

RESEARCH ARTICLE

What do you see? Understanding perceptions of police use of force videos as a function of the camera perspective

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Abstract

Some research suggests that video-recorded police incidents may be subject to a camera perspective bias. This study examined whether the camera angle of a recorded police use of force encounter influenced interpretation of the video. Participants ($n = 330$) viewed a video-recorded simulated use of force scenario in one of four camera angle conditions (body worn camera, bystander camera, security camera, all three camera angles), and then rated the conduct of the police officer and the subject. Participants' attitudes towards the police and legal system were also examined. Results indicated that camera angle did not directly impact viewers' judgment of the scenario, but pre-existing biases about the police guided their interpretations of certain camera angles. Importantly, however, this was not the case for those who viewed the body worn camera angle. These results help us understand the implications of relying on video recordings of police incidents.

KEYWORDS

attitudes towards police, body worn camera (BWC), camera perspective, perceptions of police, police legitimacy, police use of force

1 | INTRODUCTION

Body worn cameras (BWCs) are now being used by many police organizations (Reaves, 2015; Saulnier et al., 2021) for the purpose of recording the police officer's perspective of public interactions (Coudert et al., 2015). A lot of research

supports the use of BWCs in policing. For example, research suggests that BWCs can increase police officer accountability (Demir et al., 2020; Lum et al., 2020), improve citizen perceptions of police (Demir, 2021a), and deter both police officers and public citizens from engaging in unlawful behaviour (Ariel et al., 2017; Crow et al., 2017). There is also a sizeable body of research, however, which challenges the view that BWCs are beneficial. For instance, use of BWCs does not always result in a decrease in use of force by police officers (Ariel et al., 2016), a decrease in the volume of arrests (Hedberg et al., 2017), a reduction in the number of complaints about police officers (Yokum et al., 2019), or an increase in positive perceptions of police (Braga et al., 2021).

Similar to this research on the effectiveness of BWCs, research that has examined the opinions of police officers about the use of BWCs is also mixed; while some officers have positive perceptions of BWCs (e.g., Fallik et al., 2020), others have expressed concerns about BWCs that include technical difficulties (e.g., BWCs failing to capture all of an event during encounters with the public), increased workload (e.g., having to review the footage for documentation), and limits to discretion that might result from wearing BWCs (e.g., Makin, 2016; Rowe et al., 2018). Of note, police officer opinions regarding the use of BWCs appear to vary depending on a range of factors (e.g., the type of policing being conducted; Demir, 2021b).

1.1 | Video as evidence

Despite conflicting findings and opinions, police use of BWCs continues to be supported by many members of the public and North American police organizations, as a means of obtaining reliable evidence for accurate depictions of police interactions (e.g., Brucato, 2015; Crow et al., 2017; Sousa et al., 2018). Some researchers argue, however, that relying on BWCs for a full account of these interactions may be problematic, because BWCs may not provide a complete picture of what transpired (e.g., Boivin et al., 2017). For instance, BWC footage may exclude crucial peripheral cues that contributed to the officer's decision-making (e.g., presence of other subjects/victims; Grady et al., 2016), as well as contextual information about the police encounter (e.g., information relayed from the dispatcher about the subject being armed). Similar concerns have been expressed regarding other video footage of police-public interactions, such as bystander recordings, which may distort information about the scenario and lead viewers to discount important details of the police officer's first person and live perspective (Sandhu & Haggerty, 2017).

Serious limitations have also been documented when relying on any one video to provide an accurate representation of encounters. Indeed, people may have different understandings of a situation depending on how the video was filmed (e.g., Turner et al., 2019). For example, when Sammy Yatim was killed by a police officer in Toronto, Ontario, Canada, one video of the interaction depicted a scenario in which the police officer's actions appeared justified, but a second video taken from a different angle shifted the interpretation and suggested that the officer's actions were unjustified (Rogan, 2014). Had the police officer in this case been judged based only on the first video, he may have been acquitted of all charges; instead, he was convicted of attempted murder (Hasham, 2016). Thus, reliance on a single video may have serious legal implications, especially since video evidence is valued in court settings (e.g., Baker, 2004). Indeed, prosecutors generally trust video evidence (e.g., Frederick & Stemen, 2012), and charges are often more punitive when it is available (e.g., Kutateladze et al., 2015).

1.2 | Camera perspective bias

The notion that camera angles of a video-recorded event can impact the viewers' perceptions or interpretations of the events is referred to as the camera perspective bias (Lassiter & Irvine, 1986). Researchers have studied how the camera perspective bias impacts observers' judgments of videos depicting police interrogations and confessions. Findings indicate that confessions are seen as more reliable and voluntary (as opposed to coerced by the police officer) when the camera is focused only on the suspect, compared with videos depicting the police officer or videos depicting

both the suspect and police officer (Landstrom et al., 2007; Lassiter et al., 2007; Lassiter & Irvine, 1986). These findings were obtained even when viewers were cautioned about the camera perspective bias (Lassiter et al., 2002), and when viewers consisted of experienced judges and legal professionals (Lassiter et al., 2007).

The camera perspective bias has been linked to the illusory causation effect (Taylor & Fiske, 1975), which suggests that people assign causality to the stimulus that is most salient in an observer's field of view. Since BWCs were designed to record interactions from the police officer's perspective with a focus only on the subject, the increased prevalence of BWCs in policing has prompted researchers to examine how the camera perspective bias impacts observers' judgments of video-recorded police incidents.

Boivin et al. (2017) conducted one of the first studies in which the camera perspective bias was applied to police use of force incidents. They staged an intervention of police use of lethal force and presented the video footage to university students and police officer candidates either from the BWC or surveillance camera perspective. No perspective differences were found in the university student sample, but police officer candidates who saw the scenario filmed through the BWC perceived a greater distance between the subject and officer (compared with the surveillance camera footage) and were more likely to report that the officer fired too early. This suggests that those involved in the police community may be more affected by camera perspective, perhaps because they are better able to understand the challenges associated with use of force scenarios and imagine themselves in the role of the police officer.

The lack of a perspective effect in non-policing samples may be attributed to scenario elements (e.g., violence depicted) that offsets the perspective bias (e.g., Jones et al., 2019). For example, Hernandez (2020) found that viewing footage of police interactions that resulted in limited community backlash led to higher ratings of justification for police use of force when BWC footage was viewed compared to a bystander cell phone recording. However, there was no difference between the two types of footage when viewers were shown an encounter deemed controversial (i.e., resulting in tremendous backlash from community and officers placed on administrative leave without pay).

The BWC camera perspective bias has also been observed in other studies. For example, Turner et al. (2019) found that participants gave more favourable judgments of a police officer (lower judgments of intentionality) when they viewed police interventions from the BWC perspective, as opposed to the same interventions recorded from a dash-cam. Kalle and Hammock (2019) found that a police officer's actions were deemed more reasonable when the camera focused on the public citizen (i.e., subject) compared to other camera angles of the incident. Jones et al. (2019) also found that viewing BWC footage of a police use of force scenario led to more favourable ratings towards the police officer compared with surveillance footage, and that informing participants about the camera perspective bias was unsuccessful in reducing that bias. They further established that participants who viewed both BWC and surveillance video did not have different ratings of the police officer compared with those who only viewed the surveillance video. This suggests that multiple camera perspectives may be helpful in reducing bias resulting from viewing BWC footage only.

1.3 | Pre-existing biases

While camera angle appears to play a role in how videos are interpreted, other factors may also contribute to these interpretations (Jones, et al., 2019; Kalle & Hammock, 2019; Turner et al., 2019). For example, Morrison (2017) suggested that pre-existing biases may impact judgments because videos of police incidents often present an ambiguous or incomplete picture of an event, which leads viewers to fill in the blanks with what they believe to be true, often guided by their own subjective world view. This idea is supported by the work of Kahan et al. (2009). They examined attitudes towards police by showing participants the dash-cam footage from the legal case, *Scott v. Harris* (2007), which involved a police car pursuit of a suspect, resulting in the ramming of the subject's vehicle that caused the subject's paralysis from the neck down. Despite everyone seeing the same video, Kahan et al. found that participants made contrasting judgments about the police officer's actions, suggesting that individual differences likely play a role.

Perceptions of police legitimacy may have a particularly powerful influence on how footage of police interactions is interpreted. Citizens who see policing as legitimate may be more inclined to give police officers the benefit of the doubt, especially when faced with conflicting evidence (e.g., Hernandez, 2020). Indeed, high levels of perceived police legitimacy are linked to an increased likelihood to grant police more discretion and power (Sunshine & Tyler, 2003), and respondents who report more favourable attitudes towards the police are more likely to interpret use of force as justified in video-recorded police incidents (Hernandez, 2020; Reynolds et al., 2018).

Favourable police attitudes are also linked with other constructs, such as right-wing authoritarianism (i.e., willingness to obey authority they believe to be legitimate and support for punitive measures; e.g., Kravitz et al., 1993), suggesting that legal attitudes may also play a role in judgment of police videos (Reynolds et al., 2018). One study examining legal decisions about a police shooting recorded on BWC found that police legitimacy and authoritarianism were associated with lower ratings of police officer guilt and higher ratings of trustworthiness (Wardak, 2020); in contrast, individuals with anti-authoritarian attitudes (rejection of constituted authority and support for left-wing values; Kravitz et al., 1993) viewed the police officer as less justified. Limited research has examined the impact of legal attitudes such as authoritarianism on judgments of video recorded police encounters, but the strong relationship between authoritarianism and perceptions of police suggest that it may play a role.

1.4 | Current study

The purpose of the current study was to examine (1) how various camera angles, including a BWC angle, can impact a person's interpretation of a police scenario, (2) whether informing observers of potential biases based on camera angles impacts perceptions of a police use of force scenario, and (3) whether pre-existing attitudes about police and authoritarian values impact interpretation of video evidence.

Given previous research that suggests camera angles directed specifically at a subject's face might lead to perceptions of a more threatening demeanour (e.g., Lassiter et al., 2002), as well as previous findings in support of the BWC perspective bias (e.g., Boivin et al., 2017; Turner et al., 2019), it was hypothesized that **participants randomized to the BWC angle condition would view the suspect as more threatening, and the police officer as more justified (i.e., using a reasonable amount of force), compared with participants randomized to the security or bystander camera angles.** In line with previous research suggesting that bias is not eliminated even when educating people on the impact that camera perspective bias can have on their judgments (e.g., Lassiter et al., 2002), it was hypothesized that **there would be no differences in judgments between participants informed about the camera perspective bias and participants who were not informed.**

Pre-existing biases and attitudes about police may also impact judgments of use of force videos (e.g., Hernandez, 2020). Therefore, it was expected that, **regardless of camera angle, participants who endorse lower levels of police legitimacy (i.e., suggesting negative attitudes towards police) and authoritarianism, and higher levels of anti-authoritarianism, would be more likely to find the police officer more threatening in the scenario and less justified in using force compared with participants with higher scores on police legitimacy and authoritarianism, and lower scores on anti-authoritarianism.**

2 | METHOD

2.1 | Research design

This study uses a fully randomized, between-subjects 4×2 factorial design: 4 (camera angle: BWC vs. security camera vs. bystander camera vs. all camera angles) by 2 (participant warning: video with camera perspective bias information vs. video without camera perspective bias information).

2.2 | Participants

Participants were undergraduate students recruited through the University of Ottawa's Integrated System of Participation in Research (ISPR); participation was voluntary, and all participants were offered course compensation for participation. Eligible participants were required to be fluent in English and to not have a law enforcement background. A total of 385 undergraduate students completed the study; however, some participants were excluded from analyses because they: (1) failed attention checks regarding the video/audio recording, (2) had reported technical difficulties while completing the online study, (3) had experience working in law enforcement, or (4) declined consent to use their responses/data. Therefore, a total of 330 participants (mean age 19.7 years; SD = 4.5) were included in the analyses¹ (biographic characteristics are presented in Table 1).

TABLE 1 Descriptive statistics of biographic data (N = 330)

	Frequency	% Of total sample
Gender		
Male	87	26.4
Female	242	73.3
Queer	1	0.3
Ethnicity		
White	215	65.2
Asian	36	10.9
Middle Eastern	22	6.7
Black	16	4.8
East Indian	10	3.0
First Nations/Aboriginal/Indigenous	7	2.1
Hispanic/Latino	2	0.6
Other ethnicity	22	6.7
Political affiliation		
No political affiliation	156	47.3
Liberal party	79	23.9
Conservative party	53	16.1
New democratic party	26	7.9
Green party	9	2.7
Le Bloc Quebecois	1	0.3
Other	6	1.8
Living area type		
Urban	251	76.1
Rural	79	23.9
Previous police interactions		
Positive interactions	261	79.1
Negative interactions	34	10.3
Arrested by police	9	2.7
Previously taken a course on topic of policing or police psychology	32	9.7

Note: Participants' political views on a scale from 0 (left wing) to 100 (right wing) had an average of 38.98, SD = 22.17.

3 | MATERIALS

A police use of force scenario was created for the purpose of this study. Construction of the scenario was based on input from subject matter experts from a Canadian police organization to ensure the scenario resembled a realistic representation of a use of force incident that would occur in the field. The scenario simulates a police officer interacting with a subject at a college campus where the subject was accused of breaking into cars and stealing their contents. The police officer talks with the subject and attempts to arrest him based on the fact he has a warrant out for his arrest. When the officer attempts to control the arrested subject's arm to take him into custody and remove him from the premises, the subject physically pulls away and tries to evade the police officer, causing him to fall backwards. The subject hits his head on the ground and has a seizure.

White male actors were used for both the subject and the police officer to control for race. The police officer actor was dressed in full patrol uniform and duty belt, and the suspect actor was wearing running shoes, blue jeans, and a black hooded sweatshirt. The scenario lasted 1 minute and 31 seconds and was video-recorded from three separate angles: a BWC on the officer's chest, a camera being held by a bystander located to the side of the interaction approximately 20 feet away from the scene, and a camera simulating security footage on the wall behind the police officer approximately 25 feet from the scene (Figure 1).

3.1 | Measures

3.1.1 | Perceptions of video-recorded scenario

Rating scales

After viewing the video-recorded scenario, participants were asked six questions in random order: how threatening the police officer, subject, and overall scenario appeared to them on a 7-point Likert scale (1: not at all threatening to 7: very threatening); the justification of the actions of both the police officer and the subject (1: not at all justified to 7: very justified); and whether the level of force the police officer administered was reasonable (1: not at all reasonable to 7: very reasonable).

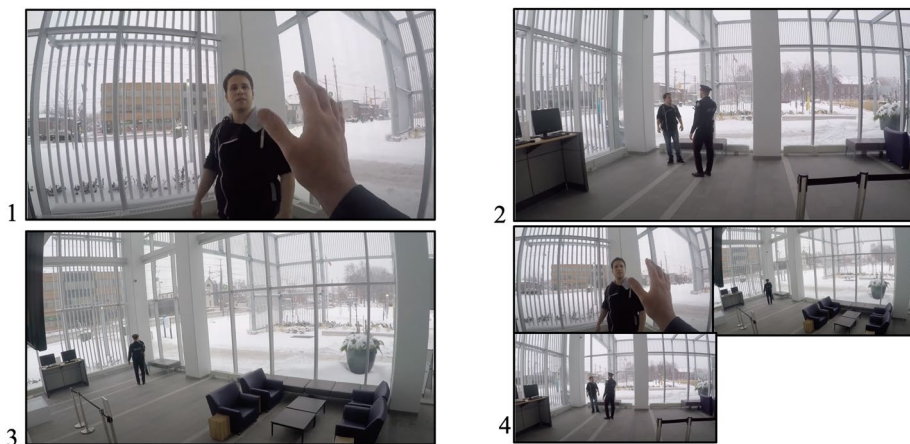


FIGURE 1 Still images from camera angle video conditions. *Note.* Depiction of still images is derived from 0.39 seconds of each video used in the camera angle video conditions. Image 1 depicts the BWC condition; image 2 depicts the bystander camera angle condition; image 3 depicts the security camera angle condition; image 4 depicts all camera angles video condition whereby participants viewed all three videos consecutively in a randomized order

3.1.2 | Questionnaires measuring individual differences

Police Legitimacy Scale (PLS)

The PLS (Tankebe et al., 2016) has 16 items used to assess attitudes towards the police. Items are rated on a 4-point Likert scale from 1 (very unlikely) to 4 (very likely) and are broken down into four dimensions. Lawfulness reflects police officers working within established rules (e.g., when the police deal with people, they always behave according to the law); procedural fairness captures the extent to which police authority is exercised in a fair manner (e.g., the police treat people fairly); distributive fairness captures the idea that authorities fairly distribute services across people and communities (e.g., the police provide the same quality of service to all citizens); and police effectiveness reflects the ability for police officers to respond to citizens' needs (e.g., I feel safe walking in my neighbourhood at night). Satisfactory levels of internal consistency have been reported using samples from the United States and Ghana (Tankebe et al., 2016) and the four-factor structure of the PLS has demonstrated acceptable goodness of fit in these samples (Tankebe et al., 2016), and more recently in a Canadian sample (Ewanation et al., 2019). Cronbach's alphas for the current study are 0.72 (Lawfulness), 0.88 (Procedural Fairness), 0.71 (Distributive Fairness), and 0.59 (Police Effectiveness).

Revised Legal Attitudes Questionnaire (RLAQ23)

The RLAQ23 (Kravitz et al., 1993) was also administered to participants to assess individual differences in legal attitudes, and more specifically, the degree of authoritarianism specific to legal issues. The RLAQ23 has 23 items, and is a twice-revised version of the Legal Attitudes Questionnaire originally developed by Boehm (1968). It uses a 6-point Likert Scale ranging from 1 (Strongly Disagree) to 6 (Strongly Agree), with some reverse-coded items. Example items include *unfair treatment of underprivileged groups and classes is the chief cause of crime* (Anti-Authoritarian subscale), *upstanding citizens have nothing to fear from the police* (Authoritarian subscale), and *there is no need in a criminal case for the accused to prove his innocence beyond a reasonable doubt* (Equalitarian subscale). Kravitz et al. (1993) found acceptable convergent validity between the RLAQ23 and the 30-item RLAQ (0.95 - 0.97), and the Balanced F-Scale (0.51 - 0.57; a measure of authoritarian personality; Anthanasiou, 1968). The current study's sample achieved Cronbach's alphas of 0.43 for the Anti-Authoritarian subscale, 0.49 for the Authoritarian subscale, and 0.55 for the Equalitarian subscale, suggesting that caution is warranted when interpreting results associated with the RLAQ23.

Biographic Questionnaire

Participants completed a biographic questionnaire to collect information about age, gender, race/ethnic background, educational history, political affiliation, prior positive and negative experiences with the police, prior arrests, and background in law enforcement.

3.2 | Procedure

The current study was conducted online through the Qualtrics survey platform from September 2018 to March 2019. Participants took approximately 45 minutes to one hour to complete it. They accessed the study at their own convenience and on their own personal device (e.g., computer, smartphone). Participants were randomly assigned to one of four video conditions in which they viewed one camera angle (BWC, security camera, or bystander camera) or all three camera angles of the recorded scenario (see Figure 1); participants who were randomized to view all three camera angles viewed them consecutively in a randomized order. Before viewing the video-recorded scenario, half the participants (from all four camera angle conditions) were also randomly assigned to a condition where they were

warned about potential effects of watching the video-recorded scenario from a particular angle. More specifically, these participants read the following statement on the computer screen:

Because the use of force scenario was video-recorded, you should be aware that your judgments could be affected by the angle of the camera. In thinking about the video recording, you should focus on what the police officer and suspect actually said and how they behaved during the interaction. Do not allow the angle of the camera to influence your judgment about the person at fault for the scenario outcome.

These words remained on the screen for 1 minute prior to participants seeing the video.

After viewing the video(s), participants were then asked to provide their ratings of the video using the six items described above. Participants then completed the PLS and the RLAQ23. These questionnaires were counter-balanced to control for order effects (none were found). Half of the participants were also randomly assigned to a fifteen-minute unrelated distractor task (i.e., crossword puzzle) prior to the questionnaires to ensure that individual's responses were not unintentionally primed by the video (this was not the case). Following the questionnaires, participants were then directed to the biographic questionnaire and an online debriefing form. During debriefing, participants had the opportunity to report any technical issues they experienced while participating in the study.

4 | RESULTS

4.1 | Video angle and warning statement

A series of two-way ANOVAs were conducted to examine the effects of video condition (BWC, Bystander, Security, All Camera Angles) and presence of a warning statement about bias (Absent, Present) on the six questions answered on 7-point Likert scales after viewing the video of the use of force incident: (1) Police Officer Threat, (2) Suspect Threat, (3) Scenario Threat, (4) Justification of Police Officer's Actions, (5) Justification of Suspect's Actions, and (6) Level of Reasonable Force Applied by Police. Descriptive statistics for each video condition and warning condition are presented in Table 2, and results of the two-way ANOVAs are presented in Table 3.

Results indicated that there were no significant main effects of warning or video condition on *Police Officer Threat*, *Suspect Threat*, *Scenario Threat*, *Justification of Police Officer's Actions*, *Justification of Suspect's Actions*, or *Level of Reasonable Force Applied*. There were also no significant interaction effects between video condition and warning condition on *Police Officer Threat*, *Suspect Threat*, *Scenario Threat*, *Justification of Police Officer's Actions*, *Justification of Suspect's Actions*, or *Level of Reasonable Force Applied*.

Given the large number of dependent variables and their potential for overlap, a principal components analysis (PCA) was conducted to reduce the number of variables and eliminate any redundancy amongst these Likert scale items. The suitability of PCA was assessed prior to analysis. Inspection of the correlation matrix showed that all but one variable had at least one correlation coefficient greater than 0.3; however, this remaining variable had a correlation of $r = 0.27$. The overall Kaiser-Meyer-Olkin (KMO) measure was 0.64 with individual KMO measures ranging from 0.497 to 0.828; this range is deemed acceptable according to Kaiser (1974). Bartlett's Test of Sphericity was statistically significant ($p < 0.001$), indicating that the data was likely factorizable.

PCA revealed two components that had eigenvalues greater than one and which explained 38.7% and 24.3% of the total variance, respectively. Visual inspection of the scree plot indicated an ambiguous inflexion point and appeared to suggest that three components may be retained (Cattell, 1966). However, a two-component solution met the interpretability criterion, and therefore two components were retained for analyses.

The two-component solution explained 63.00% of the total variance. A Varimax orthogonal rotation was used to aid interpretability, and the rotated solution exhibited 'simple structure' (Thurstone, 1947). All six items loaded either on component 1 or component 2. *Justification of Police Officer's Actions*, *Level of Reasonable Force Applied* by

TABLE 2 Descriptive statistics across video conditions and warning conditions (N = 330)

		Warning absent (n = 33)				Warning present (n = 46)			
	Items	M	SD	Min	Max	M	SD	Min	Max
Body worn camera	PT	1.39	0.61	1	3	1.70	1.19	1	6
	ST	2.61	1.17	1	5	2.57	1.17	1	7
	SCT	2.52	1.18	1	5	2.17	0.93	1	4
	JP	5.48	1.46	3	7	5.41	1.57	2	7
	JS	1.91	1.47	1	7	2.00	1.14	1	5
	LRF	5.52	1.46	2	7	4.91	1.93	1	7
		Warning absent (n = 39)				Warning present (n = 49)			
	Items	M	SD	Min	Max	M	SD	Min	Max
Bystander camera	PT	1.64	0.99	1	6	1.65	0.95	1	5
	ST	2.28	1.43	1	7	2.80	1.22	1	5
	SCT	2.26	1.27	1	7	2.18	0.97	1	5
	JP	5.41	1.60	1	7	5.57	1.74	1	7
	JS	2.08	1.42	1	7	1.82	0.99	1	5
	LRF	5.38	1.86	1	7	5.80	1.55	2	7
		Warning absent (n = 41)				Warning present (n = 37)			
	Items	M	SD	Min	Max	M	SD	Min	Max
Security camera	PT	1.54	0.71	1	4	1.81	0.78	1	4
	ST	2.49	1.19	1	7	2.89	1.29	1	6
	SCT	2.22	1.15	1	6	2.35	1.16	1	6
	JP	5.83	1.32	2	7	5.30	1.56	2	7
	JS	1.46	0.87	1	4	1.89	1.08	1	6
	LRF	5.51	1.40	2	7	5.41	1.55	2	7
		Warning absent (n = 47)				Warning present (n = 38)			
	Items	M	SD	Min	Max	M	SD	Min	Max
All camera angles	PT	1.55	0.75	1	4	1.42	0.68	1	3
	ST	2.87	1.30	1	6	2.61	1.17	1	6
	SCT	2.38	1.33	1	6	2.50	1.29	1	5
	JP	5.68	1.53	1	7	5.92	1.15	3	7
	JS	1.83	1.13	1	7	1.87	1.21	1	7
	LRF	5.72	1.50	2	7	6.00	1.29	3	7

Note: PT, police threat; ST, suspect threat; SCT, scenario threat; JP, justification of police officer's actions; JS, justification of suspect's actions; LRF, level of reasonable force applied by police officer.

Police, *Police Officer Threat*, and *Justification of Suspect's Actions* all loaded on component 1; this combination of items suggests that this component represents attitudes that favour the police. *Suspect Threat* and *Scenario Threat* loaded on component 2; the combination of these items suggest this component represents threat perceptions related to the scenario. Component loadings and communalities of the rotated solution are presented in Table 4. Composite scores were created for each of the two components by summing the scores of the items that loaded onto each component.³ These were used as dependent variables in subsequent analyses.

TABLE 3 Two-way ANOVA results² for video condition and warning condition on the Six Likert Scale items and Two PCA component items (N = 330)

Items		SS	df	Mean square	F	p	Partial η^2
Police officer threat	Video condition	1.87	3	0.62	0.84	0.48	0.008
	Warning condition	1.05	1	1.05	1.41	0.24	0.004
	Video*Warning	2.67	3	0.89	1.19	0.31	0.01
	Error	240.45	322	0.75			
Suspect threat	Video condition	2.13	3	0.71	0.46	0.71	0.004
	Warning condition	1.89	1	1.89	1.22	0.27	0.004
	Video*Warning	8.48	3	2.82	1.82	0.14	0.02
	Error	499.16	322	1.55			
Scenario threat	Video condition	2.25	3	0.75	0.56	0.65	0.005
	Warning condition	0.14	1	0.14	0.10	0.75	0.0003
	Video*Warning	2.86	3	0.95	0.71	0.55	0.007
	Error	433.70	322	1.35			
Justification of police Officer's actions	Video condition	6.14	3	2.05	0.89	0.45	0.008
	Warning condition	0.21	1	0.21	0.09	0.76	0.0002
	Video*Warning	7.26	3	2.42	1.06	0.37	0.01
	Error	737.34	322	2.29			
Justification of Suspect's actions	Video condition	3.94	3	1.31	0.97	0.41	0.009
	Warning condition	0.45	1	0.45	0.33	0.57	0.001
	Video*Warning	4.90	3	1.63	1.21	0.31	0.01
	Error	435.59	322	1.35			
Level of reasonable force applied by police	Video condition	17.59	3	5.87	2.32	0.08	0.02
	Warning condition	0.002	1	0.002	0.001	0.98	0.000003
	Video*Warning	12.45	3	4.15	1.64	0.18	0.02
	Error	813.65	322	2.53			
Component 1: Attitudes in favour of police	Video condition	58.81	3	19.60	1.34	0.26	0.01
	Warning condition	4.84	1	4.84	0.33	0.57	0.001
	Video*Warning	76.20	3	25.40	1.73	0.16	0.02
	Error	4715.99	322	14.65			
Component 2: Perceived scenario threat	Video condition	7.67	3	2.56	0.58	0.63	0.005
	Warning condition	1.00	1	1.00	0.23	0.63	0.001
	Video*Warning	11.98	3	3.99	0.90	0.44	0.008
	Error	1424.87	322	4.43			

Note: SS and *df* represent Sum of Squares and Degrees of Freedom, respectively.

Two two-way ANOVAs were conducted to examine the effects of video condition and presence of a warning statement about bias on the two components determined by the PCA. A Levene's test indicated there was homogeneity of variances for analyses using both *Attitudes in Favour of Police* and *Perceived Scenario Threat* as outcome variables ($p = 0.209$ and $p = 0.916$, respectively; based on medians). The Shapiro-Wilk's normality test indicated that the assumption of normality was violated in both analyses (i.e., $p < 0.001$); however, our large sample of 330 protects

TABLE 4 Rotated structure matrix for PCA with varimax rotation of six ratings after viewing a video-recorded use of force scenario

Items	Rotated component coefficients		Communalities
	Component 1 $\alpha = 0.71$	Component 2 $\alpha = 0.69$	
Justification of police Officer's actions	0.865	0.027	0.748
Level of reasonable force applied by police officer	0.837	-0.022	0.702
Police officer threat	-0.674	0.282	0.534
Justification of Suspect's actions	-0.495	-0.008	0.245
Suspect threat	0.100	0.878	0.780
Scenario threat	-0.225	0.848	0.770

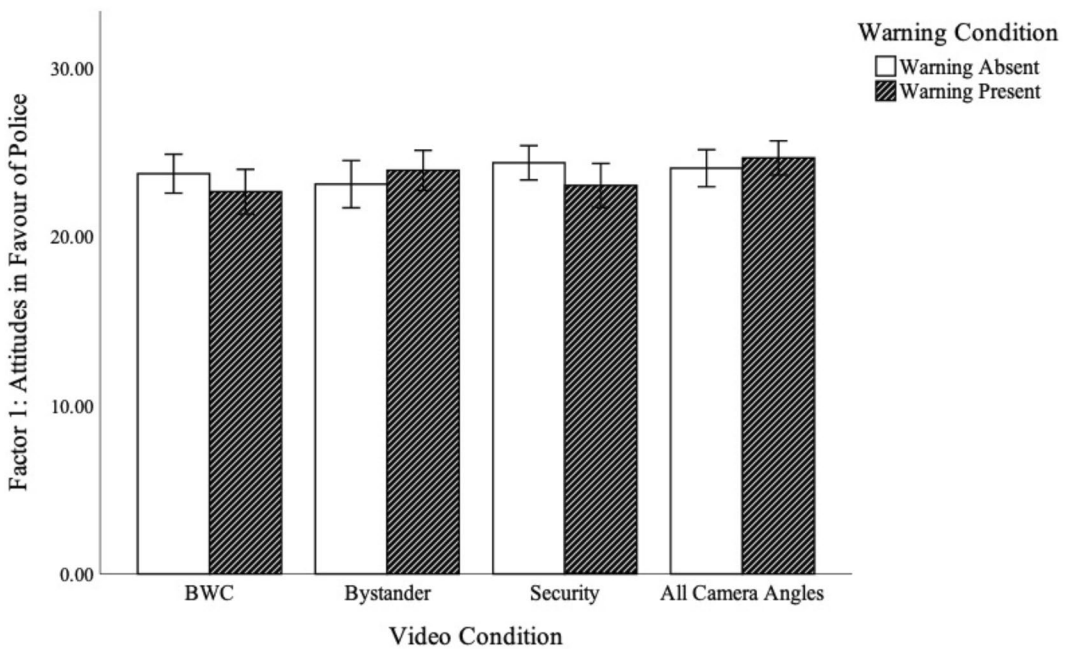


FIGURE 2 Clustered bar graph depicting video and warning conditions for the mean of factor 1: Attitudes in favour of police. Error bars represent 95% confidence intervals

against this violation and ensures that the distribution approximates normality (Statistics Solutions, 2013). Results of the two-way ANOVAs are presented in Table 3.

Main effects for video condition and warning condition on *Attitudes in Favour of Police* and *Perceived Scenario Threat* were not statistically significant. The interaction effects between video condition and warning condition on both *Attitudes in Favour of Police* and *Perceived Scenario Threat* were also not statistically significant. Visual displays of mean differences of *Attitudes in Favour of Police* and *Perceived Scenario Threat* for each video condition and warning condition are presented in Figures 2 and 3.

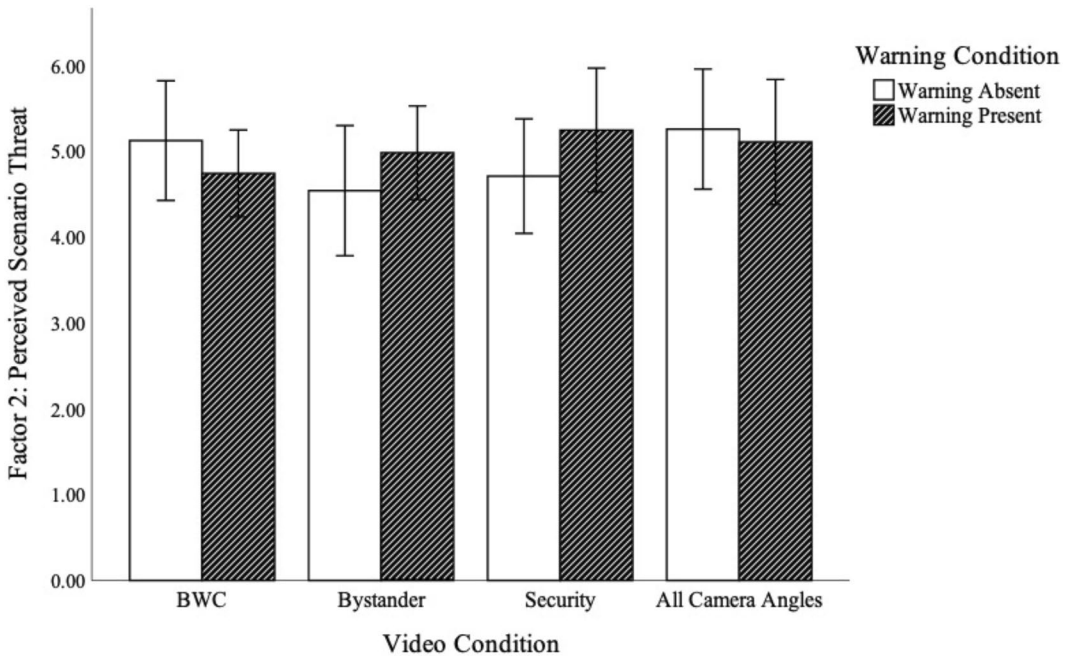


FIGURE 3 Clustered bar graph depicting video and warning conditions for the mean of factor 2: Perceived scenario threat. Error bars represent 95% confidence intervals

4.2 | Police legitimacy and legal attitudes⁴

Total scores for the PLS and RLAQ23 were calculated and used in subsequent analyses.

A series of bivariate correlations (1-tailed) were calculated to examine the relationships between the participants' questionnaire scores and their ratings on the various dependent measures (see Table 5).

4.2.1 | Police Legitimacy Scale (PLS)

Lawfulness, Procedural Fairness, and Distributive Fairness were all significantly positively correlated with ratings of Justification of Police Officer's Actions, Level of Reasonable Force Applied by Police, and Attitudes in Favour of Police, and negatively correlated with ratings of Justification of Suspect's Actions. Police Effectiveness was significantly positively correlated with ratings of Justification of Police Officer's Actions and, surprisingly, Justification of Suspect's Actions.

4.2.2 | Revised Legal Attitudes Questionnaire (RLAQ23)

Anti-Authoritarian was significantly positively correlated with *Police Officer Threat* and *Justification of Suspect's Actions*, and negatively correlated with *Justification of Police Officer's Actions*, *Level of Reasonable Force Applied by Police*, and *Attitudes in Favour of Police*. *Authoritarian* was significantly positively correlated with *Suspect Threat*, *Justification of Police Officer's Actions*, and *Perceived Scenario Threat*. *Equalitarian* was significantly negatively correlated with *Suspect Threat*.

TABLE 5 Correlations between scores on PLS and RLAQ23 on ratings of the police officer, suspect, and scenario (N = 294)

	Police threat	Suspect threat	Scenario threat	Justification of police Officer's actions	Justification of Suspect's actions	Level of reasonable force applied	Factor 1: Attitudes in favour of police	Factor 2: Perceived scenario threat
PLS: Lawfulness	-0.06	-0.02	-0.05	0.14**	-0.10*	0.10*	0.14**	-0.04
PLS: Procedural fairness	-0.08	0.04	-0.03	0.23**	-0.12*	0.16**	0.21**	0.002
PLS: Distributive fairness	-0.003	0.07	-0.02	0.16**	-0.17**	0.13*	0.17**	0.03
PLS: Police effectiveness	-0.06	-0.08	-0.03	0.12*	0.11*	0.08	0.06	-0.06
RLAQ23: Anti-authoritarian	0.18**	0.01	0.06	-0.28**	0.14*	-0.27**	-0.30**	0.04
RLAQ23: Authoritarian	0.001	0.207**	0.05	0.11*	-0.07	0.07	0.09	0.15*
RLAQ23: Equalitarian	0.01	-0.12*	0.03	-0.08	0.07	-0.10	-0.10	-0.05

Note: * $p < .05$; ** $p < .01$ (1-tailed); bivariate correlations were used to calculate the relationship between all variables displayed in the table.

4.3 | Moderation effect of PLS and RLAQ23 on police attitudes and scenario threat

For exploratory purposes, a series of moderation regression analyses were conducted to assess whether scores on the PLS and RLAQ23 moderated the relationships between the video condition⁵ and the two component scores: *Attitudes in Favour of Police* and *Perceived Scenario Threat*.⁶ As seen in Table 5, there were significant correlations between *Attitudes in Favour of Police* and *Lawfulness*, *Procedural Fairness*, *Distributive Fairness*, and *Anti-Authoritarian*, and *Perceived Scenario Threat* was significantly related with *Authoritarian*; therefore, scores on these measures were used as moderators in these analyses. The moderation regression analyses were conducted using the Process macro for SPSS (Hayes, 2017). The regression model results and coefficients are presented in Table 6.⁷

4.3.1 | Police Legitimacy Scale

There was a statistically significant moderator effect of *Lawfulness* on the relationship between video condition and *Attitudes in Favour of Police*, and the interaction term between *Lawfulness* and the video condition. Further examination revealed that the comparison between the BWC video condition and All Camera Angles condition approached significance, $b = -1.63$, $t(286) = -1.89$, $p = 0.06$, at low levels of *Lawfulness*, and was statistically significant at moderate levels of *Lawfulness*, $b = 1.37$, $t(286) = 2.19$, $p = 0.03$. At high levels of *Lawfulness*, statistically significant differences were found between the BWC condition and the Bystander video condition, $b = 2.20$, $t(286) = 2.60$, $p = 0.01$, while the comparison between the BWC and Security video conditions approached significance, $b = 1.71$, $t(286) = 1.93$, $p = 0.05$.

The overall regression models using *Procedural Fairness* and *Distributive Fairness* as moderators in the regression analyses examining the relationship between video condition and *Attitudes in Favour of Police* were statistically significant. Both regression models indicated differences in attitudes towards police based on video condition, such that participants in the All Camera Angles condition had higher *Attitudes in Favour of Police* scores compared

TABLE 6 Regression analyses examining moderation effects of lawfulness, procedural fairness, distributive fairness, and anti-authoritarian on the relationship between video condition and attitudes in favour of police

	Model Summary			Moderation Effect			C.I.						
	R ²	F(7, 286)	p	ΔR ²	ΔF(3, 286)	p	b	SE	β	t	p	Lower	Upper
Model 1	0.07	3.14	0.003**	0.03	3.56	0.01*							
Video condition 1: BWC*Bystander							0.74	0.61	0.09	1.21	0.23	-0.47	-1.95
Video condition 2: BWC*Security							0.79	0.63	0.09	1.24	0.21	-0.46	2.03
Video condition 3: BWC*All angles							1.37	0.63	0.16	2.19	0.03*	0.14	0.2.61
Lawfulness (L)							-0.03	0.26	-0.02	-0.13	0.89	-0.55	0.48
Int 1: Lawfulness*Video condition 1							0.85	0.34	0.21	2.46	0.01*	0.17	1.53
Int 2: Lawfulness*Video condition 2							0.54	0.37	0.11	1.44	0.15	-0.20	1.27
Int 3: Lawfulness*Video condition 3							-0.15	0.37	-0.03	-0.40	0.69	-0.88	0.58
Model 2	0.09	3.83	0.000**	0.02	2.35	0.07							
Video condition 1: BWC*Bystander							0.86	0.61	0.10	1.41	0.16	-0.34	2.06
Video condition 2: BWC*Security							0.74	0.63	0.08	1.17	0.24	-0.51	1.97
Video condition 3: BWC*All angles							1.42	0.62	0.16	2.30	0.02*	0.20	2.64
Procedural fairness (PF)							0.06	0.13	0.06	0.43	0.67	-0.20	0.32
Int 1: PF*Video condition 1							0.33	0.17	0.18	1.96	0.05	-0.002	0.66
Int 2: PF*Video condition 2							0.29	0.19	0.13	1.56	0.12	-0.08	0.66
Int 3: PF*Video condition 3							-0.006	0.18	-0.00	-0.03	0.97	-0.36	0.35
Model 3	0.07	3.20	0.003**	0.03	2.59	0.05							
Video condition 1: BWC*Bystander							0.72	0.61	0.08	1.17	0.24	-0.49	1.92
Video condition 2: BWC*Security							0.73	0.63	0.08	1.15	0.25	-0.52	1.97
Video condition 3: BWC*All angles							1.43	0.63	0.16	2.29	0.02*	0.20	2.67
Distributive fairness (DF)							-0.03	0.26	-0.02	-0.10	0.92	-0.53	0.48
Int 1: DF*Video condition 1							0.79	0.34	0.21	2.34	0.02*	0.13	1.46
Int 2: DF*Video condition 2							0.60	0.36	0.14	1.66	0.10	-0.11	1.31
Int 3: DF*Video condition 3							0.10	0.35	0.02	2.9	0.77	-0.59	0.79

TABLE 6 (Continued)

	Model Summary			Moderation Effect			C.I.						
	R ²	F(7, 286)	p	ΔR ²	ΔF(3, 286)	P	b	SE	β	t	p	Lower	Upper
Model 4	0.11	5.17	0.000**	0.004	0.51	0.68							
Video condition 1: BWC*Bystander							0.81	0.61	0.09	1.34	0.18	-0.38	1.99
Video condition 2: BWC*Security							0.77	0.59	0.09	1.25	0.21	-0.44	1.99
Video condition 3: BWC*All angles							1.32	0.61	0.15	2.16	0.03*	0.12	2.52
Anti-authoritarian (AA)							-0.28	0.13	-0.25	-2.41	0.02*	-0.51	-0.05
Int 1: AA*Video condition 1							-0.17	0.18	-0.07	-0.98	0.33	-0.51	0.17
Int 2: AA*Video condition 2							0.02	0.19	0.01	0.14	0.89	-0.32	0.37
Int 3: AA*Video condition 3							-0.11	0.18	-0.05	-0.60	0.55	-0.45	0.24

Note: Video condition was dummy-coded with the BWC condition as the reference group.

* $p < .05$, ** $p < .01$.

to participants who viewed the BWC video of the use of force scenario. The interaction term between the video condition comparing the BWC and Bystander video condition and *Distributive Fairness* was statistically significant, while the interaction term between the same video conditions and *Procedural Fairness* approached significance (i.e., $p = 0.05$, see Table 5). The interaction terms in both models only added 2.25 to 2.52% of the variance to the R^2 of the models, which approached significance.

Further analysis of simple slopes revealed that at high levels of *Procedural Fairness*, the BWC condition was significantly different from the Bystander video condition, $b = 2.05$, $t(286) = 2.37$, $p = 0.02$, and the Security video condition, $b = 1.79$, $t(286) = 1.99$, $p = 0.048$. The BWC video condition was also significantly different from the All Camera Angles condition at moderate levels of *Procedural Fairness*, $b = 1.42$, $t(286) = 2.30$, $p = 0.02$. Similar results were found for *Distributive Fairness*. At high levels of *Distributive Fairness*, the BWC condition was statistically different from the Bystander video condition, $b = 2.15$, $t(286) = 2.49$, $p = 0.01$, and the Security video condition, $b = 1.82$, $t(286) = 2.04$, $p = 0.04$. The comparison between the BWC and All Camera Angles conditions also approached significance, $b = 1.62$, $t(286) = 1.73$, $p = 0.08$. At moderate levels of *Distributive Fairness*, the comparison between the BWC video condition and All Camera Angles condition was statistically significant, $b = 1.43$, $t(286) = 2.29$, $p = 0.02$. There were no significant differences between the BWC and other video conditions at low levels of *Procedural Fairness* or *Distributive Fairness*.

The moderation regression results are presented in Figures 4–6. As can be seen in these figures, similar trends were found. All figures show that individuals with high scores on the PLS had more favourable attitudes towards the police in the Bystander video condition, and a similar trend is depicted for the Security video condition. Scores on the PLS did not affect attitudes towards police in the BWC or the All Camera Angles conditions, and *Attitudes in Favour of Police* were generally higher for the All Camera Angles condition across all levels of police legitimacy. The figures also suggest that individuals in the All Camera Angles condition had more favourable *Attitudes in Favour of Police* at low levels of police legitimacy, compared to the other video conditions.

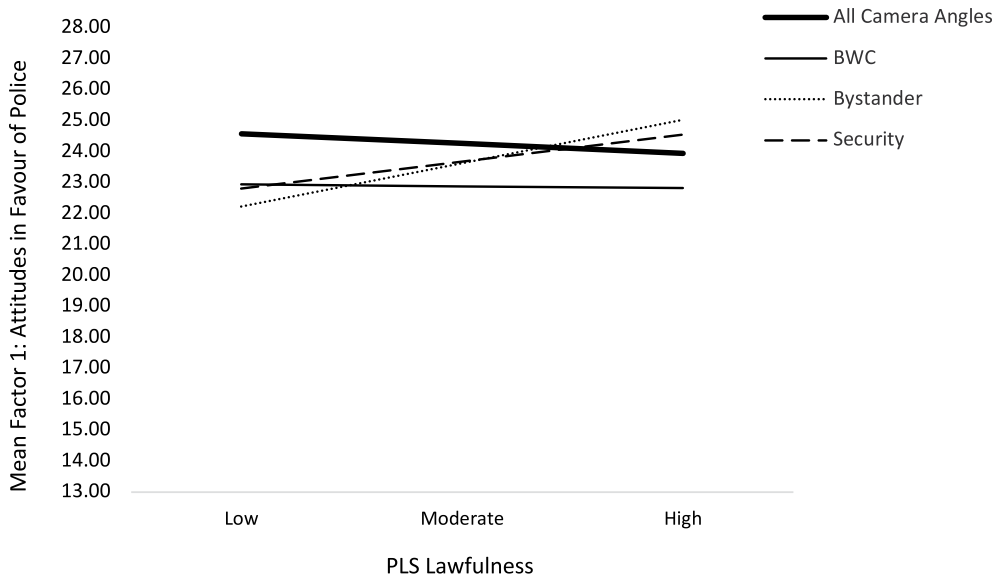


FIGURE 4 Line graph depicting moderation effect of PLS lawfulness on the relationship between video condition and the mean of factor 1: Attitudes in favour of police

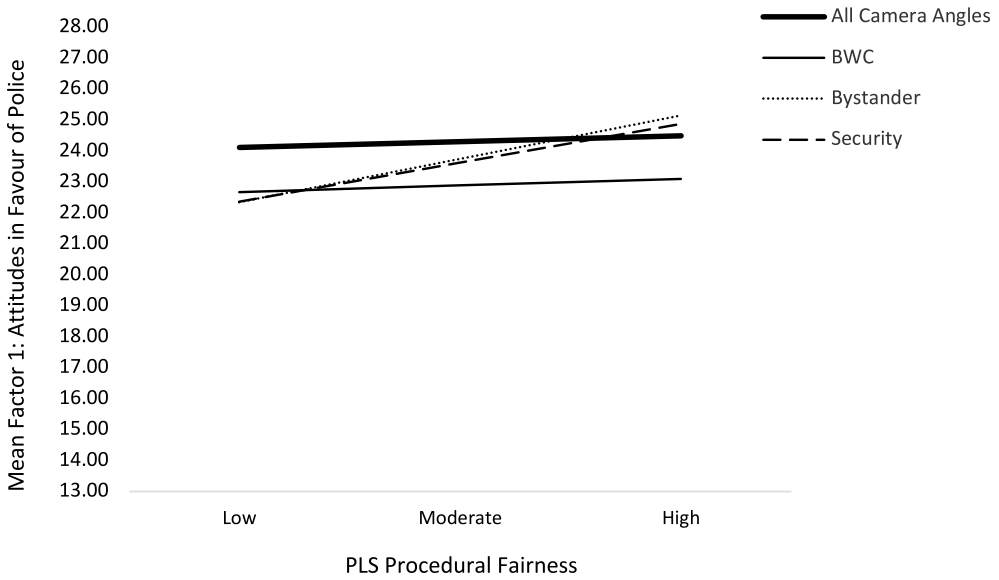


FIGURE 5 Line graph depicting moderation effect of PLS procedural fairness on the relationship between video condition and the mean of factor 1: Attitudes in favour of police

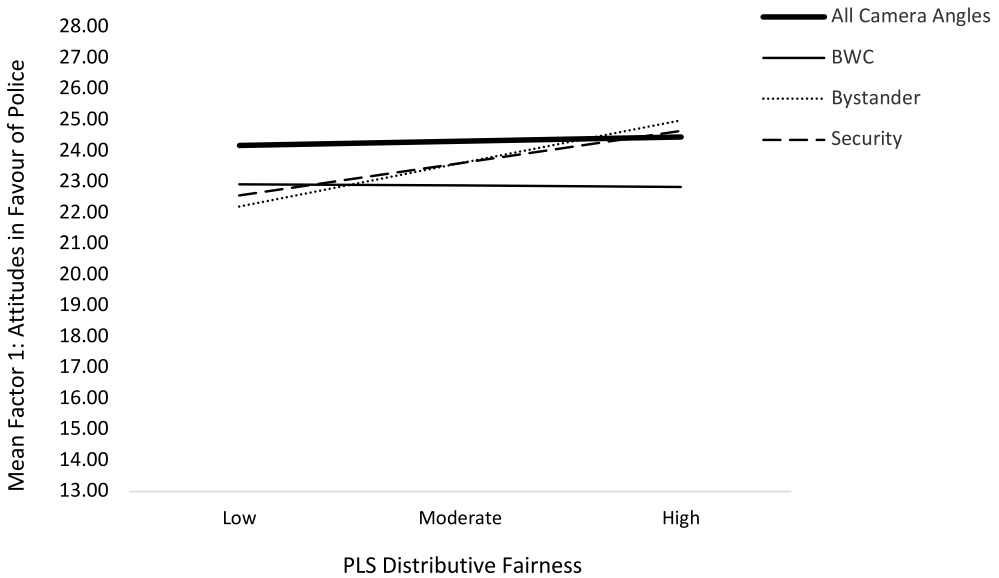


FIGURE 6 Line graph depicting moderation effect of PLS distributive fairness on the relationship between video condition and the mean of factor 1: Attitudes in favour of police

4.3.2 | Revised legal attitudes questionnaire

The overall regression model examining Attitudes in Favour of Police as a function of video condition and anti-authoritarian attitudes was statistically significant. There was an effect of anti-authoritarian attitudes, which indicated that participants with higher scores on the RLAQ23 had less favourable attitudes towards police; however, there were no significant interactions in the model. This moderation analysis is presented in Figure 7, which shows a downward

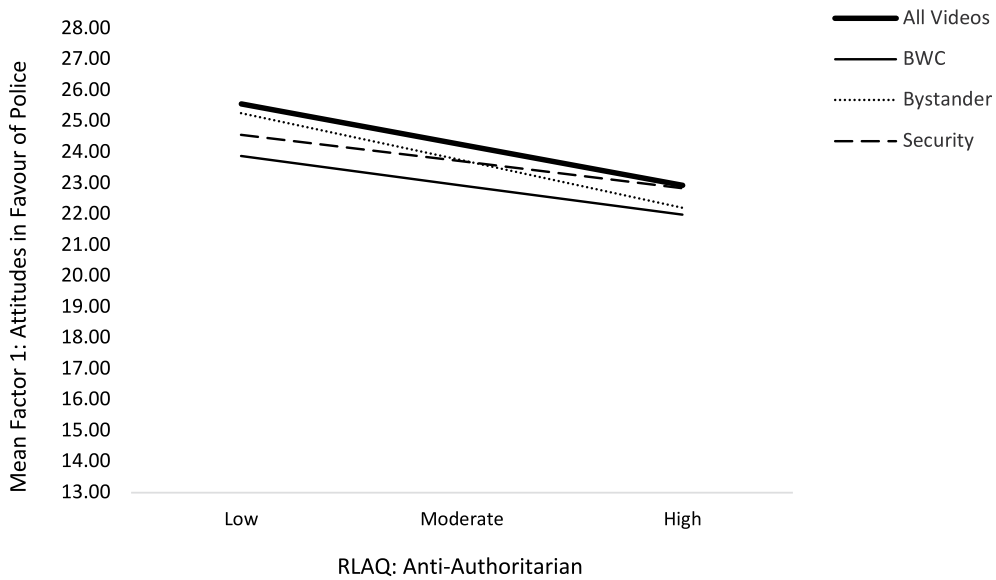


FIGURE 7 Line graph depicting moderation effect of RLAQ23 anti-authoritarian on the relationship between video condition and the mean of factor 1: Attitudes in favour of police

trend for all camera angle conditions, such that Attitudes in Favour of Police decrease as anti-authoritarian attitudes increase. Results from the moderation analyses indicated that the relationship between video condition and *Perceived Scenario Threat* was not moderated by authoritarian attitudes, $R^2 = 0.03$, $F(7, 286) = 1.45$, $p = 0.18$; $\Delta R^2 = 0.004$, $\Delta F(3, 286) = 0.46$, $p = 0.71$.

5 | DISCUSSION

The current study examined how video camera angles and pre-existing biases impact interpretations of police use of force videos. After viewing a video recorded police use of force incident in one of four angle conditions (BWC, bystander, security, all camera angles), participants rated the police officer and subject on how threatening they appeared and how justified their actions were; half of the participants were also warned about the impact of the camera perspective bias prior to viewing the video. Participants also completed self-report measures that assess attitudes towards police and the legal system. The findings are discussed in relation to each of the hypotheses tested in this study.

5.1 | Camera perspective bias

We hypothesized (1) that individuals who viewed the BWC angle would view the suspect as more threatening and the police officer as more justified, compared to the security and bystander camera angles, and (2) that there would be no difference in judgments between the individuals informed about the camera perspective bias and those who viewed the video without this information.

The results suggested that the camera angle that was viewed did not directly affect perceptions of the police officer or suspect in the use of force scenario. More specifically, participants did not view the police officer differently when viewing the use of force incident from the BWC angle (or any other camera angle). All camera angles of the police incident resulted in a general agreement that the suspect was non-threatening and not justified in his actions, and that

the police officer was non-threatening, was justified in his actions, and used a reasonable level of force on the suspect. Therefore, attitudes were generally in favour of the police officer, while perceived suspect and scenario threat was low, across all video conditions. The results also indicated that the presence of the warning statement had no effect on judgments made about the use of force video, supporting the second hypothesis. While these results align with previous research findings that suggest warning participants about the camera perspective bias does not eliminate any bias in making decisions (e.g., Jones et al., 2019; Lassiter et al., 2002), it is unknown whether these results would have been obtained if a camera perspective bias had been found.

The results regarding camera perspective bias may be explained by the general agreement amongst participants of what was seen in the video. For example, participants generally agreed that the subject was unjustified in his actions, and that the police officer was justified and used a reasonable amount of force, suggesting there was a clear depiction of a police officer justifiably attempting to arrest an unjustified subject, and carrying out appropriate police procedures. These results are similar to the results of Boivin et al. (2017) student sample, except their results indicated a strong agreement across videos that the police intervention (lethal force) was questionable, which they attributed to heightened emotional reaction due to the nature of the scenario. While this might suggest that a less emotionally arousing scenario like the one we used (e.g., excluding lethal force) should be more likely to introduce variability based on camera perspective, perhaps this effect is diminished in scenarios that lack ambiguity. Regardless of the emotions produced by a scenario, when viewing a video that is unambiguous, participants may respond the same way, regardless of the angle from which they view the scenario.

Similarly, the inclusion of comparable contextual variables across all videos in our study may have also contributed to the lack of camera perspective bias (and the unambiguity of the videos). For example, sound, picture quality, and start/end times were controlled for in all videos; that is, all videos depicted the exact same quality and segment of the video, with the camera angle being the only difference across conditions. Previous research using authentic videos from the media/or released from police agencies may result in greater differences in judgment because they include varied contextual cues like sound or picture quality (e.g., Sandhu & Haggerty, 2017). Authentic videos, like those seen in the Sammy Yatim shooting (e.g., Rogan, 2014) may include differences in video quality (i.e., colour or black/white, still or moving pictures) and sound quality (i.e., clear or broken audio, silent) that may contribute to how people interpret the videos. In some cases, video recordings also begin at different times. For example, a police officer may turn on their BWC prior to interacting with the suspect, whereas a bystander may only begin recording once the interaction has escalated, potentially excluding important contextual information about the interaction. In the current study, the police officer can be clearly heard announcing himself and providing some context around the scenario. Therefore, the results in the current study may suggest the camera perspective bias is decreased or eliminated when police use of force videos include key contextual information.

5.2 | Pre-existing biases

Individuals who endorsed low levels of police legitimacy (i.e., Lawfulness, Procedural Fairness, Distributive Fairness, Police Effectiveness) viewed the police officer less favourably in the video and perceived the police officer as less justified in his actions and less reasonable in his use of force. Participants who were high on anti-authoritarian values also endorsed less favourable attitudes towards the police and were more likely to find the police officer more threatening, less justified in his actions, and less reasonable in his application of force; they also believed that the suspect was more justified in his actions. These results support our hypotheses that individuals with negative attitudes towards police (i.e., low levels of police legitimacy) would be harsher in judging police officers in a use of force scenario. These findings also support previous research (e.g., Hernandez, 2020; Riley, 2006), and suggest that attitudes and beliefs about the police and justice system may impact how people interpret police use of force videos that surface in the media.

In exploratory analyses, the camera perspective bias was examined again, but this time, pre-existing biases were included in the analyses to examine how they impacted video interpretations. The findings did not support the view

that blame is applied to the person most salient in the video (e.g., Lassiter & Irvine, 1986), but judgment of the videos did differ when taking into account pre-existing attitudes. While effects were small, individuals who viewed the bystander and security camera angles rated the police officer more favourably when they endorsed higher levels of police legitimacy, and their views of the police officer were less favourable when they endorsed lower levels of police legitimacy.

In contrast, attitudes towards the police officer did not differ as a result of police legitimacy scores for those who viewed the BWC angle of the video. Similar to those who viewed the bystander and security videos, these individuals had relatively less favourable attitudes of the police officer when they endorsed low levels of police legitimacy; however, unlike the bystander and security video conditions, their ratings generally remained stable even when levels of police legitimacy increased. Individuals who viewed all three camera angles also gave relatively stable ratings of the police officer across all levels of police legitimacy. They had more favourable attitudes towards the police officer at low levels of police legitimacy compared to all three singular camera angles and had more favourable attitudes towards the police officer at moderate and high levels of police legitimacy compared to the people who viewed the BWC video.

Despite agreement among participants about the non-threatening nature of the video, these results suggest the influence of pre-existing biases is strong enough to impact how people interpret use of force videos and may increase the likelihood of a camera perspective bias. Even when viewing a video depicting both the police officer and subject in clear view (e.g., bystander video), attitudes held by participants about police lawfulness, procedural fairness, and distributive fairness guided their interpretation of events. Perhaps attitudes regarding police legitimacy influenced ratings the most for participants who viewed the bystander video because these videos are similar to ones presented in the media that often negatively portray the police (e.g., Boivin et al., 2017). Individuals who endorse low levels of police legitimacy may be more inclined to automatically view the police officer in a bystander video as less justified because they believe that the bystander is filming a problematic police interaction, especially because they already distrust the police. However, individuals who see the police as legitimate may take the side of the police officer when viewing these videos.

It was expected that viewing the BWC video would result in more favourable ratings of the police officer compared with the bystander and security camera conditions; however, the opposite was found, potentially as a result of the ambiguity of this video. For example, viewers may have had a difficult time interpreting the reason for the subject's fall and resulting injury, given the close proximity between the police officer and subject. This may have led to the overall stability of less favourable attitudes towards police across levels of police legitimacy, because even when people trust the police, they still may not want to judge what they cannot see. In contrast, participants who viewed all three videos of the incident likely had more favourable attitudes towards the police because they were provided with more information to interpret the actual details of the scenario (i.e., the subject resisted a justifiable arrest and fell on his own, resulting in injury). Ultimately, this suggests that more information about a scenario may eliminate the influence of bias regarding police (e.g., Jones et al., 2019).

Lastly, anti-authoritarian attitudes appeared to decrease positive attitudes towards police across all video conditions, suggesting that this bias is strong and can override the camera perspective bias, even when presented with multiple videos of an event. These results can have serious consequences in legal settings when a police officer or subject is charged with an offence depicted on camera, and jurors are tasked with judging the videos, especially given the emphasis on video-recorded evidence in court (e.g., Baker, 2004; Frederick & Stemen, 2012).

5.3 | Limitations and future directions

While the findings highlight some important issues with relying on video evidence of police use of force scenarios, there were limitations that must be considered when drawing conclusions. First, the sample was comprised of university students, who are often skilled at critically thinking about controversial subjects like police use of force

(e.g., Thalmayer et al., 2021). Perhaps a sample of individuals from the broader community would have produced different results (e.g., less general agreement regarding the justification of the police officer in the video). Participants also completed the current study via an online platform, which may have invited technological errors and increased the likelihood of distractions. Attempts were made to mitigate these issues through various attention checks and questions about technical difficulties, but the possibility remains that these issues influenced participant responses. The use of self-report measures can also be susceptible to both underestimates and overestimates on various survey items (e.g., Chan, 2010), and may have influenced participant questionnaire scores, despite assurances of anonymity and confidentiality. The self-report questionnaires also added a significant amount of time to the study, potentially resulting in failed attention checks and a reduced sample size when analyzing the questionnaire data.

The general agreement about the non-threatening nature of the video used in the study may have also influenced the results. This resulted in generally low ratings of suspect justification (e.g., floor effects), and high ratings of justification/reasonable use of force for the police officer (ceiling effects). This may have contributed to the lack of camera perspective bias and the small significant effects that were found regarding pre-existing attitudes. While the video was designed to present a police officer implementing correct police procedures, the use of actors in the video recording may have been noticeable to the observers and contributed to the general agreement that the scenario was non-threatening. While designing the scenario allowed for the manipulation of camera angle while controlling for other confounding factors, this reduces generalizability to real world situations. As previously mentioned, use of force videos often include differences other than camera angle, even when recordings depict the same scenario (e.g., Sammy Yatim shooting; Rogen, 2014). Therefore, a camera perspective bias might emerge when the videos do differ in the ways they naturally do. This might be particularly true with respect to the presence or absence of contextual information. For example, if the videos in the current study excluded a clear audio track communicating the police officer's introduction and background information about the suspect, perhaps viewers would have observed a public citizen being unjustifiably disturbed by police, allowing for increased influence of the camera perspective bias.

Future research should continue to examine the camera perspective bias using real world examples to better understand what other factors may be contributing to judgments of police incidents. More specifically, understanding how pre-existing biases influence decisions in emotionally stimulating and controversial police incidents may help explain interpretations of use of force videos. Studies should also examine how the race and gender of subjects, police officers, and observers contribute to interpretations of these videos. Finally, future research should examine how all these factors contribute to legal decision-making to better understand the legal implications.

6 | CONCLUSION

Altogether, these results help us understand how people interpret use of force videos, and the implications of such interpretations. Findings from the current study revealed a small effect of the camera perspective bias, and only when pre-existing biases were considered. These findings are important because they suggest that the camera perspective bias may not always be present, especially in instances where events in the video are unambiguous and key contextual information is included (e.g., background information leading up to the incident). The results also highlight the fact that a camera perspective bias may decrease when observers are presented with a BWC angle or multiple videos of an incident. Police organizations across North America have implemented BWC technology for police officers to record public interactions from their perspective to improve police-community relations and increase transparency (e.g., Saulnier et al., 2021). However, the current study's findings suggest that videos depicting police incidents still must be carefully considered due to the potential influence of a camera perspective bias among those that hold pre-existing biases about the police.

ENDNOTES

- 1 A power analysis using G*Power 3.1 software (Faul et al., 2009) determined that 279 participants were sufficient to achieve a moderate effect size of $F = 0.25$ (8 groups, 3 degrees of freedom, alpha level of 0.05%, and 95% power). We oversampled to take into account missing data, technical problems, and attention check failures.
- 2 Three two-way ANCOVAs determined that there were no significant main effects or interactions when controlling for gender (male, female), race (White, not identifying as White), or political ideation (on a scale from 0: left wing to 100: right wing).
- 3 Police Officer Threat and Justification of Suspect Actions were reverse scored prior to summing scores on component 1 to ensure consistency amongst scales (e.g., high scores on all four items are equivalent to attitudes more in favour of police).
- 4 Several one-way ANOVAs were conducted to ensure that scores on the PLS and RLAQ23 did not differ between participants who completed the distractor task, and those who did not. Results indicated there were no differences between these groups of participants for all questionnaire scores, including: PLS Lawfulness, $F(1, 293) = 0.13$, $p = 0.72$, partial $\eta^2 = 0.00$, Procedural Fairness, $F(1, 293) = 0.21$, $p = 0.65$, partial $\eta^2 = 0.00$, Distributive Fairness, $F(1, 293) = 0.04$, $p = 0.85$, partial $\eta^2 = 0.00$, Police Effectiveness, $F(1, 293) = 0.26$, $p = 0.61$, partial $\eta^2 = 0.00$, RLAQ23 Anti-Authoritarian, $F(1, 293) = 1.58$, $p = 0.21$, partial $\eta^2 = 0.02$, Authoritarian, $F(1, 293) = 0.16$, $p = 0.69$, partial $\eta^2 = 0.00$, Equalitarian, $F(1, 293) = 0.01$, $p = 0.94$, partial $\eta^2 = 0.00$. These results suggest that participants' responses were not primed by the video if they completed the questionnaires immediately after viewing it.
- 5 The warning statement had no effect on judgments made about the video. A series of moderation regression analyses also determined that the relationships between the presence of warning condition and scores on *Attitudes in Favour of Police* and *Perceived Scenario Threat*, were not influenced by scores on the PLS or RLAQ23 subscales.
- 6 Exploratory moderation analyses were conducted with the two components, as they accounted for redundancy on the six initial rating scales and included a larger distribution of scores compared to the 7-point Likert scales.
- 7 A balance test was conducted to ensure that scores on the questionnaires did not differ across video conditions. Several one-way ANOVAs indicated that there were no differences across video conditions for scores on any of the questionnaire scales or subscales including PLS Lawfulness, $F(3, 290) = 0.57$, $p = 0.64$, $\eta^2 = 0.006$, PLS Procedural Fairness, $F(3, 290) = 0.30$, $p = 0.82$, $\eta^2 = 0.003$, PLS Distributive Fairness, $F(3, 290) = 1.44$, $p = 0.33$, $\eta^2 = 0.04$, PLS Police Effectiveness, $F(3, 290) = 0.99$, $p = 0.40$, $\eta^2 = 0.01$, RLAQ23 Anti-Authoritarian, $F(3, 290) = 0.13$, $p = 0.94$, $\eta^2 = 0.001$, RLAQ23 Authoritarian, $F(3, 290) = 0.50$, $p = 0.68$, $\eta^2 = 0.005$, RLAQ23 Equalitarian, $F(3, 290) = 0.22$, $p = 0.89$, $\eta^2 = 0.002$, and the NCS-18, $F(3, 290) = 1.48$, $p = 0.22$, $\eta^2 = 0.02$.

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