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Examining the impact of uniform manipulations on perceptions of police officers among Canadian university students

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ABSTRACT

It is important to understand how uniforms influence public perceptions of the police. The current study utilized a randomized design in which undergraduate students at a Canadian university were exposed to a series of photographs of officers wearing different uniform configurations (i.e., special duty vs. traditional uniform, dark vs. light shirt, dishevelled vs. tidy uniform, and uniform trousers with and without a stripe). Participants rated each officer on numerous scales including: (1) the officer's personal qualities (e.g., helpfulness), (2) abilities or behaviors that the officer is likely to display (e.g., excessive force), and (3) the behavioral intentions of the participant toward the observed officer (e.g., willing to confide sensitive information to them). When controlling for general perceptions of police legitimacy, results suggest that, compared to the control conditions (i.e., normal operational uniform), introducing the uniform manipulations significantly influenced ratings on items related to community relations, professionalism, and officer safety. The current study speaks to the complicated relationship between the police appearing approachable and professional to the public, while also considering possible officer safety concerns associated with their uniform.

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The police uniform is one of the most recognizable symbols in society and it serves to readily identify officers to members of the public and distinguish them from civilians. This distinction assists the public by indicating who they should approach when in trouble and generally creates a sense of safety during conflict (Balkin & Houlden, 1983). However, more recent research suggests that Black and Indigenous individuals may not experience a sense of safety when interacting with the police (e.g., Samuels-Wortley, 2021; Urbanik et al., 2020; Wortley & Owusu-Bempah, 2011). Further, the uniform projects officers' authority to arrest and protects them from interference by the public when they are attempting to control a situation, including through the use of force (Johnson, 2001; Shaw, 1973). The uniform may additionally benefit the police service as a means to regulate and control the behavior of their officers (Shaw, 1973). Specifically, it is believed that the uniform serves as a physical manifestation of the behaviors expected by the organization (Shaw, 1973).

More generally, clothing has been shown to be one of the most important factors considered during initial impression formation (e.g., Lennon & Davis, 1989; Radeloff, 1990). For example, in the workplace, clothing is suggested to influence impressions of competence and professionalism (Durkin & Jeffery, 2000; Lawrence & Watson, 1991). The police uniform is likely no exception; in fact, children as young as five years old attribute qualities to the police uniform (e.g., the authority to

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arrest; Durkin & Jeffery, 2000). Qualities often attributed to the police uniform include competence, professionalism, safety, and authority (e.g., Balkin & Houlden, 1983; Singer & Singer, 1985). These qualities are thought to influence the perceptions and behavior of those who observe the officer (Bell, 1982). Given this, it is not particularly surprising that, while operational police uniforms have not significantly changed since the 1970s, changes that have occurred are typically founded in concerns surrounding public relations and/or officer safety (Bell, 1982; Mauro, 1984).

While there is a growing body of research that examines perceptions of officer appearance, based on the style of external vest worn for example (e.g., O'Neill et al., 2018; Simpson, 2020a), there is relatively limited recent research that targets manipulations to the police uniform itself. Moreover, to the authors' knowledge there have been no empirical examinations of police uniforms within the Canadian context (see however Blaskovits et al., 2021). Given the commitment to evidence-based policing that many Canadian police services exhibit (Huey et al., 2018), it is imperative that these organizations have sufficient information to base departmental uniform policies on. Therefore, the current research seeks to complement previous research on public perceptions of police officer appearance and examine the influence of manipulations to the police uniform within the Canadian setting.

Literature review

Drivers of change to the police uniform

Changes to the police uniform have historically been based on two premises, fostering a positive relationship with the public and/or enhancing officer safety. Concerns regarding what the police uniform conveys to the public has long been a salient issue for police services. For example, concerns relating to an aggressive image portrayed by the police have resulted in attempts to soften the police image, including making changes to the police uniform in order to appear less aggressive and authoritarian (Gunderson, 1987; Mauro, 1984).[1]

During the 1960s and 1970s, one approach to address public concerns around what was perceived as the aggressive message conveyed by the police uniform was to adopt a civilian style uniform (Tenzel & Cizanckas, 1973). The 'civilianization' of the police uniform assumed that the traditional uniform contained symbols of authoritarianism (such as the overt display of intervention options including a firearm), and that the removal of such symbols would facilitate more positive police-public relations (Taylor, 1980; Tenzel & Cizanckas, 1973). In pursuit of this goal, nearly 500 American police services replaced the traditional uniform with slacks and a blazer (Bell, 1982; Mauro, 1984).

At the same time, police services began adopting darker uniforms with the intention of increasing the professional appearance of officers (e.g., Elko Police Department, 2015; Krauss, 1994). However, the public has occasionally raised concerns that dark police uniforms are perceived as authoritarian and militaristic (Paul & Birzer, 2004). Considering the negative connotations related to dark colors (e.g., violence and death; Osgoog et al., 1957; Oyama et al., 1962), some believe that officers wearing darker uniforms will convey a more aggressive message to the public (e.g., Kraska, 2007). These concerns may be compounded with the more recent implementation of 'tactical' uniforms for front-line officers (e.g., dark colored cargo trousers without the traditional stripe down the side). Many critics claim the militaristic image of the police portrays to the community that officers patrol 'war zones' in the 'combat against crime' (e.g., Herzog, 2001; Leichtman, 2008).

Despite an absence of empirical support, it appears some police services initially adopted darker shirts for officers on night shifts due to officer safety concerns (Antonelli, 1996). Regardless of criticisms associated with the transition, the decision to adopt darker uniforms likely has some benefits associated with officer safety. For example, officers wearing darker shirts are better able to conceal themselves when desired in low light conditions (Abbate, 2000; Antonelli, 1996). More specifically, when being highly visible is a priority (e.g., conducting traffic stops) officers may wear reflective vests (Harmanci & Dogan, 2014 as cited in Gozubenli & Harmanci, 2016; Simpson, 2020a). However, when tactical considerations dictate that officers need to conceal their location

(e.g., searching for an individual with a firearm), their ability to do so is improved when they are not required to wear light-colored uniforms that are more visible to the human eye (Pokorny et al., 2006). Considering that the majority of attacks against officers occur during low light conditions (Federal Bureau of Investigation, 2015), concealment assisted by darker uniforms may improve safety outcomes for officers.

The influence of uniform manipulations on perception and behavior

Problematically, police services have historically based their uniform policy decisions on assumptions, intuition, and past practices (Taylor, 1980; Tenzel & Cizanckas, 1973). This is concerning given that the literature suggests that even slight alterations of the uniform (e.g., it's color) may significantly influence the public's perception of the officer (Volpp & Lennon, 1988). Thankfully, research is increasingly being conducted, some of which we review below, which is allowing police services to understand the implications of their uniform (and accessory) choices.

The 'blazer experiment'

Switching from the traditional uniform to the blazer style was one of the first experiments to examine the impact of uniform changes on public perceptions (Mauro, 1984). Results indicated that officers in the traditional uniform (regardless of color) were rated as significantly more competent, helpful, honest, and able to pursue a subject faster. However, there were no significant differences between uniforms with respect to friendliness and warmth ratings. These findings were recently replicated using student and inmate samples, in that officers in civilian style clothing were rated less positively than when in uniform (Simpson, 2017; Thielgen et al., 2020).

In contrast, one American police service found that switching to a blazer style uniform received positive evaluations regarding community relations and initially found reductions in officer and civilian injuries (Tenzel et al., 1976). However, follow-up analyses suggest that after switching to a blazer, the police service experienced an increased number of attacks against officers (Gunderson, 1987; Mauro, 1984). Generally, it was believed that the attempt to reduce the image of authoritarianism may have also decreased perceptions of professionalism or respect, and may have actually encouraged assaults against the police (Bell, 1982; Mauro, 1984).

Overall, it appears that despite some criticism that the traditional police uniform is aggressive or militaristic, the conventional uniform is typically favoured by members of the public. Additionally, considering a possible link between the blazer style uniform and assaults against police officers, a more traditional uniform may improve officer safety.

The impact of accessories

Numerous studies have examined how various accessories influence perceptions of officers. Johnson et al. (2015) for example, assigned American officers to wear one of three variations to the standard uniform to examine if the removal of the hat or tie reduced perceptions of officer professionalism. Using a sample of 363 citizens who had interacted with these officers, it was found that the presence of the necktie or hat did not significantly change citizen perceptions of the officer.

In more recent research, the presence of a baseball hat had no effect on perceptions of police officers among a sample of 307 students, while high visibility vests, gloves, and sunglasses showed mixed effects (Simpson, 2020a, 2020b). More specifically, officers were rated more favorably (e.g., less aggressive, more accountable) when wearing high visibility vests while those wearing gloves or sunglasses were perceived negatively (e.g., more aggressive, less respectful).

The impact of militarized gear

Stemming from a lack of research regarding public concerns about the tactical or militaristic appearance of officers, Cooke (2004) found that participants in the United Kingdom reported that highly visible weaponry on an officer was viewed as more threatening, intimidating, and

aggressive. However, that same officer maintained positive ratings of professionalism, respect, and authority.

Another study examined the influence of external body armour carriers on public perceptions of officers (e.g., to gauge perceptions of approachability, militarism, etc.; O'Neill et al., 2018). University students were exposed to images of external vests in five possible configurations (e.g., dress shirt material with buttons down the middle, vests with fabric attachment loops with an increasing number of attachments [radio, firearm magazines, handcuffs]). While this study is limited in that the external vests were not shown on an officer, the vests with more attachments were rated as significantly less approachable and more intimidating. Interestingly, the same vests also invoked a more professional appearance and higher ratings of confidence in the officer, while also making the police officer more recognizable. Simpson (2020a) found a similar trend, where officers wearing an external load-bearing vest were simultaneously rated as significantly more aggressive, respectful, and accountable compared to officers without an external vest.

Most recently, Blaskovits et al. (2021) used a representative sample of the Canadian population (n = 2005) to examine perceptions of officers using militaristic gear (e.g., short-barreled rifles known as carbines). In contrast to the previous research mentioned above, the presence of an external body armour carrier was unrelated to perceptions of the officer. Interestingly, the presence of carbine magazine pouches attached to external vests had little impact on public perceptions. However, regardless of uniform (i.e., patrol vs tactical, also known as SWAT), the presence of a carbine was associated with increased perceptions of officer safety (e.g., participants indicated they would be less likely to resist arrest) and negative ratings of community relations (e.g., participants thought the officer would be more likely to use excessive force). When the presence of a carbine was held constant, a similar trend was observed when comparing patrol and tactical uniforms.

The impact of uniform color

There is some evidence that darker clothing is related to perceptions of aggression (Frank & Gilovich, 1988; Vrij, 1997). For example, when presented with videos of football plays that were identical except for the color of the team's uniform, participants penalized the team wearing the black uniform significantly more (Frank & Gilovich, 1988). Additionally, the team wearing the dark uniform was rated as more aggressive and more likely to play 'dirty.' Frank and Gilovich suggest these findings are due to the association of black and malevolence, which bias the perceptions of observers. This association was examined by Johnson (2005) within the policing context where it was generally found that lighter colored police uniforms were rated more positively than darker (i.e., all black) uniforms. Specifically, the dark uniform was rated as more cold, mean, forceful, unfriendly, and aggressive (Johnson, 2005). However, a limitation of the study was that participants were exposed to photos of police uniforms instead of officers in the uniform, and the uniforms presented did not include intervention options.

Contrary to opinions regarding the 'aggressive' nature of darker colored uniforms and their association with death and violence (Osgoog et al., 1957; Oyama et al., 1962), there is some evidence that the public prefers officers in darker uniforms (Nickels, 2008). Utilizing an undergraduate sample (N = 150), Nickels (2008) manipulated photos of active-duty officers to create four uniform conditions (i.e., all navy, white shirt and navy pants, medium-blue shirt and navy pants, and all black). Participants were presented with one of the possible conditions and responded to seven semantic-differential scales (e.g., warm vs. cold; passive vs. aggressive). The uniform manipulations for the Caucasian officer that were presented to participants revealed that darker uniforms (e.g., black or navy blue) were associated with more positive evaluations after controlling for the attractiveness of the model.[2]

The impact of dishevelled uniforms

Another factor that may influence perceptions of officers in uniform is the condition of the uniform itself. It has been suggested that officers in dirty, wrinkled, or dishevelled uniforms will appear less

professional (Johnson, 2001). Moreover, dishevelled uniforms may convey to potential assailants that the officer is complacent or ill-prepared for the job (Adams et al., 1980). For example, Pinizzotto et al. (1997) found the majority of attacks against the police were impromptu and occur when the assailant believes they will be successful in overpowering the officer. Similarly, in Johnson's (2001) study, offenders indicated that an officers' unprofessional appearance contributed to the offender's perception of being able to successfully assault the officer. Relatedly, Pinizzotto and Davis (1999) found that offenders sought out officers who appeared complacent and attacked these officers over those who did not look complacent. These studies emphasize the importance of an appearance of professionalism and preparedness for officer safety.

Police legitimacy

Beyond the impact of the police uniform, it is likely that individual differences will influence the perception that officers embody particular traits (e.g., kindness) and will behave in particular ways (e.g., in accordance with the law). One important variable that may be relevant to the current study relates to 'police legitimacy' which was originally conceived as a construct involving two factors: one's obligation to obey the law and general support for legal authorities (Tyler, 1990). Since then, various definitions have been proposed, including the four-factor model discussed by Tankebe et al. (2016) that includes: police lawfulness (whether the police behave in accordance with the law), distributive fairness (how objectively the police allocate their resources among groups), procedural fairness (how fair the police are in their decision-making and treatment), and police effectiveness (whether the police are competent in performing their duties).

Research has previously demonstrated that police legitimacy significantly predicts both one's perceptions of officers (e.g., confidence in the police; Tyler, 2004) and one's behavioral intentions towards officers (e.g., cooperation with the police; Fagan & Tyler, 2004). What this means for the current study is that there is likely to be overlap between the police legitimacy construct and some of the personal qualities and behavioural indicators that participants will be asked to reflect on throughout the experiment. In light of this, while participants will not be asked to formally assess the legitimacy of each (differently dressed) officer they are exposed to, the Police Legitimacy Scale (PLS; Tankebe et al., 2016), which is often used to measure the four factors described above, will be relied on to statistically control for perceptions of police legitimacy among our participants.

The current study

The current study explores whether manipulations to the police uniform influence observer perceptions within the Canadian context. In addition to examining a dark versus light uniform shirt on a male officer, this research includes uniform manipulations that have not been previously tested. These manipulations include: the influence of a dishevelled uniform on a female officer, the presence of a trouser stripe on a female officer, and perceptions of a special duty uniform (i.e., dark shirt and no trouser stripe) worn by a male public order officer.[3] Considering the limited, and sometimes contradictory, findings related to how uniforms influence impression formation, the ability to develop directional hypotheses is limited. Therefore, the current study examines how the previously described uniform elements influence perceptions of officer qualities and behaviors, and how they impact behavioral intentions towards the officers (i.e., how participants would respond to the officers). Based on previous research, the following research questions will be of specific interest: (1) does a male officer wearing a darker uniform (i.e., dark shirt or special duty) invoke the belief that they are more professional and prepared, and less likely to be assaulted?; (2) does a female officer wearing a dishevelled uniform indicate to observers that the officer is less professional, more vulnerable, and likely to be attacked?; and (3) does a female officer without a stripe on their trousers have reduced ratings on typical officer characteristics (e.g., competence)?

Method

Participants

The data was collected in 2016 through an online recruitment platform in which undergraduate students enrolled in first- or second-year psychology courses at a Canadian university could participate in exchange for course credit. Of the original 456 participants who completed the survey, 64 were removed from the analysis as they failed the necessary attention checks. Therefore, the final sample consisted of 392 university students. With respect to gender, 71.2% (n = 279) of the sample was female and 28.8% (n = 113) was male. Participants ranged in age from 17 to 50 years (M = 19.7, SD = 3.9). Most participants were Caucasian (64.0%, n = 251) and a citizen of Canada (89.3%, n = 350). A relatively small portion of participants reported being previously detained (5.4%, n = 21) or arrested (3.8%, n = 15) by police.

Stimuli

The current study presents a component of a larger study, which included 15 manipulations of officer appearance. Those 15 manipulations were based on photos of 15 active-duty police officers (n = 5 female; n = 10 male) from a large Canadian police service (i.e., one officer per condition).[4] The four conditions that relate to the police uniform are the focus of the current study. The remaining conditions pertain to tattoo and grooming manipulations (e.g., beards), and are therefore outside the scope of the current study.

For each of the four conditions relevant to the current study, a digital photo was taken of the officer in a given uniform (e.g., female officer in uniform with a trouser stripe as the control condition). This photo was then paired with a second, manipulated version of the first photo (e.g., the same officer with the trouser stripe removed as the experimental condition). Images of the conditions are shown in Figure 1–4.

Measures

Semantic-differential scales

Adopting a similar methodology used in previous research (e.g., Nickels, 2008; O'Neill et al., 2018), semantic-differential scales were used to assess the extent to which officers depicted in the photos were thought to embody particular traits (e.g., prepared vs. vulnerable). These scales consisted of seven-points where the two differential traits acted as anchors at each end (e.g., *extremely prepared* was given a value of 1 and *extremely vulnerable* was given a value of 7). The value participants provided indicated where they felt the officer in the image fell along the continuum in question. The desirable quality (e.g., *extremely prepared*) was always given the lowest value (1) and the negative quality (e.g., *extremely vulnerable*) was always given the highest value (7).

Behavioral likelihood items. Additionally, behavioral likelihood items were utilized to measure ratings of the extent to which participants believed they or the observed officer would engage in particular behaviors (e.g., how likely would this officer be to engage in unethical behavior?). The behavioral likelihood scales used a seven-point scale, which ranged from 1 (*very unlikely*) to 7 (*very likely*). For several items (e.g., how likely would you be to approach the officer if you were in trouble?), the scale was reverse coded (i.e., a value of 1 indicated *very likely* and a value of seven indicates *very unlikely*). However, across all items, lower scores on these scales indicate more positive evaluations of the officer being observed.

Demographic questionnaire. Participants completed a demographic questionnaire, which gathered information relating to gender, age, ethnicity, and history of previous contacts with the police (e.g., being arrested).

Figure 1. Photograph of an officer in dark shirt uniform versus the same officer in a general duty uniform.

Police legitimacy scale. The PLS (Tankebe et al., 2016) uses a 4-point Likert scale to rate the extent to which participants agree with 16 items regarding the perceived legitimacy of the police (e.g., police treat people fairly). Values range from 1 (*strongly disagree*) to 4 (*strongly agree*) with higher scores on the PLS indicating more positive evaluations of the police. Cronbach's alpha indicated reasonable levels of internal consistency in a sample from the United States (α between .62 and .87) and Ghana (α between .57 and .80). The PLS has similarly been shown to be valid within the Canadian context (Ewanation et al., 2019). The total score of the PLS was used as a control variable in all analyses.

Procedure

Participants were presented with 15 photographs of officers (although, as mentioned above, responses from only 4 of the photographs will be examined here). The order of conditions as well as whether participants were exposed to the control (e.g., officer in patrol uniform) or experimental condition (e.g., officer in dishevelled patrol uniform) was randomized. Therefore, participants never viewed the same officer twice, indicating a between-subjects design. The semantic-differential scale and behavioral likelihood items were presented in a set order underneath each image. Upon completion of the survey, participants completed a demographic questionnaire, the PLS, and were provided with a debriefing form that described the purpose of the study. The protocol was approved by the Carleton University Ethics Committee for Psychological Research (REB #16-115).

Analytic strategy

Chi-square tests were conducted to ensure that the influence of demographic variables (e.g., age, gender, PLS score) would not be conflated with the impact of uniform manipulations, however

Figure 2. Photograph of an officer in special duty uniform versus the same officer in a general duty uniform.

there were no significant differences found between conditions. To examine the impact of manipulations to the police uniform, a series of linear regressions were conducted. All variables were entered in the model simultaneously; the first variable controlled for the impact of participant evaluations of the police, as measured by the PLS, on the respective outcome variables.[5] The second variable added uniform condition (e.g., control vs. dishevelled) in order to examine the influence of the condition above and beyond participants' evaluations of police legitimacy. All findings reported in the text refer to the unique contribution of the uniform manipulation over and above ratings on the PLS.

The dependent variables were grouped into three categories to facilitate the readability of the manuscript. The categories include items that relate to community relations, professionalism, or officer safety. Each dependent variable was placed into the category that best reflected what the item was asking the participant, although we acknowledge that these categories are not discrete (e.g., some of the items that were placed in the professionalism category could have also been reasonably placed in the community relations category).

Given that numerous dependent variables are being examined, Benjamini and Hochberg's (1995) False Discovery Rate (FDR) procedure was adopted.[6] Instead of controlling the family-wise error rate, or the probability that a single Type-I error is made within the multiple tests conducted, the FDR procedure holds the proportion of false discoveries constant (Benjamini & Hochberg, 2000). Therefore, the procedure allows the number of false discoveries to increase with the number of tests conducted (Waite & Campbell, 2006). Generally, this approach is utilized to control the rate of false discoveries while maintaining greater statistical power than traditional family-wise error rate approaches (Benjamini & Hochberg, 2000; Waite & Campbell, 2006). Waite and Campbell (2006) suggest the FDR procedure allows for more true positives to be detected, which ultimately provides greater insights than more restrictive

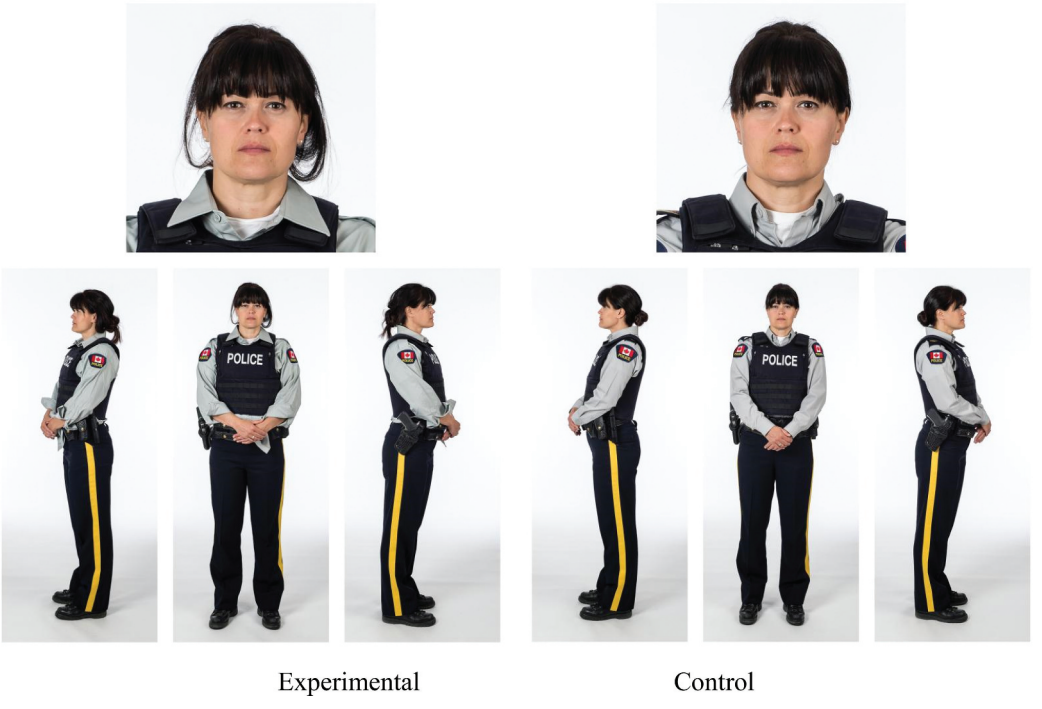

Figure 3. Photograph of an officer in dishevelled uniform versus the same officer in a general duty uniform.

approaches. Regression results will only be presented when the omnibus significance level meets the Benjamini and Hochberg (1995) correction threshold.

Results

The results of uniform manipulation will be presented, followed by an overview of the influence of PLS scores. Considering the between-subject design, all comparisons are made within conditions (where the officer is the same individual) and cannot be made across conditions because the officer changes.

Dark shirt condition

In comparison to the control condition (i.e., grey shirt), the male officer in the dark blue shirt was rated significantly different on three (7.7%) of the 39 items (see Table 1). Specifically, the officer in the dark shirt was rated as more likely to use excessive force than the officer in the grey shirt (0.40 units). Therefore, the dark shirt was associated with a 0.40 unit increase in perceived likelihood to use excessive force, after controlling for police legitimacy. Further, the officer in the dark shirt was associated with a reduction in the likelihood that participants would try to talk their way out of a ticket with the observed officer (0.41 units) and an increase in ratings of confidence (0.28 units).

Special duty uniform condition

Compared to the control condition (i.e., officer in patrol uniform), the male officer in the special duty uniform (i.e., dark shirt and no trouser stripe) was rated significantly different on 33 (85%) of

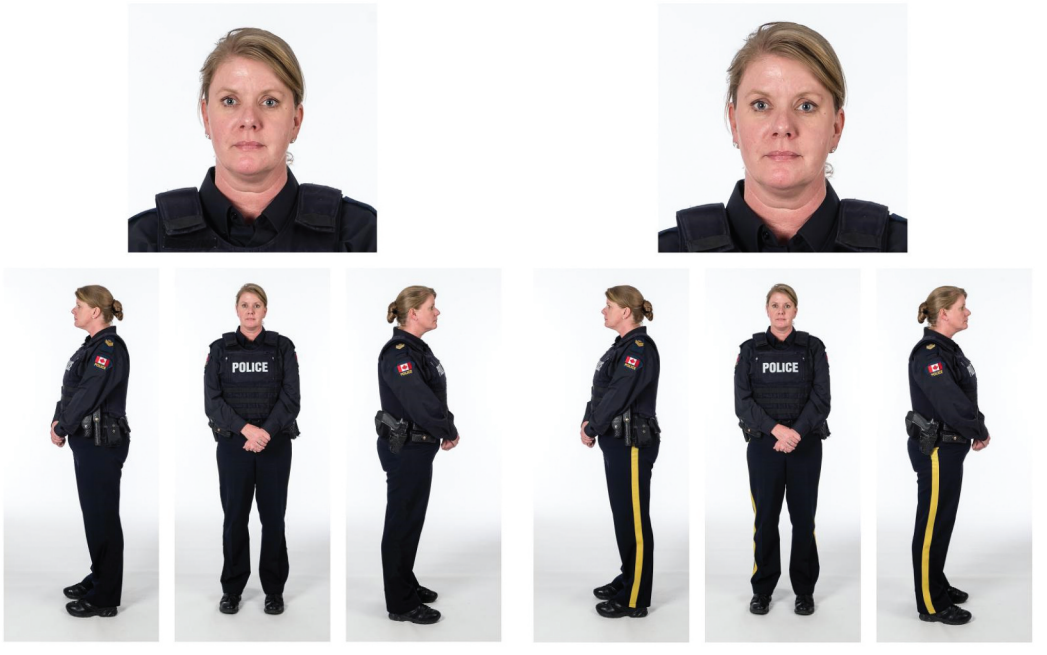

Figure 4. Photograph of an officer in uniform without pant stripe versus the same officer in a general duty uniform.

the 39 items (see Table 2). The special duty uniform was associated with numerous significant findings related to community relations, all of which were negative. For example, the officer in the special duty uniform was perceived as more likely to use excessive force (0.42 units) and show bias against marginalized populations (0.29 units). Additionally, the officer in the special duty uniform was perceived as less likely to volunteer in the community (0.44 units), less worthy of respect (0.44 units), and less approachable (0.51 units).

The officer in the special duty uniform was also rated negatively on all items pertaining to professionalism. For example, respondents believed that the officer in the special duty uniform was less likely to follow the rules of arrest (0.39 units), was less trustworthy (0.42 units), and was less credible (0.47 units). Interestingly, the officer in the special duty uniform also received negative evaluations on items related to officer safety. Specifically, the officer in the special duty uniform was perceived to be more vulnerable (0.34 units) and was associated with a higher likelihood that participants would resist arrest (either verbally or physically; 0.28 units). Further, the special duty uniform predicted reductions in participant ratings related to whether the participant would assist the officer if they were in trouble (0.48 units). Finally, participants believed the officer in the special duty uniform was more likely to be an imposter (0.67 units).

Dishevelled condition

Compared to the control condition (i.e., not dishevelled), the female officer in the dishevelled condition was rated significantly different on 22 (56%) of the 39 items (see Table 3). The dishevelled officer was associated with lower ratings in terms of their likelihood to volunteer (0.31 units) and be kind (0.26 units) or helpful (0.28 units). Additionally, observers indicated that they would be less likely to talk to the dishevelled officer regarding sensitive matters (0.46 units). The officer in the dishevelled uniform was also associated with significant reductions in perceptions of

Table 1. Mean differences and linear regression results comparing perceptions of the general patrol uniform to the dark shirt uniform.

	Control (N = 216)	Dark Shirt (N = 187)	Linear Regression Model		
Scales	*M* (*SD*)	*M* (*SD*)	PLS (β)	Condition (β)	R^2
Semantic Differential					
Prepared v. Vulnerable[3]	2.14 (1.07)	2.10 (1.11)	−0.03*	−0.05	0.03
Calm v. Aggressive[1]	2.37 (1.17)	2.50 (1.30)	−0.03**	0.11	0.04
Caring v. Uncaring[1]	2.48 (1.25)	2.53 (1.25)	−0.03**	0.03	0.03
Credible v. Unreliable[2]	2.33 (1.15)	2.28 (1.17)	−0.04**	−0.06	0.05
Professional v. Unprofessional[2]	2.16 (1.20)	1.98 (0.99)	−0.03**	−0.19	0.04
Honest v. Deceptive[2]	2.36 (1.21)	2.34 (1.14)	−0.04**	−0.04	0.05
Competent v. Incompetent2	2.25 (1.17)	2.27 (1.08)	−0.03**	0.003	0.04
Kind v. Mean[1]	2.38 (1.20)	2.45 (1.25)	−0.04**	0.05	0.04
Fair v. Prejudiced[1]	2.37 (1.16)	2.35 (1.18)	−0.04**	−0.04	0.05
Hardworking v. Lazy[2]	2.16 (1.16)	2.18 (1.09)	−0.03**	0.02	0.03
Police-like v. Military-like[1]	2.17 (1.27)	2.28 (1.43)	−0.03	0.09	0.01
Strong v. Weak[3]	2.27 (1.12)	2.06 (1.15)	−0.03*	−0.22	0.03
Confident v. Timid[3]	2.46 (1.23)	2.19 (1.18)	−0.03**	−0.28*	0.05
Courteous v. Rude[2]	2.38 (1.20)	2.41 (1.22)	−0.04**	0.02	0.05
Ethical v. Immoral[2]	2.35 (1.17)	2.39 (1.21)	−0.04**	−0.05	0.05
Worthy of respect v. Unworthy[1]	2.00 (1.10)	1.98 (1.04)	−0.02*	−0.03	0.02
Approachable v. Intimidating[1]	2.22 (1.15)	2.42 (1.29)	−0.02*	0.19	0.02
Trustworthy v. Corruptible[2]	2.37 (1.17)	2.36 (1.13)	−0.04**	−0.03	0.05
Helpful v. Unhelpful[1]	2.32 (1.17)	2.36 (1.23)	−0.04**	0.02	0.06
Officer v. Imposter[3]	2.40 (1.43)	2.33 (1.42)	−0.01	−0.07	
0.002	*Behavioral*			*Likelihood*	
Officer would use excessive force?[1]	2.90 (1.42)	3.31 (1.59)	−0.020	0.40*	0.03
Officer would be knowledgeable about the Criminal Code?[2a]	2.39 (1.91)	2.44 (1.24)	−0.03**	0.03	0.03
Officer would follow the rules during an arrest?[2 a]	2.54 (1.22)	2.41 (1.14)	−0.05**	−0.15	0.07
Officer would show bias against marginalized populations?[1]	2.75 (1.29)	2.85 (1.42)	−0.02*	0.09	0.01
Officer would abuse sick days and coffee breaks?[2]	2.95 (1.27)	2.93 (1.28)	−.024*	−.030	.016
Officer would engage in unethical behavior?[2]	2.68 (1.17)	2.74 (1.31)	−.024*	.049	.017
Officer would volunteer in the community?[1 a]	3.15 (1.26)	3.37 (1.42)	−.029*	.214	.028
Officer would break the law?[2]	2.61 (1.35)	2.66 (1.37)	−.042**	.029	.044
Respondent would help this officer if they were in trouble?[3 a]	2.50 (1.41)	2.47 (1.51)	−.031*	−.046	.020
Respondent would show aggression toward this officer?[3]	1.95 (1.02)	1.98 (1.23)	−.001	.032	.000
Respondent would talk to this officer about private/sensitive matters? [1a]	4.55 (1.87)	4.51 (1.76)	−.042*	−.063	.024
Respondent would approach this officer if in trouble?[1 a]	2.62 (1.50)	2.50 (1.54)	−.032*	−.134	.022
Respondent thinks they could overpower this officer?[3]	2.10 (1.34)	1.94 (1.26)	.008	−.154	.005
Respondent would believe testimony provided by officer?[2 a]	2.84 (1.31)	2.78 (1.41)	−.040**	−.070	.038
Respondent would try to talk their way out of a ticket with officer?[2]	3.41 (1.83)	3.02 (1.82)	−.024	−.407*	.019
Respondent would argue with this officer?[1]	2.42 (1.48)	2.27 (1.37)	−.025*	−.163	.016
Respondent would resist being arrested by this officer?[3]	2.03 (1.32)	1.99 (1.31)	−.006	−.042	.001
Officer is suitable for the policing profession? [2a]	2.47 (1.25)	2.33 (1.32)	−.014	−.146	.008

Note. When calculated against its own threshold using FDR, * denotes a significant finding of $p \leq .05$ ** denotes a significant finding of $p \leq .001$. R^2 denotes Nagelkerke's R^2.

[1]Community Relations

[2]Professionalism

[3]Officer Safety

[a]Item reverse coded

professionalism. Specifically, the officer in the dishevelled uniform was perceived to be less knowledgeable of the Criminal Code (0.28 units) and less likely to follow the rules of arrest (0.28 units). This officer was also viewed as less suitable for the policing profession (0.72 units). Following this, the officer was also perceived to be less credible (0.45 units), professional (0.91 units), and ethical (0.30 units), among other attributes. Observers further indicated they would be significantly less likely to believe testimony provided by the officer in the disheveled condition (0.51 units). With respect to officer safety, the officer in the disheveled condition was rated as significantly more vulnerable (0.62 units) and more likely to be an imposter (0.76 units). Finally, the officer was rated as less strong (0.42 units) and less confident (0.65 units).

Trouser stripe condition

The presence of the trouser stripe did not significantly influence participant ratings on any of the items (see Table 4).

Police legitimacy scale

Interestingly, the PLS was a significant predictor of nearly all of the dependent variables (see Table 1–4). The following section will provide an overview of the relationship between PLS scores and outcomes related to community relations, professionalism, and officer safety. Recall that the PLS is scored out of 64, and for the following results the unit change presented is the unique contribution on the outcome variable for every one-point increase in the PLS.

The PLS was significantly associated with nearly all items related to community relations. Specifically, a one-unit increase in the PLS was associated with between 0.02 and 0.08 unit increases in positive ratings (e.g., that the officer would be less likely to show bias against marginalized populations) across all conditions. However, in the dark shirt comparison, there were two items in which the PLS was not significant (i.e., ratings that the officer was police-like vs. military-like or that the officer would use excessive force).

Similarly, the PLS was a significant predictor of the majority of items related to professionalism. Not including the non-significant findings, a one-unit increase in the PLS was associated with between a 0.02 and 0.07 unit increase in positive evaluations, regardless of condition. For example, ratings that the officer was honest increased on average between 0.04 and 0.07 units per one-unit increase on the PLS. However, there were two items where the PLS was not a significant predictor. Specifically, in three of the four conditions, the PLS did not predict ratings on the extent to which the officer was suitable for the policing profession (i.e., dark shirt, dishevelled, and trouser stripe comparisons) or the likelihood that the respondent would try to talk their way out of a ticket with the officer (i.e., dark shirt, special duty uniform, and dishevelled comparison).

Additionally, the PLS was significantly associated with the majority of the items related to officer safety. For example, across all conditions, a one-unit increase in the PLS predicted between a 0.02 and 0.03 unit increase in ratings that the officer was prepared or strong. The PLS was not, however, significantly related to whether the respondent felt they could overpower the officer in either the dark shirt or special duty condition. Interestingly, the PLS was not a significant predictor for half of the items pertaining to officer safety for the dark shirt comparisons.

Discussion

First, we discuss the impact of the examined uniform manipulations before reviewing the implications of the PLS findings. Study limitations and directions for future research are then presented.

Table 2. Mean differences and linear regression results comparing perceptions of the general patrol uniform to the special duty uniform.

	Control (N = 204)	Special Duty (N = 188)	Linear Regression Model		
Scales	$M(SD)$	$M(SD)$	PLS (β)	Condition (β)	R^2
Semantic Differential					
Prepared v. Vulnerable[3]	2.02(1.05)	2.44(1.36)	−.031**	.337**	.058
Calm v. Aggressive[1]	2.61(1.31)	3.02(1.43)	−.058**	.427*	.098
Caring v. Uncaring[1]	2.73(1.37)	3.16(1.45)	−.061**	.445**	.105
Credible v. Unreliable[2]	2.39(1.20)	2.84(1.38)	−.058**	.473**	.118
Professional v. Unprofessional[2]	2.17(1.13)	2.66(1.51)	−.051**	.503**	.097
Honest v. Deceptive[2]	2.61(1.28)	2.99(1.43)	−.071**	.403*	.138
Competent v. Incompetent2	2.31(1.14)	2.78(1.38)	−.046**	.491**	.091
Kind v. Mean[1]	2.72(1.34)	3.13(1.46)	−.054**	.427*	.085
Fair v. Prejudiced[1]	2.73(1.35)	3.11(1.53)	−.069**	.416*	.118
Hardworking v. Lazy[2]	2.34(1.21)	2.84(1.51)	−.056**	.499**	.104
Police-like v. Military-like[1]	2.39(1.51)	2.90(1.67)	−.045**	.526*	.060
Strong v. Weak[3]	2.16(1.11)	2.45(1.28)	−.030**	.302*	.042
Confident v. Timid[3]	1.92(.98)	2.43(1.31)	−.027*	.525**	.071
Courteous v. Rude[2]	2.51(1.29)	3.10(1.41)	−.047**	.609**	.099
Ethical v. Immoral[2]	2.58(1.32)	2.98(1.43)	−.060**	.426*	.105
Worthy of respect v. Unworthy[1]	2.12(1.20)	2.54(1.40)	−.048**	.436**	.084
Approachable v. Intimidating[1]	2.58(1.44)	3.07(1.57)	−.051**	.505**	.076
Trustworthy v. Corruptible[2]	2.57(1.32)	2.98(1.43)	−.054**	.424*	.090
Helpful v. Unhelpful[1]	2.46(1.25)	2.95(1.43)	−.058**	.513**	.114
Officer v. Imposter[3]	2.16(1.27)	2.82(1.72)	−.016*	.665**	.051
Behavioral Likelihood					
Officer would use excessive force?[1]	3.42(1.66)	3.84(1.69)	−.070**	.444*	.092
Officer would be knowledgeable about the Criminal Code?[2a]	2.26(1.08)	2.70(1.43)	−.043**	.454**	.079
Officer would follow the rules during an arrest?[2 a]	2.60(1.43)	2.97(1.41)	−.060**	.385*	.096
Officer would show bias against marginalized populations?[1]	3.58(1.60)	3.87(1.43)	−.081**	.317*	.135
Officer would abuse sick days and coffee breaks?[2]	3.08(1.43)	3.54(1.44)	−.030*	.473**	.045
Officer would engage in unethical behavior?[2]	3.03(1.43)	3.38(1.41)	−.064**	.365*	.103
Officer would volunteer in the community?[1 a]	3.31(1.34)	3.62(1.39)	−.037**	.322*	.046
Officer would break the law?[2]	2.49(1.30)	3.10(1.56)	−.064**	.631**	.131
Respondent would help this officer if they were in trouble?[3 a]	2.49(1.49)	2.95(1.64)	−.052**	.477*	.070
Respondent would show aggression toward this officer?[3]	1.97(1.14)	2.13(1.34)	−.033**	.168	.037
Respondent would talk to this officer about private/sensitive matters? [1a]	4.72(1.90)	4.96(1.70)	−.053**	.258	.043
Respondent would approach this officer if in trouble?[1 a]	2.63(1.65)	3.00(1.65)	−.048**	.347*	.047
Respondent thinks they could overpower this officer?[3]	1.89(1.10)	2.13(1.34)	−.014	.243	.016
Respondent would believe testimony provided by officer?[2 a]	2.86(1.43)	3.37(1.48)	−.059**	.538**	.101
Respondent would try to talk their way out of a ticket with officer?[2]	2.97(1.75)	3.29(1.81)	−.026	.329	.017
Respondent would argue with this officer?[1]	2.13(1.29)	2.37(1.43)	−.042**	.252	.049
Respondent would resist being arrested by this officer?[3]	1.80(1.14)	2.07(1.37)	−.021*	.276*	.024
Officer is suitable for the policing profession? [2a]	2.67(1.51)	2.82(1.50)	−.028*	.163	.017

Note. When calculated against its own threshold using FDR, * denotes a significant finding of $p \leq .05$ ** denotes a significant finding of $p \leq .001$. R^2 denotes Nagelkerke's R^2.

[1]Community Relations

[2]Professionalism

[3]Officer Safety

[a]Item reverse coded

Table 3. Mean differences and linear regression results comparing perceptions of the general patrol uniform to the dishevelled uniform.

	Control (N = 212)	Dishevelled (N = 187)	Linear Regression Model		
Scale	$M(SD)$	$M(SD)$	PLS (β)	Condition (β)	R^2
Semantic Differential					
Prepared v. Vulnerable[3]	2.29(1.34)	2.94(1.63)	−.031*	.622**	.065
Calm v. Aggressive[1]	2.55(1.34)	2.68(1.34)	−.042**	.087	.046
Caring v. Uncaring[1]	2.54(1.31)	2.79(1.42)	−.047**	.199	.061
Credible v. Unreliable[2]	2.35(1.22)	2.85(1.52)	−.042**	.454**	.075
Professional v. Unprofessional[2]	2.12(1.15)	3.07(1.91)	−.032*	.906**	.102
Honest v. Deceptive[2]	2.46(1.31)	2.72(1.41)	−.048**	.202	.064
Competent v. Incompetent2	2.32(1.20)	2.84(1.51)	−.037**	.482**	.068
Kind v. Mean[1]	2.52(1.28)	2.83(1.44)	−.040**	.263*	.051
Fair v. Prejudiced[1]	2.51(1.27)	2.73(1.42)	−.055**	.162	.080
Hardworking v. Lazy[2]	2.27(1.17)	2.87(1.60)	−.028*	.567**	.062
Police-like v. Military-like[1]	2.26(1.20)	2.71(1.37)	−.026*	.427**	.048
Strong v. Weak[3]	2.68(1.40)	3.13(1.51)	−.033*	.415*	.046
Confident v. Timid[3]	2.33(1.27)	3.00(1.48)	−.019	.651**	.064
Courteous v. Rude[2]	2.68(1.34)	2.87(1.40)	−.039**	.153	.042
Ethical v. Immoral[2]	2.47(1.19)	2.82(1.30)	−.044**	.303*	.075
Worthy of respect v. Unworthy[1]	2.17(1.18)	2.54(1.46)	−.031*	.342*	.045
Approachable v. Intimidating[1]	2.51(1.38)	2.65(1.31)	−.038**	.099	.038
Trustworthy v. Corruptible[2]	2.42(1.30)	2.77(1.42)	−.047**	.294*	.070
Helpful v. Unhelpful[1]	2.43(1.28)	2.75(1.38)	−.043**	.277*	.061
Officer v. Imposter[3]	2.49(1.47)	3.26(1.89)	−.008	.758**	.051
Behavioral Likelihood					
Officer would use excessive force?[1]	3.12(1.70)	3.08(1.54)	−.045**	−.094	.034
Officer would be knowledgeable about the Criminal Code?[2a]	2.40(1.28)	2.72(1.48)	−.040**	.281*	.051
Officer would follow the rules during an arrest?[2 a]	2.45(1.20)	2.78(1.39)	−.042**	.284*	.063
Officer would show bias against marginalized populations?[1]	3.17(1.43)	3.37(1.40)	−.043**	.149	.045
Officer would abuse sick days and coffee breaks?[2]	2.99(1.34)	3.45(1.40)	−.028*	.431*	.047
Officer would engage in unethical behavior?[2]	2.74(1.30)	2.94(1.26)	−.053**	.145	.082
Officer would volunteer in the community?[1 a]	3.14(1.39)	3.50(1.50)	−.041**	.310*	.051
Officer would break the law?[2]	2.50(1.34)	2.72(1.39)	−.054**	.158	.076
Respondent would help this officer if they were in trouble?[3 a]	2.47(1.41)	2.47(1.45)	−.026*	−.023	.015
Respondent would show aggression toward this officer?[3]	2.09(1.26)	2.17(1.29)	−.027*	.052	.021
Respondent would talk to this officer about private/sensitive matters? [1a]	3.84(1.90)	4.34(1.93)	−.039*	.462*	.035
Respondent would approach this officer if in trouble?[1 a]	2.51(1.36)	2.81(1.74)	−.030*	.288	.028
Respondent thinks they could overpower this officer?[3]	2.60(1.65)	2.87(1.82)	−.033*	.235	.022
Respondent would believe testimony provided by officer?[2 a]	2.73(1.26)	3.28(1.44)	−.034**	.513**	.069
Respondent would try to talk their way out of a ticket with officer?[2]	3.29(1.81)	3.44(1.84)	−.014	.136	.005
Respondent would argue with this officer?[1]	2.44(1.47)	2.62(1.58)	−.051**	.132	.055
Respondent would resist being arrested by this officer?[3]	2.16(1.37)	2.22(1.53)	−.035*	.020	.026
Officer is suitable for the policing profession? [2a]	2.49(1.21)	3.24(1.74)	−.022	.720**	.069

Note. When calculated against its own threshold using FDR, * denotes a significant finding of $p \leq .05$ ** denotes a significant finding of $p \leq .001$. R^2 denotes Nagelkerke's R^2.
[1]Community Relations
[2]Professionalism
[3]Officer Safety
[a]Item reverse coded

Interpretations and implications of the uniform manipulation findings

Before discussing the impact that the uniform manipulations had on the outcome measures, it is worth noting that even when significant differences emerged for a particular outcome variable, one has to be careful about attributing too much practical importance to the findings (i.e., basing recommendations for uniform changes on these differences). Indeed, when one inspects participant responses closely, the majority of comparisons between conditions fall generally on the same portion of the seven-point Likert scale, even when the results are significant.

Table 4. Mean differences and linear regression results comparing perceptions of the general patrol uniform to the no pant stripe uniform.

	Control (N = 211)	No pant stripe (N = 190)	Linear Regression Model		
Scale	$M(SD)$	$M(SD)$	PLS (β)	Condition (β)	R^2
Semantic Differential					
Prepared v. Vulnerable[3]	2.40(1.31)	2.56(1.47)	−.032**	.132	.030
Calm v. Aggressive[1]	2.39(1.23)	2.43(1.24)	−.040**	.001	.049
Caring v. Uncaring[1]	2.37(1.24)	2.46(1.29)	−.041**	.006	.048
Credible v. Unreliable[2]	2.41(1.21)	2.35(1.28)	−.055**	−.100	.090
Professional v. Unprofessional[2]	2.24(1.17)	2.28(1.26)	−.042**	.048	.055
Honest v. Deceptive[2]	2.43(1.21)	2.42(1.22)	−.050**	−.025	.079
Competent v. Incompetent2	2.43(1.30)	2.47(1.23)	−.049**	−.020	.070
Kind v. Mean[1]	2.51(1.34)	2.43(1.28)	−.056**	−.118	.081
Fair v. Prejudiced[1]	2.47(1.30)	2.45(1.28)	−.060**	−.055	.101
Hardworking v. Lazy[2]	2.30(1.15)	2.35(1.33)	−.045**	.051	.062
Police-like v. Military-like[1]	2.33(1.20)	2.46(1.42)	−.030*	.137	.029
Strong v. Weak[3]	2.98(1.41)	3.00(1.54)	−.021*	.006	.010
Confident v. Timid[3]	2.61(1.33)	2.84(1.50)	−.034**	.219	.035
Courteous v. Rude[2]	2.58(1.27)	2.52(1.25)	−.039**	−.108	.044
Ethical v. Immoral[2]	2.44(1.14)	2.43(1.21)	−.052**	−.064	.089
Worthy of respect v. Unworthy[1]	2.13(1.11)	2.14(1.21)	−.039**	−.007	.051
Approachable v. Intimidating[1]	2.24(1.23)	2.30(1.28)	−.036**	.043	.040
Trustworthy v. Corruptible[2]	2.33(1.20)	2.34(1.19)	−.045**	−.031	.064
Helpful v. Unhelpful[1]	2.31(1.18)	2.29(1.15)	−.044**	−.040	.066
Officer v. Imposter[3]	2.58(1.56)	2.88(1.72)	−.027*	.270	.022
Behavioral Likelihood					
Officer would use excessive force?[1]	2.90(1.49)	2.97(1.55)	−.026*	.052	.015
Officer would be knowledgeable about the Criminal Code?[2a]	2.35(1.24)	2.53(1.32)	−.036**	.147	.041
Officer would follow the rules during an arrest?[2 a]	2.45(1.23)	2.46(1.21)	−.050**	−.040	.076
Officer would show bias against marginalized populations?[1]	3.14(1.44)	3.37(1.32)	−.049**	.138	.066
Officer would abuse sick days and coffee breaks?[2]	2.97(1.43)	3.09(1.37)	−.019	.109	.011
Officer would engage in unethical behavior?[2]	2.68(1.33)	2.73(1.27)	−.042**	.039	.052
Officer would volunteer in the community?[1 a]	3.00(1.33)	3.01(1.40)	−.048**	−.045	.056
Officer would break the law?[2]	2.50(1.36)	2.61(1.32)	−.049**	.083	.068
Respondent would help this officer if they were in trouble?[3 a]	2.35(1.32)	2.32(1.43)	−.025*	−.057	.015
Respondent would show aggression toward this officer?[3]	2.02(1.19)	2.22(1.35)	−.026*	.205	.030
Respondent would talk to this officer about private/sensitive matters? [1a]	3.78(1.93)	3.98(1.98)	−.043*	.156	.025
Respondent would approach this officer if in trouble?[1 a]	2.41(1.46)	2.47(1.58)	−.037**	.019	.027
Respondent thinks they could overpower this officer?[3]	2.74(1.77)	2.85(1.72)	−.036*	.070	.023
Respondent would believe testimony provided by officer?[2 a]	2.72(1.20)	2.79(1.32)	−.044**	.021	.056
Respondent would try to talk their way out of a ticket with officer?[2]	3.34(1.85)	3.51(1.52)	−.030*	.140	.015
Respondent would argue with this officer?[1]	2.39(1.43)	2.51(1.52)	−.049**	.109	.057
Respondent would resist being arrested by this officer?[3]	2.06(1.34)	2.23(1.48)	−.032*	.197	.032
Officer is suitable for the policing profession? [2a]	2.68(1.36)	2.75(1.39)	−.018	.041	.008

Note. When calculated against its own threshold using FDR, * denotes a significant finding of $p \leq .05$ ** denotes a significant finding of $p \leq .001$. R^2 denotes Nagelkerke's R^2.
[1]Community Relations
[2]Professionalism
[3]Officer Safety
[a]Item reverse coded

For example, the largest difference caused by the uniform manipulation was observed in the dishevelled condition for the item *professional* versus *unprofessional*. Despite a change of 0.91 units on this scale, the average rating for the non-dishevelled officer was on the lower end of *quite* professional (M = 2.12) while the average rating for the dishevelled officer was on the lower end of *slightly* professional (M = 3.07; see Table 3). Similar patterns of results (i.e., significant differences,

but not practically important differences) could be described for the other participant ratings. Thus, the uniform manipulations examined in this study do not appear to have a very strong impact on any single outcome of potential interest. Regardless, because the pattern of results associated with some of the uniform manipulations may be of interest to readers, the remainder of this section will place the current findings in the context of previous research.

Consistent with some previous research (e.g., Johnson, 2005), it appears that dark police uniforms (i.e., dark blue shirt or special duty uniform) are perceived as being slightly more negative by the participants in this study. Officers in both the dark shirt and special duty uniform were rated as slightly more likely to use excessive force, suggesting that the association between darker colors and violence (e.g., Osgoog et al., 1957; Oyama et al., 1962) may hold true in the current sample. However, as highlighted above, given that participant ratings for this item fall generally at the same point along the Likert scale, dark police uniforms may present little concern regarding police-community relations.

Relatedly, the special duty uniform (i.e., dark shirt and no trouser stripe) was associated with reduced ratings on items related to perceptions of professionalism. For example, compared to the control condition, participants thought the officer wearing the special duty uniform would be less likely to follow the rules of arrest and more likely to engage in unethical behavior. Furthermore, and surprisingly, the special duty uniform also appeared to negatively impact perceptions of officer safety. Not only did our respondents indicate that they would be less willing to help the officer in the special duty uniform if they were in trouble, officers in the special duty uniform were also rated as more vulnerable and more likely to be an imposter.

All this being said, the ratings for the special duty uniform were generally on the positive end of Likert scales related to items associated with police-community relations, professionalism, and officer safety. Considering this, the special duty uniform examined in this study does not appear to meaningfully harm perceptions of the officer.

Based on the findings discussed above, there appears to be mixed results pertaining to the first research question. There were no differences between the dark shirt and control condition for items relating to ratings of the officer being prepared, professional, or assaulted. However, the officer in the special duty uniform (who was also wearing a dark shirt) was rated as less professional and prepared, and participants indicated they would be more likely to resist during an arrest for that condition.

The findings related to the dishevelled condition were consistent with previous, albeit limited research (e.g., Adams et al., 1980; Johnson, 2001). Specifically, officers presenting a dishevelled appearance gave the impression they are not as prepared for their duties. Considering likely public expectations around officer appearance, it is perhaps not surprising that the officer who appeared dishevelled was rated as less police-like (i.e., imposter). These findings are potentially problematic with respect to officer safety. Previous research has suggested that, not only are dishevelled officers more likely to be targeted by individuals who intend to cause harm to them (Johnson, 2001; Pinizzotto & Davis, 1999), they are also more likely to be spontaneously assaulted by those who feel they can overpower them (Pinizzotto et al., 1997). The fact that dishevelled officers might appear more vulnerable, while simultaneously presenting as an imposter, is particularly problematic given that this is likely to increase the likelihood an individual will resist arrest (Federal Bureau of Investigation, 1992). Considering these findings, the answer to the second research question is yes, it does appear to be the case that an officer in a dishevelled uniform is perceived as less professional, more vulnerable, and more likely to be attacked.

Lastly, the presence of a trouser stripe on the police uniform does not appear to influence observer perceptions of officers. Therefore, the answer to the third research question is no, the presence or absence of trouser stripes does not influence raters' perceptions of the officer. Given how ubiquitous trouser stripes on police uniforms are in North America, this is an interesting result. It may be that the trouser stripe is not considered by our student participants as an integral element of the police uniform, and as such its presence or absence does not impact perceptions of characteristics typically associated with the police (e.g., competence, professionalism; Balkin & Houlden, 1983; Singer &

Singer, 1985). Instead, it may be other aspects of the police uniform (e.g., presence of intervention options) that identify the police to observers and influence observer perceptions of officers. Additionally, the trouser stripe is not unique to the police uniform. Uniforms worn by other first responders in Canada (e.g., paramedics) also often have trouser stripes, which may help to explain the insignificant impact the trouser stripe had on observer impression formation.

What do these findings mean for police uniform policies in Canada, assuming that they will replicate in future research? Again, the uniform manipulations examined in this study did not appear to have a very strong impact on any single outcome of interest. The dark shirt and trouser stripe in particular had little impact on observer impressions. Thus, assuming these results can be replicated, police services may adjust these specific uniform factors with a degree of confidence that they will not significantly impact perceptions of officer appearance. On the other hand, police services may want to be more cautious about outfitting officers in uniforms that resemble the special duty uniform, especially given concerns regarding police militarization (e.g., Cyr et al., 2020). Additionally, police services in Canada will certainly want to be vigilant about dress standards given the many significant findings related to the dishevelled officer condition. The positive thing about this specific result is that, unlike other uniform changes that would potentially involve a drawn out and expensive process (e.g., changing uniform color), putting effective measures in place to ensure officers do not appear dishevelled are easy to implement at low cost (e.g., brief inspections prior to shift to ensure that officers are adhering to agency dress standards).[7] Such low investment measures may result in marginal positive gains with respect to public perceptions of officers.

The role of police legitimacy

With some notable exceptions (e.g., ratings that the observed officer was an imposter), scores on the PLS were significant predictors of participant ratings on nearly every item included in our study. Generally, this suggests that one's perception of police legitimacy is an important factor, not only with respect to the police as an institution (e.g., Sunshine & Tyler, 2003), but also when attributing qualities and behavioral intentions to an individual officer. Indeed, it appears that perceptions of the police as being legitimate (or not) have a stronger influence on participants' ratings of police officers than the manipulations to officer appearance (at least, the manipulations tested in the current study).

When considering the outcome variable that is most influenced by PLS scores (i.e., the extent to which the officer in special duty uniform would show bias against marginalized populations), the expected change between participants with *low*[8] and *high* ratings of police legitimacy was more than one unit difference. Therefore, while the special duty uniform significantly predicts the likelihood that an officer would show bias (0.32 units), this change is not nearly as drastic as the influence of PLS scores. Considering the 'biased against marginalized population' scale has seven-points, this effect of police legitimacy would feasibly influence participants' rating of a given outcome by an entire scale anchor, for example, from *unlikely* to *somewhat unlikely* that the officer would show bias. Overall, these findings highlight the importance of fostering positive evaluations of the police through community engagement (and other) initiatives. Such initiatives may not only increase the public's confidence in the police, but also improve officer and public safety by impacting how members of the public perceive individual officers (Gau & Brunson, 2010; Hinds & Murphy, 2007).

Additionally, the significant relationship between PLS scores and impression formation demonstrates the value of conducting research within the current societal climate. For example, research suggests that increased exposure to media containing negative police messages is related to negative evaluations of the police (e.g., Chan & Chan, 2012; Weitzer, 2002). Considering that media coverage of incidents such as police shootings has increased over time (McLaughlin, 2015), it is reasonable to believe that the sample used in the current study may be less supportive of the police (i.e., see them as less legitimate) than samples used in previous research, some of which was conducted a decade ago (e.g., Nickels, 2008). The differences in findings between the current study and Nickels (2008),

with respect to uniform color for example, may be due, in part, to temporal factors instead of (or in addition to) sampling differences (e.g., the American versus Canadian context).

Study limitations

While the current study is valuable in expanding the body of research related to impression formation of police officers some limitations exist. One limitation concerns the photos of certain conditions (e.g., dishevelled condition) as not all were digitally manipulated; as such, despite attempts to ensure consistency across photos, differences in more than just the uniform itself are possible (e.g., with respect to facial expressions). For example, the stance of the officer in the special duty uniform is not as broad as the officer in the traditional uniform and the officer is standing in a slightly less natural body position. It is feasible that these subtle factors may have contributed to the perception of a more vulnerable individual (e.g., Wheeler et al., 2009). Relatedly, the fact that respondents perceived the officer in the special duty uniform as more likely to be an imposter could be due to the fact the shoulder flash (which depicts the Canadian flag and the word 'POLICE') in the control condition is slightly more visible than the experimental condition. Further, the dishevelled uniform condition did not have rank epaulettes, whereas the control condition did, which may have influenced the results. However, in order for this to occur, students would have to not only notice this subtlety, but also understand its significance. Given that research suggests the public has minimal understanding of policing (e.g., Morin et al., 2017), these unintentional differences may not be problematic.

Another potential limitation is that participants did not interact with the officer they observed, which could have altered participants' perceptions as a result of the officer's conduct. However, research suggests that initial impressions of an individual often predict later evaluations of the same individual, even after extensive interactions. For example, evaluations of teachers provided by students at the beginning of a semester have been shown to predict the students' evaluations of the teacher at the end of the semester, even after hours of interactions (e.g., Buchert et al., 2008). Given that most police-public interactions are brief (e.g., three to five minutes; Bell, 1982), it is reasonable to believe that participants' initial impressions, as obtained in the current study, are still informative.

Related to this issue is the fact that the stimuli provided to participants did not include any context. Participants were asked to complete the semantic-differential scale and the behavioral likelihood scales without being provided any information regarding where the officer was located or their duties. While this information may not influence some conditions (e.g., the presence of trouser stripe) it is feasible that additional context may influence respondents' ratings of certain manipulations. For example, it is possible that if respondents were told that the officer in the special duty uniform was responding to a high-risk call (e.g., armed and barricaded individual), they would rate the officer more favourably, whereas if respondents were told the same officer was responding to a domestic or mental health-related call, then ratings may be less positive. Previous research supports this notion, as for instance, Moule et al. (2019) found that the level of public support for the use of tactical units varied as a function of the type of incident the unit was responding to. Specifically, the sample endorsed the use of tactical units to a greater extent during traditional tactical calls (e.g., arresting high-risk offenders) than they did during less-traditional calls (e.g., patrolling a large-scale public event).

Our uniform manipulations were also associated with officers of a particular gender and race (e.g., the dishevelled uniform manipulation presented a female officer), but because of the between-subjects nature of our methodology it was not possible for us to determine whether these officer characteristics interact with the specific uniform manipulations we examined (e.g., vulnerability ratings for the dishevelled officer may depend on whether the officer is male or female). Given that research has consistently drawn attention to the fact that these types of officer characteristics do influence how officers are perceived by the public, even when the officers are behaving in the same

way (e.g., Salerno & Sanchez, 2020; Sterling & Owen, 1982), this is a potential limitation of our study. That being said, using a single officer across all conditions would present its own issues, such as limiting the generalizability of the study to the public's opinion of white male officers only.

Finally, the sample of respondents itself may be a limitation given that student perceptions of police officers may not be reflective of the greater population. That being said, there is some evidence that student and community samples report similar ratings of the police (Jones & Ruddell, 2014; Simpson, 2020b). For example, Simpson (2020b) found that students and community members from Amazon's Mechanical Turk provide similar ratings of police officers in uniform. Further, it is important to examine the influence of police uniforms on student samples. This is particularly true considering that in North America individuals between the ages of 18 and 24 are more likely to have contact with the police than any other age group (Dauvergne & Turner, 2010; Davis et al., 2018).

Future directions

In addition to using more representative community samples in future research and more realistic stimuli (e.g., involving interactions with officers in different uniforms, stimuli that includes context), useful lines of future research would involve replicating the current study using a diverse range of police officers to determine the degree to which the current findings are robust. As highlighted above, this line of research may be particularly useful considering there may be differences in public perceptions of officer appearance across uniform manipulations based on officer gender or race. It would also be useful to examine a wider variety of police uniforms. For example, future research that explores various styles of tactical uniforms (e.g., many tactical teams use green, grey, or black uniforms) is encouraged. Further, considering the widespread adoption of body worn cameras as a mechanism to increase transparency (e.g., Ariel et al., 2017), and divided public opinion about this technology (Sousa et al., 2018), it would be valuable to examine how they influence perceptions of officer attributes and behavioral intentions.

Conclusion

With the move towards evidence-based policing, it is important to incorporate empirical evidence into the rationale for change within police services (Huey et al., 2018). Historically, police services have had limited research to draw on when creating departmental uniform policies (e.g., Taylor, 1980; Tenzel & Cizanckas, 1973). As such, studies like the one described here, along with other research cited in this paper (e.g., Simpson, 2020a), are necessary to help drive police services toward policies that are grounded in research.

With respect to uniform choices, the current study highlights the minimal impact that uniform manipulations have on participant ratings. Specifically, despite the presence of statistically significant differences between conditions, the average ratings were often both associated with the same anchor point on the respective scale. Considering this, our findings suggest the manipulations we examined lack practical implications regarding an individuals' evaluation of their own intentions towards the officer, as well as an officer's perceived personal qualities and likely behaviors. Interestingly, the current study suggests that perceptions of police legitimacy has a more meaningful impact than the examined uniform manipulations. Therefore, fostering a stronger relationship with the public is likely to have positive outcomes regarding the level of support provided to the police (Sunshine & Tyler, 2003), but also traits assumed to be held by individual officers.

Notes

1. However, the uniform is not the only aspect subjected to public scrutiny. What some consider an aggressive design of police cruisers, for example, has received considerable backlash in Canada (e.g., Gillis, 2016; Shum &

Westoll, 2017). In fact, some police services have changed the design of police cruisers as a result of public criticism (Casey, 2017)

2. Overall, the African American officer was rated more positively than the Caucasian officer. However, there was limited dispersion of ratings within the African American officer condition regardless of uniform configuration. The author suggests that participants may have assumed the focus of the study was to examine race attitudes and as such likely evaluated the African American officer as positive to appear non-biased (Nickels, 2008).
3. The special duty uniform depicted is often worn as the primary uniform by public order officers. Public order units are responsible for responding to large public gatherings to ensure that the safety of property and the public are maintained (Royal Canadian Mounted Police, 2015).
4. All uniforms used in the study were de-identified (i.e., the police service's crest was replaced with a generic Canadian police crest) in the hope of increasing the generalizability of the findings to other police agencies. That being said, we recognize that some of the uniform conditions may be more typical of specific agencies in Canada and that this may have influenced the results if the observed effects were driven at all by associations participants made between the uniform and these agencies.
5. Demographics (e.g., age, gender, contact with the police) were not included as control variables as previous research has shown that they are generally predictors of police legitimacy (e.g., Sunshine & Tyler, 2003). Further, including age, gender, and whether the respondent had been previously arrested do not significantly alter the findings.
6. For each test, the FDR procedure compares the observed *p*-value to a computed threshold. The *p*-values for each test is ranked in ascending order to determine the test order (e.g., the smallest *p*-value is ranked as test one). The test order is then divided by the total number of tests and multiplied by the alpha level of 0.05. This value serves as a corrected threshold of which the *p*-value for each test must not exceed to be considered significant.
7. We thank one of the anonymous reviewers for raising this issue.
8. High and low scores on the PLS were calculated as one standard deviation (6.70 units) above and below the mean PLS score (44.01), respectively. These values were then multiplied by the unique influence of PLS in the regression model to determine the expected influence of PLS on the item of interest.

Disclosure statement

No potential conflict of interest was reported by the authors.

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References

Abbate, G. (2000, April 19). Toronto police opt for basic-black look. *The Globe and Mail*. https://www.theglobeandmail.com/news/national/toronto-police-opt-for-basic-black-look/article1038804/

Adams, R. J., McTernan, T. M., & Remsberg, C. (1980). *Street survival: Tactics for armed encounters*. Calibre Press.

Antonelli, K. (1996, April 3). Baltimore Co. police replacing white uniform shirts with blue dark color for night to work as camouflage against criminals' aim. *The Baltimore Sun*. http://articles.baltimoresun.com/1996-04-03/news/1996094038_1_dark-shirts-uniform-shirts-white-shirts

Ariel, B., Sutherland, A., Henstock, D., Young, J., Drover, P., Sykes, J., Megicks, S., & Henderson, R. (2017). "Contagious accountability": A global multisite randomized controlled trial on the effect of police body-worn cameras on citizens' complaints against the police. *Criminal Justice and Behavior*, *44*(2), 293–316. https://doi.org/10.1177/0093854816668218

Balkin, S., & Houlden, P. (1983). Reducing fear of crime through occupational presence. *Criminal Justice and Behavior*, *10*(1), 13–33. https://doi.org/10.1177/0093854883010001002

Bell, D. J. (1982). Police uniforms, attitudes, and citizens. *Journal of Criminal Justice*, *10*(1), 45–55. https://doi.org/10.1016/0047-2352(82)90059-9

Benjamini, Y., & Hochberg, Y. (1995). Controlling the false discovery rate: A practical and powerful approach to multiple testing. *Journal of the Royal Statistical Society*, *57*(1), 289–300. https://doi.org/10.1111/j.2517-6161.1995.tb02031.x

Benjamini, Y., & Hochberg, Y. (2000). On the adaptive control of the false discovery rate in multiple testing with independent statistics. *Journal of Educational and Behavioral Statistics*, *25*(1), 60–83. https://doi.org/10.3102/10769986025001060

Blaskovits, B., Bennell, C., Baldwin, S., Ewanation, L., Brown, A., & Korva, K. (2021). The thin blue line between cop and soldier: Examining public perceptions of the militarized appearance of police. *Police Practice and Research*. https://doi.org/10.1080/15614263.2021.1889378

Buchert, S., Laws, E. L., Apperson, J. M., & Bregman, N. J. (2008). First impressions and professor reputation: Influence on student evaluations of instruction. *Social Psychology of Education*, *11*(4), 397–408. https://doi.org/10.1007/s11218-008-9055-1

Casey, L. (2017, April 19). Toronto police launch survey to help design look of new squad cars after outcry. *The Globe and Mail*. https://www.theglobeandmail.com/news/toronto/toronto-police-launch-survey-to-help-design-look-of-new-squad-cars-after-outcry/article34747976/

Chan, A. K., & Chan, V. M. (2012). Public perception of crime and attitudes toward police: Examining the effects of media news. *Discovery-Student E-Journal*, *1*, 215–237. http://ssweb.cityu.edu.hk/download/RS/E-Journal/journal10.pdf

Cooke, C. A. (2004). *Public and private policing: The uniform as mediator of public perception* (Doctoral dissertation, University of Teesside).

Cyr, K., Ricciardelli, R., & Spencer, D. (2020). Militarization of police: A comparison of police paramilitary units in Canadian and the United States. *International Journal of Police Science & Management*, *22*(2), 137–147. https://doi.org/10.1177/1461355719898204

Dauvergne, M., & Turner, J. (2010). *Police-reported crime statistics in Canada, 2009*. Statistics, Canada.

Davis, E., Whyde, A., & Langton, L. (2018). Contacts between police and the public, 2015. *Department of Justice*.

Durkin, K., & Jeffery, L. (2000). The salience of the uniform in young children's perception of police status. *Legal and Criminological Psychology*, *5*(1), 47–55. https://doi.org/10.1348/135532500167967

Elko Police Department. (2015). *Annual Report 2014*. http://www.elkocity.com/2015Pdpresentation.pdf

Ewanation, L., Bennell, C., Blaskovits, B., & Baldwin, S. (2019). Validating the police legitimacy scale with a Canadian sample. *Canadian Journal of Criminology and Criminal Justice*, *61*(4), 1–23. https://doi.org/10.3138/cjccj.2018-0036

Fagan, J., & Tyler, T. R. (2004). Policing, order maintenance and legitimacy. *Policing in Central and Eastern Europe: Dilemmas of Contemporary Criminal Justice*. https://www.ncjrs.gov/pdffiles1/nij/mesko/207975.pdf

Federal Bureau of Investigation. United States Department of Justice. (1992). Killed in the line of duty: A study of selected felonious killings of law enforcement. https://www.ncjrs.gov/pdffiles1/Digitization/139198NCJRS.pdf

Federal Bureau of Investigation. United States Department of Justice. (2015). *Law enforcement officers killed & assaulted*. The United States Department of Justice. https://ucr.fbi.gov/leoka/2015/officers-feloniously-killed/felonious_topic_page_-2015

Frank, M. G., & Gilovich, T. (1988). The dark side of self- and social perception: Black uniforms and aggression in professional sports. *Journal of Personality and Social Psychology*, *54*(1), 74–85. https://doi.org/10.1037/0022-3514.54.1.74

Gau, J. M., & Brunson, R. K. (2010). Procedural justice and order maintenance policing: A study of inner-city young men's perceptions of police legitimacy. *Justice Quarterly*, *27*(2), 255–279. https://doi.org/10.1080/07418820902763889

Gillis, W. (2016, September 20). Why Toronto police are changing the colour of their scout cars. *The Star*. https://www.thestar.com/news/gta/2016/09/20/why-toronto-police-are-changing-the-colour-of-their-cruisers.html

Gozubenli, M., & Harmanci, F. M. (2016). An investigation of occupational accidents and safety risks in policing: Views of employees. *International Journal of Human Sciences*, *13*(1), 809–829. https://doi.org/10.14687/ijhs.v13i1.3446

Gunderson, D. (1987). Credibility and the police uniform. *Journal of Police Science and Administration*, *15*(3), 192–195.

Harmancı, F. M., & Doğan, A. S. (2014). İş Kazaları ve İşyerinde Sağlık Sorunları. In M. Harmancı, M. Gözübenli, & M. Dağlar (Eds.), *içinde*, *Güvenlik Sektöründe Taktiksek Yöneticilik*. Ankara: GÜSAM-Nobel Yayınevi.

Herzog, S. (2001). Militarization and demilitarization processes in the Israeli and American police forces: Organizational and social aspects. *Policing and Society*, *11*(2), 181–208. https://doi.org/10.1080/10439463.2001.9964861

Hinds, L., & Murphy, K. (2007). Public satisfaction with police: Using procedural justice to improve police legitimacy. *The Australian & New Zealand Journal of Criminology*, *40*(1), 27–42. https://doi.org/10.1375/acri.40.1.27

Huey, L., Kalyal, H., Peladeau, H., & Linsday, F. (2018). 'If you're gonna make a decision, you should understand the rationale': Are police leadership programs preparing Canadian police leaders for evidence-based policing? *Policing: A Journal of Policy and Practice*, 1–11. https://doi.org/10.1093/police/pay086

Johnson, R. R. (2001). The psychological influence of the police uniform. *FBI Law Enforcement Bulletin*, *70*(3), 27-32. https://www.hsdl.org/?view&did=447468

Johnson, R. R. (2005). Police uniform color and citizen impression formation. *Journal of Police and Criminal Psychology*, *20*(2), 58–66. https://doi.org/10.1007/BF02852653

Johnson, R. R., Plecas, D., Anderson, S., & Dolan, H. (2015). No hat or tie required: Examining minor changes to the police uniform. *Journal of Police and Criminal Psychology*, *30*(3), 158–165. https://doi.org/10.1007/s11896-014-9152-3

Jones, N. A., & Ruddell, R. (2014). *Community perceptions of the regina police service*. University of Regina. https://www.reginapolice.ca/resource/communitysurvey2013.pdf

Kraska, P. B. (2007). Militarization and policing--Its relevance to 21st century police. *Policing*, *1*(4), 501–513. https://doi.org/10.1093/police/pam065

Krauss, C. (1994, October 7). Well-dressed officer: Navy, not powder blue. *New York Times*.

Lawrence, S. G., & Watson, M. (1991). Getting others to help: The effectiveness of professional uniforms in charitable fund raising. *Journal of Applied Communication Research*, *19*(3), 170–185. https://doi.org/10.1080/00909889109365301

Leichtman, E. (2008). Complex harmony: The military and professional models of policing. *Critical Criminology*, *16*(1), 53–73. https://doi.org/10.1007/s10612-007-9045-1

Lennon, S. J., & Davis, L. L. (1989). Clothing and human behavior from a social cognitive framework Part I: Theoretical perspectives. *Clothing and Textiles Research Journal*, *7*(4), 41–48. https://doi.org/10.1177/0887302X8900700406

Mauro, R. (1984). The constable's new clothes: Effects of uniforms on perceptions and problems of police officers1. *Journal of Applied Social Psychology*, *14*(1), 42–56. https://doi.org/10.1111/j.1559-1816.1984.tb02219.x

McLaughlin, E. C. (2015, April 21). We're not seeing more police shootings, just more news coverage. *Cable News Network*. https://www.cnn.com/2015/04/20/us/police-brutality-video-social-media-attitudes/index.html

Morin, R., Parker, K., Stepler, R., & Mercer, A. (2017). Behind the badge. *Pew Research Center*. https://www.pewsocialtrends.org/2017/01/11/police-views-public-views/

Moule, R. K., Parry, M. M., & Fox, B. H. (2019). Public support for police use of SWAT: Examining the relevance of legitimacy. *Journal of Crime and Justice*, *42*(1), 45–19. https://doi.org/10.1080/0735648X.2018.1556862

Nickels, E. (2008). Good guys wear black: Uniform color and citizen impressions of police. *Policing: An International Journal of Police Strategies & Management*, *31*(1), 77–92. https://doi.org/10.1108/13639510810852585

O'Neill, J., Swenson, S. A., Stark, E., O'Neill, D. A., & Lewinski, W. J. (2018). Protective vests in law enforcement: A pilot survey of public perceptions. *Journal of Police and Criminal Psychology*, *33*(2), 100–108. https://doi.org/10.1007/s11896-017-9237-x

Osgoog, C. E., Suci, G. J., & Tannenbau, P. H. (1957). *The measurement of meaning*. University of Illinois Press.

Oyama, T., Tanaka, Y., & Chiba, Y. (1962). Affective dimensions of colors: A cross-cultural study. *Japanese Psychological Research*, *4*(2), 78–91. https://doi.org/10.4992/psycholres1954.4.78

Paul, J., & Birzer, M. L. (2004). Images of power: An analysis of the militarization of police uniforms and messages of service. *Free Inquiry in Creative Sociology*, *32*(2), 121–128. https://ojs.library.okstate.edu/osu/index.php/FICS/article/view/1530

Pinizzotto, A. J., & Davis, E. F. (1999). Offenders' perceptual shorthand: What messages are law enforcement officers sending to offenders? *The FBI Law Enforcement Bulletin*, *68*(6), 1-4. https://leb.fbi.gov/file-repository/archives/jun99leb.pdf

Pinizzotto, A. J., Davis, E. F., & Miller, C. E. (1997). *In the line of fire: Violence against law enforcement*. Final report submitted to the Federal Bureau of Investigation.

Pokorny, J., Lutze, M., Cao, D., & Zele, A. J. (2006). The color of night: Surface color perception under dim illuminations. *Visual Neuroscience*, *23*(3–4), 525–530. https://doi.org/10.1017/S0952523806233492

Radeloff, D. J. (1990). Role of color in perception of attractiveness. *Perceptual and Motor Skills*, *71*(1), 151–160. https://doi.org/10.2466/pms.1990.71.1.151

Royal Canadian Mounted Police. *Information on Public Order for Demonstrators*. http://www.rcmp-grc.gc.ca/pp/order-ordre-eng.htm .

Salerno, J. M., & Sanchez, J. (2020). Subjective interpretation of "objective" video evidence: Perceptions of male versus female police officers' use-of-force. *Law and Human Behavior*.

Samuels-Wortley, K. (2021). To serve and protect whom? Using composite counter-storytelling to explore Black and Indigenous youth experiences and perceptions of the police in Canada. *Crime & Delinquency*. https://doi.org/10.1177/0011128721989077

Shaw, L. (1973). The role of clothing in the criminal justice system. *Journal of Police Science and Administration*, *1*(4), 414–420.

Shum, D., & Westoll, N. (2017, August 21). Toronto police release new design of cruisers after criticism of 'stealth' grey cars. *Global News*. https://globalnews.ca/news/3684282/toronto-police-new-look-cruisers/

Simpson, R. (2017). The police officer perception project (popp): An experimental evaluation of factors that impact perceptions of the police. *Journal of Experimental Criminology*, *13*(3), 393–415. https://doi.org/10.1007/s11292-017-9292-4

Simpson, R. (2020a). Officer appearance and perceptions of police: Accoutrements as signals of intent. *Policing: A Journal of Policy and Practice*, *14*(1), 243–257. https://doi.org/10.1093/police/pay015

Simpson, R. (2020b). When police smile: A two sample test of the effects of facial expressions on perceptions of police. *Journal of Police and Criminal Psychology*. https://doi.org/10.1007/s11896-020-09386-y

Singer, M. S., & Singer, A. E. (1985). The effect of police uniform on interpersonal perception. *The Journal of Psychology*, *119*(2), 157–161. https://doi.org/10.1080/00223980.1985.10542882

Sousa, W. H., Miethe, T. D., & Sakiyama, M. (2018). Inconsistencies in public opinion of body-worn cameras on police: Transparency, trust, and improved police–citizen relationships. *Policing: A Journal of Policy and Practice*, *12*(1), 100–108. https://doi.org/10.1093/police/pax015

Sterling, B. S., & Owen, J. W. (1982). Perceptions of demanding versus reasoning male and female police officers. *Personality & Social Psychology Bulletin*, *8*(2), 336–340. https://doi.org/10.1177/0146167282082023

Sunshine, J., & Tyler, T. R. (2003). The role of procedural justice and legitimacy in shaping public support for policing. *Law & Society Rev*, *37*(3), 513–548. https://doi.org/10.1111/1540-5893.3703002

Tankebe, J., Reisig, M. D., & Wang, X. (2016). A multidimensional model of police legitimacy: A cross-cultural assessment. *Law and Human Behavior*, *40*(1), 11–22. https://doi.org/10.1037/lhb0000153

Taylor, W. L. (1980). *Affective responsivity to varying modes of police dress*. (Unpublished master's thesis). Western Kentucky University: Bowling Green, Kentucky. https://apps.dtic.mil/docs/citations/ADA086770

Tenzel, J., & Cizanckas, V. (1973). The uniform experiment. *Journal of Police Science and Administration*, *1*(4), 421–424.

Tenzel, J., Storms, L., & Sweetwood, H. (1976). Symbols and behavior: An experiment in altering the police role. *Journal of Police Science and Administration*, *4*(1), 21–27.

Thielgen, M. M., Schade, S., & Rohr, J. (2020). How criminal offenders perceive police officers' appearance: Effects of uniforms and tattoos on inmates' attitudes. *Journal of Forensic Psychology Research and Practice*, *20*(3), 214–240. https://doi.org/10.1080/24732850.2020.1714408

Tyler, T. R. (1990). *Why people obey the law*. Yale University Press.

Tyler, T. R. (2004). Enhancing police legitimacy. *The ANNALS of the American Academy of Political and Social Science*, *593*(1), 84–99. https://doi.org/10.1177/0002716203262627

Urbanik, M. M., Greene, C., & Wojnarowicz, J. (2020). 'There's a certain group of cops that have their own vendetta': Resident perceptions of notorious police officers and 'cop clockin' in the inner-city. *The British Journal of Criminology*. https://doi.org/10.1093/bjc/azaa082

Volpp, J., & Lennon, S. (1988). Perceived police authority as a function of uniform hat and sex. *Perceptual and Motor Skills*, *67*(3), 815–824. https://doi.org/10.2466/pms.1988.67.3.815

Vrij, A. (1997). Wearing black clothes: The impact of offenders' and suspects' clothing on impression formation. *Applied Cognitive Psychology*, *11*(1), 47–53. https://doi.org/10.1002/(SICI)1099-0720(199702)11:1<47::AID-ACP421>3.0.CO;2-H

Waite, T. A., & Campbell, L. G. (2006). Controlling the false discovery rate and increasing statistical power in ecological studies. *Ecoscience*, *13*(4), 439–442. https://doi.org/10.2980/1195-6860(2006)13[439:CTFDRA]2.0.CO;2
Weitzer, R. (2002). Incidents of police misconduct and public opinion. *Journal of Criminal Justice*, *30*(5), 397–408. https://doi.org/10.1016/S0047-2352(02)00150-2
Wheeler, S., Book, A., & Costello, K. (2009). Psychopathic traits and perceptions of victim vulnerability. *Criminal Justice and Behavior*, *36*(6), 635–648. https://doi.org/10.1177/0093854809333958
Wortley, S., & Owusu-Bempah, A. (2011). The usual suspects: Police stop and search practices in Canada. *Policing and Society*, *21*(4), 395–407. https://doi.org/10.1080/10439463.2011.610198