview study on bystanders of police action suggests that bystanders also perform a wide range of attentive, facilitating and obstructing actions that officers perceived as helpful in some cases and challenging in other cases (Van Bruchem *et al.*, 2024). The question, however, remains how these actions relate to police use of force, as the relations between the police officers and citizens are governed by an “asymmetrical status norm”, because of police officers’ formal authority. This norm prescribes officers to protect their authority, while citizens are expected to take a passive and accommodating role (Sykes and Clark, 1975). This could mean that bystanders accept more authoritative behavior and use of force from police officers, and they are less likely to interfere in police-citizen conflicts than conflicts between citizens. On the other hand, Alpert *et al.* (2020) argued that conflicts between police and citizens often emerge from police officers’ perception of a loss of control and authority in the situation, suggesting that the police would react forcefully to bystander interference. In either case, the professional role of the police could influence the dynamics of interactions with bystanders in important ways.

The literature thus suggests that bystanders perform a range of activities, that might impact police use of force in different ways. As research on bystander actions is less developed than research on bystander presence, the additional research questions are exploratory in nature: *What types of behaviors do bystanders of police arrests perform, and what is the relationship between these behaviors and police use of force during the arrests?*

## Methods

We explored the relationship between the number of present and watching bystanders, several other bystander actions and police use of force against the suspect during arrests, by

systematically analyzing 180 arrests that were recorded by CCTV surveillance cameras in Amsterdam and Rotterdam. The research plan was reviewed by the Ethical Committee [anonymized for review]. Observation of video footage rather than real-life events is a novel but increasingly popular approach. In comparison to participant observation, video analysis allows for meticulous observation, as it enables us to replay and pause the footage of arrests (Nassauer and Legewie, 2021). As the presence of a researcher could influence both the behavior of officers and citizens, another advantage of using cameras is the minimization of the observer effect (Chillar *et al.*, 2021). In the policing literature the use of bodycam footage is popular, as it captures both sound and image (e.g. Piza *et al.*, 2022). The angle of the bodycam, however, does not (fully) capture the police officer that is wearing the camera, and the bystanders that could be standing around the officer. The position of surveillance cameras, on the other hand, provides a view that allows for a better overview of all parties involved. While this method, thus, has a number of benefits, it is important to note that it is still observational in nature. This means that it is faced with the same limitations that characterize other observational methods. The associations investigated using video analysis remain correlational in nature.

### *Data collection*

The current study is based on the CCTV footage of police arrests from the municipality in Amsterdam and Rotterdam, collected from January 2023 until the end of May 2023. These cities were chosen as a large number of cameras is installed across the cities in different locations: 300 in Amsterdam and 500 in Rotterdam. With permission from the public prosecutor's office and in collaboration with the municipalities and the surveillance team of the police departments, we received anonymized weekly reports of all registered incidents. The video footage of all incidents that were labelled as "Arrest" or where an arrest was mentioned in the description were requested. As we expected that a considerable amount of videos would not capture the full arrest and would therefore not be useable, 292 arrests were collected in the raw sample.

### *Inclusion criteria*

The first author watched all the collected footage to judge whether the material was fit for inclusion in the analysis. The following criteria were used to assess whether the footage could be included: (1) The arrest is visible from the start, (2) The arrest is performed by at least one uniformed police officer (excluding arrests performed by municipal enforcers and officers in plain clothing), (3) The quality of the video (resolution, brightness and frames per second) is sufficient to allow coding, (4) There are no or only negligible breaks in the recording and (5) There is at least one bystander present that could observe the arrest. After reviewing the 292 videos, 180 videos fit the criteria listed. Most of the eliminated videos were discarded because of visibility issues, especially at the start of the arrest. Only 6 videos were excluded because no bystanders were present during the arrest. We chose to focus on arrest with bystanders present as our focus is on the interaction between bystanders and police. The very limited number of situations without bystanders present also emphasizes that bystander presence during arrests in public space is a rule rather than an exception.

### *Developing codes and coding*

In order to create a coding scheme (see [supplement A](#)), we watched a subsample of the videos to see what type of bystander and police behavior occurred during the arrests. Additionally, we were guided by the existing coding schemes from the scientific literature on bystanders and policing (e.g. Ejbye-Ernst, 2023; Philpot *et al.*, 2020; Sunde *et al.*, 2023; Van Baak *et al.*, 2024). The initial coding scheme was reviewed by a police trainer, to make sure all relevant police behaviors were included and the created categories are insightful for police officers. After developing the coding scheme, the videos were coded in SPSS.

*Intercoder reliability*

After developing the coding scheme, 20 videos (over 10% of the total sample) were separately encoded by two Independent coders. After this first round of coding, the inter-coder reliability was calculated for each behavior using Cohen's kappa. We aimed for a Kappa score above 0.6, as this is viewed as "substantial agreement" (Landis, 1977). Codes with a low reliability score (below 0.61) were reviewed, and the definitions of these codes were revised if they were unclear. Subsequently, the coders coded another 10 videos, and eventually substantial agreement was reached for all behavioral codes. During the entire process of coding, doubtful cases or ambiguities were discussed within the research team.

*Sample*

The data included 180 arrests that took place in Amsterdam and Rotterdam. To give an idea of the number of use of force incidents in The Netherlands and these cities specifically: the police reported 22,936 use of force incidents in 2024, of which 2,830 occurred in Amsterdam and 2,123 in Rotterdam. According to the police report force was used during 0.74% of the total police deployment (Dutch National Police, 2024). This means that the police only use force in a small proportion of incidents in the Netherlands, but that force is used relatively often in these cities compared to other parts of the country.

In 48.3% of the cases the police used force using the definition of the Dutch police, and in 41.1% of the cases following the more narrow definition (see definitions of force in [supplement B](#)). The average duration of the arrests was 4 min and 43 s, with a minimum of 14 s and a maximum of over an hour (62.04 min). Most recorded arrests occurred in a nightlife area (43.9%) and only 5.6% occurred in a residential area. On average 5.44 police officers were present in total during the arrest, the arrest was performed by 2.65 officers on average with a minimum of 1 and a maximum of 7. On average 1.93 officers formed a shield between the arrest and the bystanders, with a minimum of 0 and a maximum of 11 officers performing this task.

*Dependent variable*

*Police use of force:* The dependent variable of the study is a binary variable measuring whether the police uses physical force. We coded separate types of force actions and later categorized a selection of these actions into "force" = 1, "no force" = 0. We base our definition on how the Dutch Police defined use of force and physical use of force. Next to weapon use, their definition includes pushing, hitting, kicking, fixating the head and bringing to the ground (Geweldsaanwendungen door politieambtenaren, 2023). As there is a wide variety of definitions for use of force, and pushing is a relatively mild use of force in comparison to the other use of force actions, we decided to also use a second, more narrow, definition that excludes pushing (see [supplement B](#)).

*Independent variables*

*Number of bystanders present:* This count variable measures the number of bystanders present was measured at the start of the arrest. All bystanders who appeared to be minimally aware of the arrest were included.

*Size of the audience:* This count variable indicates the size of the audience and was measured by counting the highest number of bystanders simultaneously watching the arrest. Only bystanders who stand within three meters of the arrest and actively look for longer than three seconds, are included in this count. We chose the highest number of simultaneous audience members rather than at the start of the arrest as we noticed in the qualitative review of the material that the audience typically forms after the start of the arrest.

*Bystander behaviors:* We included five binary independent variables each indicating the presence or absence of a particular type of bystander behavior during the arrest. These five independent variables are:

- (1) Verbal frustration
- (2) Physical obstructing
- (3) Refusing to leave
- (4) Helping
- (5) Filming

Three of these variables we coded more specific behaviors that we grouped after coding: Verbal frustration consists of frustration and aggression, physical obstructing consists of touching, obstructing and violence, and helping includes de-escalating and assisting arrest [1]. For more information about the coded behaviors, please see [supplement A](#).

### *Control variables*

The study also includes two control variables. These are verbal and physical citizen resistance of the arrest. We decided to include these binary variables as previous research has consistently found suspect resistance to be a significant predictor of police use of force (e.g. [Piza and Sytsma, 2024](#); [Klahm and Tillyer, 2010](#)). Additionally, theories on police–citizen interactions argue that both conflict parties are more likely to protect their social identity when they are in front of an audience ([Felson, 1978](#)). In case of arrests this could mean that not only police officers are prone to use more force, but arrestees are also more likely to resist their arrest in front of an audience. To ensure that these behaviors do not bias our results, we included them as control variables in the regression model.

### *Analyses*

We performed a multivariate logistic regression with police use of force as the dependent variable. Additionally, a subsequent robustness test was performed with a more narrow definition of police use of force as the dependent variable to investigate if the results are comparable across different definitions of use of force (See [supplement B](#)). The independent variables are the number of bystanders present, the number of people in the audience and bystander obstruction, frustration, helping, refusing to leave and filming. We controlled for suspect verbal and physical resistance.

## **Results**

### *Descriptive statistics*

[Table 1](#) provides the descriptive statistics and correlations for the variables of the study. The table shows that the mean of bystanders in the situation is 8.28 while the mean number of people in the audience is 4.49. The mean number of present bystanders is, thus, almost twice as high as the mean number of people forming an audience. Additionally, the table shows that police use force in 48% of the arrests, when applying the Dutch police definition of force. Using the narrower definition of force (excluding pushing), force is used in 41% of the encounters. Bystanders were active, performing at least one of the actions portrayed in [Table 1](#), in 48% of the arrests. Verbal frustration was the most frequent behavior observed in about one of every three arrests, while physical obstruction was the least frequent behavior, occurring in just 13% of the arrests. The table also presents the correlations among the current study’s variables. Almost all variables significantly correlate with both definitions of police use of force except for “number of bystanders present” and “suspect verbal resistance”.



**Table 1.** Descriptive statistics and correlations of included variables

|                                     | %  | Minimum | Maximum | Mean | SD     | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8      | 9    | 10 | 11 |
|-------------------------------------|----|---------|---------|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|----|----|
| 1. Police use of force definition 1 | 48 |         |         |      |        |        |        |        |        |        |        |        |        |      |    |    |
| 2. Police use of force definition 2 | 41 |         |         |      |        | 0.86** |        |        |        |        |        |        |        |      |    |    |
| 3. Bystanders present               | 0  | 50      | 8.28    | 8.97 | 0.14   | 0.12   |        |        |        |        |        |        |        |      |    |    |
| 4. Audience                         | 0  | 39      | 4.49    | 7.04 | 0.32** | 0.25** | 0.63** |        |        |        |        |        |        |      |    |    |
| 5. Bystander physical obstruction   | 13 |         |         |      | 0.15** | 0.16*  | 0.29** | 0.34** |        |        |        |        |        |      |    |    |
| 6. Bystander verbal frustration     | 36 |         |         |      | 0.25*  | 0.28** | 0.34** | 0.35** | 0.49** |        |        |        |        |      |    |    |
| 7. Bystander helping                | 18 |         |         |      | 0.32** | 0.28** | 0.37** | 0.38** | 0.61** | 0.57** |        |        |        |      |    |    |
| 8. Bystander refusing to leave      | 19 |         |         |      | 0.30** | 0.26** | 0.30** | 0.28** | 0.62** | 0.60** | 0.54** |        |        |      |    |    |
| 9. Bystander filming                | 24 |         |         |      | 0.33** | 0.27** | 0.29** | 0.44** | 0.25** | 0.16*  | 0.25** | 0.32** |        |      |    |    |
| 10. Suspect verbal resistance       | 44 |         |         |      | 0.05   | 0.13   | −0.04  | −0.14  | 0.09   | 0.25** | 0.03   | 0.12   | −0.11  |      |    |    |
| 11. Suspect physical resistance     | 39 |         |         |      | 0.52** | 0.48** | 0.27** | 0.30** | 0.24** | 0.27** | 0.29** | 0.27** | 0.20** | 0.14 |    |    |



### Regression results

The results of the multivariate regression analysis are summarized in [Table 2](#). The table shows the correlation between different bystander actions (the independent variables) and police use of force directed at the suspect during an arrest (the dependent variable). In addition to this, we controlled for suspect physical and verbal resistance. In [Table 2](#) we see that only one independent variable and one control variable are statistically significant. The first independent variable is the number of bystanders present during the arrest. The B-coefficient is negative ( $-0.89$ ), is statistically significant ( $p = 0.016$ ) and has an odds ratio of 0.915 which means that for each additional bystander present, the odds that officers use force during an arrest reduces slightly. When there are eight bystanders present, which is the mean of the sample, this reduces the odds of police use of force to half ( $0.915^8 = 0.491$ ). None of the variables that measure different bystander actions are significant in [Table 2](#). The two control variables in the model measure suspect physical and verbal resistance. Only physical resistance is significant ( $p < 0.001$ ). This variable has a B-coefficient of 1.988 and a large effect size with an odds ratio of 7.304, meaning that officers are far more likely to use force when suspects physically resist their arrest.

### Robustness analysis

There is a large variety of use of force definitions in the policing literature. In order to investigate if the findings of [Table 3](#) generalize to a more narrow definition of force, we conducted a robustness analysis with an operationalization of use of force that excludes pushing. [Table 3](#) shows the results of this robustness test. The first independent variable, the number of bystanders present, remains significant ( $p = 0.015$ ) the B-coefficient is slightly more

**Table 2.** Multivariate logistic regression analysis of the association between bystander actions and police use of force ( $N = 179$ )

|                              | B     | S.E  | Wald  | <i>p</i> | Odds | CI (odds)  |
|------------------------------|-------|------|-------|----------|------|------------|
| Number of bystanders present | -0.09 | 0.04 | 5.81  | 0.02     | 0.92 | 0.85–0.98  |
| Number of people in audience | 0.09  | 0.05 | 2.88  | 0.09     | 1.09 | 0.99–1.21  |
| Verbal frustration           | 0.76  | 0.53 | 2.11  | 0.15     | 2.15 | 0.77–6.02  |
| Physical obstruction         | -1.59 | 0.89 | 3.18  | 0.08     | 0.20 | 0.04–1.17  |
| Helping                      | 1.18  | 0.76 | 2.40  | 0.12     | 3.26 | 0.73–14.50 |
| Filming                      | 0.93  | 0.51 | 3.34  | 0.07     | 2.54 | 0.935–6.90 |
| Refuse to leave              | 0.62  | 0.75 | 0.68  | 0.41     | 1.86 | 0.43–8.10  |
| Suspect physical resistance  | 1.99  | 0.41 | 23.65 | <0.001   | 7.30 | 3.28–16.28 |
| Suspect verbal resistance    | 0.54  | 0.39 | 1.88  | 0.17     | 1.71 | 0.79–3.70  |

**Table 3.** Robustness test of [Table 3](#) with more narrow definition of force

|                              | B     | S.E. | Wald  | <i>p</i> | Odds | CI (odds)  |
|------------------------------|-------|------|-------|----------|------|------------|
| Number of bystanders present | -0.10 | 0.04 | 5.97  | 0.02     | 0.91 | 0.84–0.98  |
| Number of people in audience | 0.13  | 0.06 | 5.03  | 0.03     | 1.14 | 1.02–1.28  |
| Verbal frustration           | 0.18  | 0.58 | 0.10  | 0.75     | 1.20 | 0.39–3.71  |
| Physical obstruction         | -2.63 | 1.01 | 6.80  | 0.01     | 0.07 | 0.01–0.52  |
| Helping                      | 1.93  | 0.83 | 5.38  | 0.02     | 6.92 | 1.35–35.44 |
| Filming                      | 1.03  | 0.53 | 3.80  | 0.05     | 2.80 | 0.99–7.88  |
| Refuse to leave              | 1.32  | 0.82 | 2.62  | 0.11     | 3.75 | 0.76–18.54 |
| Suspect physical resistance  | 2.15  | 0.42 | 26.11 | <0.001   | 8.59 | 3.77–19.61 |
| Suspect verbal resistance    | 0.26  | 0.42 | 0.37  | 0.54     | 1.29 | 0.57–2.96  |

negative ( $-0.098$ ) than in [Table 3](#). The same goes for the odds ratio ( $0.907$ ), meaning that officers are less likely to use force as the number of bystanders grows. The second independent variable is the number of people in the audience. The B-coefficient is  $0.13$  and is statistically significant ( $p = 0.025$ ), with an odds ratio of  $1.14$ . The effect size is small, which means that for each member of the audience that is watching, officers are somewhat more likely to use force.

Where none of the bystander actions were statistically significant in [Table 3](#), “Physical obstruction” and “Helping” both are statistically significant. The variable “Physical obstruction” has a B-coefficient of  $-2.63$  and is statistically significant ( $p = 0.009$ ), with an odds ratio of  $0.07$ , meaning police officers are less likely to use force against the suspect in cases where a bystander is physically obstructing them. The variable “Helping” has a B-coefficient of  $1.93$  and is statistically significant ( $p = 0.02$ ), and has a large effect size with an odds ratio of  $6.92$ . This means that police officers are more likely to use force in cases where bystanders are helping them. The control variable “suspect physical resistance” has an even higher B-coefficient ( $2.15$ ) and odds ratio ( $8.59$ ) than in [Table 3](#), and is still statistically significant ( $p < 0.001$ ). Officers are, thus, more likely to use higher levels of force in situations where the suspect is physically resisting the arrest.

## Discussion

Previous studies have mainly measured the relationship between bystander presence and police use of force and most studies did not show a significant relationship ([Bolger, 2015](#)). For the studies that do find a significant relationship, the results are mixed ([Klahm and Tillyer, 2010](#)). The focus on presence stems from the theoretical proposition that conflicts are more likely to escalate in front of a (larger) audience, as conflict parties are more inclined to retaliate when they would be humiliated in public ([Felson, 1978](#)). As there is little empirical evidence that this theory applies to the context of police use of force, we question whether merely measuring presence is sufficient to understand the relationship between bystanders and police use of force, or that we should pay more attention to what these present bystanders do. This study thus investigated what bystanders do when officers perform an arrest in public space, and how these actions are related to police use of force during the arrest, by analyzing CCTV footage of 180 arrests.

Addressing the first research question on how the size of a watching audience and the number of present bystanders relate to the use of force during arrests. We find that there is a negative relationship between the number of present bystanders and police use of force, which contrasts with the assumptions of the audience effect ([Felson, 1982](#)). It could be that officers use less force because many bystanders or “witnesses” are present ([Terril and Mastrofski, 2002](#)). It could also be that officers choose a spot with less bystanders when they expect to use force during the arrest ([Van Bruchem et al., 2024](#)). We found a positive relationship between the number of people in the audience and police use of force. This relationship is only significant for the narrow definition of force. This could mean that officers are more likely to use higher levels of force during an arrest when an audience is watching. On the other hand, it could also mean that bystanders are more likely to stop and watch an arrest when officers are using higher levels of force.

Addressing the second and third research question: What types of behaviors do bystanders of police arrests perform, and what is the relationship between these actions and police use of force during arrests? We find that bystanders perform a wide range of actions, we grouped the actions into verbal frustration, physical obstruction, helping, filming and refusing to leave. Bystanders performed one of these actions during almost half of the arrests ( $48\%$ ). We found no significant relationship between these actions and police use of force during arrests. This indicates that while bystanders perform a wide number of behaviors during the arrest, these behaviors appear to be unrelated to the presence of the use of force by the police officers.

However, when we used a definition of force that only included higher levels of force, we found a significant relationship for two of the bystander actions. Physical obstruction was

negatively associated with police use of force, meaning that police officers use less force in cases where bystanders physically obstructed them. It could be that officers use less force against the suspect, because they have to respond to the bystander, which leaves less capacity to focus on the suspect. Additionally, officers could prioritize handling the arrest swiftly to avoid escalation or more interference from bystanders. It could also be that bystanders are less likely to obstruct an arrest when police officers are using more force, as they would fear this force would be used against them as well. Another surprising result is that we found a positive relationship between helping and police use of force. A possible explanation is that bystanders are more likely to help in situations where the suspect physically resists which strongly correlates with police use of force, shows that the bystander actions also correlate with suspect physical resistance.

The study provides a conceptual contribution as the results emphasize the impact of the variables' definitions. The distinction between the number of present bystanders and the number of people in the audience has led to the finding that these variables have an opposite relationship to police use of force, while other studies have used these terms interchangeably. Additionally, as we used two definitions of force, the results indicate that there is specifically a relationship between bystander helping and obstructing and the narrow definition of force, while this was not the case for the presence of bystanders and an audience.

The results suggest that merely measuring bystander presence is insufficient to understand the relationship between bystanders and police use of force. Bystanders perform a wide range of actions beyond being present and watching arrests, making the interactions between police officers, suspects and bystanders complex interactions between three parties, rather than officers and suspects interacting in front of an audience.

### Limitations

As the study was exploratory in nature and the coding process is quite labor intensive, we decided to analyze the arrests on a situational level. The first important limitation is therefore that we did not investigate whether police use of force is influenced by bystander actions or that bystanders react to police action. To learn more about causal or sequential relationships between police and bystander actions, future studies should focus on the dynamics within interactions or perform sequential analyses.

A second limitation is related to the data. CCTV footage namely lacks sound, which means we have no information on what police officers, suspects and bystanders say, missing possibly important aspects of the interaction. We chose to make use of CCTV footage because the camera angle provides a good overview, that allows for the analysis of bystanders.

Additionally, the cameras are mainly located in busy places and locations with a higher risk of crime, such as nightlife and shopping areas. The results are therefore biased towards arrests in the context of centers of larger Dutch cities. We looked into possibilities of including smaller cities, but the number of available cameras and the limited registration of arrests made this challenging. Finally, there are limitations to what the camera can capture, which means that bystanders could be present and/or active outside the view of the camera.

A final limitation is that our study does not provide insights into the motivations and personal characteristics of officers, suspects and bystanders whose behavior we study. While studying actual behavior rather than accounts of participants is a meaningful addition to surveys and interview studies, understanding why officers or bystanders make certain decisions is essential to develop theories on police-bystander interactions. Additionally, personal characteristics, such as sex, race and age of the different parties were not analyzed, firstly because this study focuses encounter characteristics and behavior rather than personal characteristics. Secondly, it is complicated to reliably code variables such as sex, race and age based purely on observation. Thirdly, due to privacy regulations it is not possible to connect personal information to the people visible on the camera footage.

### Future research directions

As the existing body of literature has mainly studied factors that influence police use of force, and the current study cannot draw conclusions about the direction of the relationship between bystander actions and police use of force, future studies are encouraged to explore police-citizen encounters in novel ways. For instance, how police behavior could influence citizens, as all involved parties in interactions could influence each other. Sequential analysis could be a way to learn more about the direction of the relationship between bystander actions and police use of force, and could give more insights into (de-)escalation patterns.

Future studies could also focus on the experiences and perspectives of participants, to foster a better understanding of why bystanders, police officers and suspects behave in a certain ways and whether for instance values of the audience, social relations with the suspect, police training influence the actions of the involved parties.

### Note

1. We also coded a number of other behaviors for other research projects, that are not included in the current paper.

### Supplementary material

The supplementary material for this article can be found online.

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