

Setting Cops Up for Failure:
The Possible Implications of Police Accountability
Through Body-worn Cameras

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ABSTRACT

Do police body-worn cameras create an unintended risk to officers and citizens?

The implementation of body cameras has been one of the most popular solutions to a perceived problem of police misconduct, but solutions sometimes bring new problems of their own. To examine this potential risk, I have analyzed data from an experiment that scientifically monitored police officers going through simulated use of force scenarios. These officers were advised they were being recorded to be analyzed by a third party for review of their actions. The study simulated high-stress, critical incidents and forced officers to make split-second decisions to use or not use simulated weapons to address potential threats. Studying the data from this experiment will help determine if the presence of a camera had any bearing on the actions of the police officers, and to what extent. This will provide a better understanding as to whether the presence of cameras has unintended implications.

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INTRODUCTION

A number of highly publicized officer-involved shootings have led some to question the actions of police officers. Some members of society have emphatically expressed their distrust for police, rioting in the streets and demanding criminal justice reform and police accountability. Even some citizens who support law enforcement have at least expressed concern or questions about the circumstances and outcomes of the incidents and have asked for solutions.

There have been countless suggestions and recommendations to improve police accountability in order to restore the public's trust in police. Even in communities where the majority of citizens still trust their police, there is little harm perceived in implementing new policies to improve transparency. In order to maintain or restore the public's trust, there must be transparency and a better understanding of the circumstances officers face that lead to police use of force, especially lethal force. Sir Robert Peel, who served in England in the 1800's and is widely regarded as the father of modern policing, wrote several principles that are still highly relevant today. Peel's second principle stated, "The ability of the police to perform their duties is dependent upon public approval of police existence, actions, behavior and the ability of the police to secure and maintain public respect" (Chapman, 2019). Without question, police still owe it to the public to do what is reasonable to maintain their approval. Pinellas County Florida Sheriff Robert Gualtieri stated that, "In order for the public to believe in what you're doing, they need information" (McGee, 2019).

Good intentions if not fully thought through, however, may sometimes lead to bad solutions. Body-worn cameras have been widely implemented in police departments all

across the country and around the world over the past several years. It is assumed that the presence of these cameras simply captures the audio and video of police interactions for purposes of transparency and accountability. But does the presence of the camera and the conscious feeling of being watched and scrutinized affect a police officer's decision-making? Proponents would say, "Isn't that the point?" But on a deeper, much more cognitive level, can those feelings have unforeseen negative effects? Can it affect timing and accuracy of officers' actions and endanger those officers and citizens?

The effects of body-worn cameras cannot be analyzed purely by incident outcomes. There are far too many circumstances that factor into the resolution of police encounters. Some studies have even indicated that body-worn cameras have had little effect on the overall number of police use of force situations (Yoku, Ravishankar & Coppock, 2017). A close examination of police officers' timing and shooting accuracy in response to a perceived deadly threat could provide very useful information. What would be more interesting would be to examine those officers' performances while under the impression they are being recorded for the purpose of having their actions analyzed by a third party.

Problem

Does the presence of a camera affect police officers' timing of their actions and the accuracy of their shots when attempting to stop a deadly threat? Again, it is understood that the presence of body-worn cameras may affect an officer's actions in a positive way. But an analysis like this could lead us to know whether the implementation has the unintended consequence of making officers hesitate when they should pull the

trigger, and whether it adds so much more stress that it affects their accuracy. An affirmative answer to either of these questions should be cause for serious concern on the behalf of police officers and the general public.

Summary

This chapter opens a discussion into the public's perception of police use-of-force. This is a very hot topic and has been for several decades. Specifically, this chapter begins to question whether, perhaps with the best of intentions, some police accountability measures hinder police in their duties. Most importantly, do certain measures like police body-worn cameras create an unintended risk that can harm police officers or citizens?

The next chapter will discuss the general public's understanding of police use of force, the legal standards by which use of force standards are required to be evaluated, and whether police body-worn cameras have actually had any impact of use of force incidents.

LITERATURE REVIEW AND THEORY

There has been no limit to the societal responses to police use of force incidents. In today's world, anyone can have a national platform to express their opinion about these incidents and assign blame to whomever they see fit. But in order to have a more productive conversation about these critical issues, we must examine the research that has been done into police use of force incidents, and also into potential solutions such as body-worn cameras. Only by taking the time to build a foundation based on legitimate legal knowledge and comprehension can we make an educated assessment of whether body-worn cameras are a viable solution to this perceived issue.

After many high-profile shooting incidents, police body cameras were supposed to provide an irrefutable record of the truth, but the results have been mixed (Miller 2019). There has been a loud, public outcry for police accountability and new measures to make sure police are not abusing their authority, especially when it comes to use of force. Many feel that having all police and citizen interactions recorded will provide an impartial eyewitness account of these incidents that will allow anyone to analyze the appropriateness of any action. Many have argued that requiring officers to wear the devices would have a "civilizing effect" on both officers and the civilians who encounter them (Ripley, Williams, 2017).

The American Civil Liberties Union (ACLU) felt strongly that police body cameras would help promote police accountability and reduce citizen complaints while not infringing on privacy rights (Police Body Cameras, 2015). Author Rachel Levinson-Waldman wrote in a 2015 MSNBC article that "body cameras are the newest darling of criminal justice reform" (Levinson-Waldman, 2015). President Obama and his

administration certainly pushed the idea. The policy of police body cameras was extremely popular, with some polls finding nearly 90 percent support among Americans, including both Democrats and Republicans (Lopez 2017). There is no argument about the increasing popularity. The push from citizens and activist groups has had a tremendous impact. About one-third (32%) of local police departments used body-worn cameras in 2013 (Reaves, 2015). In 2016, 47% of general-purpose law enforcement agencies in the United States had acquired body-worn cameras. The main reasons that local police and sheriffs' offices had acquired body-worn cameras were to improve officer safety, increase evidence quality, reduce civilian complaints, and reduce agency liability (DOJ, 2018). Body-worn camera use can also enhance officer and citizen safety, as well as strengthen accountability and transparency. (DOJ, 2019)

With several years of data now available, however, we are learning that maybe police body-worn cameras are not the panacea many expected. A Washington Post article citing a two-year study revealed that the same number of complaints were dismissed for a variety of reasons involving officers wearing and not wearing body cameras (Herman, 2017). What was learned is that body cameras have not had the effect many had anticipated, but that does not mean that they are not having adverse effects, possibly on the men and women who have been forced to wear them.

There are those in society that feel police officers are overzealous and indiscriminately fire their weapons without consequence, especially white officers against black suspects. To the contrary, a very recent study showed that black officers are 3.3 times more likely to shoot than white officers (Shane, Swenson, 2019). Some felt body cameras were going to catch officers in the act, and would provide evidence that cops

mistreat people and abuse their power. However, a lot of body camera footage works in officers' favor, helping them build cases and reducing citizen complaints. Some officers have suggested that citizens are actually less likely to file unfounded complaints when they know incidents are recorded. In one study, 93% of prosecutors' offices used camera footage primarily in prosecutions of civilians (Maciag, 2019).

People want to believe that police body-worn cameras are a great idea and a simple, non-intrusive way to police the police, but that it is an oversimplification of a very complex issue. One of the biggest flaws in this approach is a misunderstanding about police use of force, and the belief that officers want to kill. Police officers are never trained to kill, they are trained to stop the threat (Smith, 2019). Truthfully, some officers could not kill someone if they had to. Research by West Point instructor Lt. Colonel Dave Grossman has shown that soldiers over hundreds of years have refused to kill, even when they knew it would endanger their own lives (Grossman, 1995). Lt. Col. Grossman teaches police officers nationwide about the physiological effects that soldiers and police officers experience in high-stress critical incidents. For most police officers, killing another human being is their biggest fear. Officers are sometimes crucified in the media and criticized by activist groups and victims' family members. Officers involved in shootings have endured news crews following them wherever they go, being called a "murderer," requiring armed escorts, receiving death threats and more (Artwohl, Christiansen, 1997). The fact is most of the general public is not educated about police use of force, the standards for judging use of force, and how these incidents are legally required to be reviewed.

Police Use of Force Standards

Much of the public's frustration over officer-involved shootings and use of force incidents may stem from an imperfect understanding of police use of force. Many officers involved in shootings are acquitted, not because of bias or corruption in the system, but because they are given the opportunity to tell their side of the incident. More importantly, courts take the time to educate jurors who will judge those incidents. And most importantly, the facts and circumstances of these incidents must be judged by objective legal standards, not subjective personal beliefs.

Police use of force is governed by two landmark United States Supreme Court cases, *Tennessee vs. Garner* (1985) and *Graham vs. Connor* (1989). Police use of force is deemed as a seizure and is therefore to be judged under the 4th Amendment to the U.S. Constitution. Police may only use deadly force to protect their own lives, the life of another, or if the officer has probable cause to believe that the suspect poses a significant threat of death or serious physical injury to the officer or others if allowed to escape (*Tennessee vs. Garner*, 1985). Officers must be able to clearly articulate these factors.

Perhaps the most significant influence on police use of force is *Graham vs. Connor* (1989), which created a unified, nationwide standard to judge these incidents. Up to this point, each Federal Circuit Court had its own standard for police use of force. The *Graham* case established the "objective reasonableness" standard where every incident must be judged by an objective set of criteria, and not subjective personal opinions.

These criteria include:

- Totality of the circumstances
- Perspective of a reasonable officer on scene
- Officer/subject factors
- Not in 20/20 hindsight
- Officers must make split-second decisions in rapidly evolving situations

Incidents must be judged by the totality of the circumstances and not one single factor. Unarmed people can still be very dangerous, while not everyone who possesses a firearm is a deadly threat. Police officers should never underestimate an unarmed offender's skill, ability, or intent when a threat materializes (Shane and Swenson, 2019). There are numerous factors that affect every police and citizen interaction, and those circumstances make every incident unique. One must examine the totality of circumstances to make an informed decision as to the reasonableness of the actions taken.

The circumstances mentioned must be viewed from the perspective of a "reasonable officer" on scene, not just any person. This is significant because police officers possess training and experience far beyond the average citizen. Professionals in many other fields are given the latitude to explain things they see and what those things can mean. Police officers are trained professionals who deserve the chance to explain their perceptions as well. This is a critical point because police officers do not typically get the opportunity to explain their side of an incident as quickly as others speak to the public. Often times the perspective of the officer does not come out until testimony in a criminal or civil proceeding, much later in time.

Officer/subject factors include critical circumstances such as age, gender, size, strength, skill, special knowledge, the number of officers versus the number of subjects, proximity of a weapon, and officer injury or exhaustion. These are some of the most critical circumstances to be viewed in their totality. While it may not be deemed appropriate to consider age, gender, size and strength in many decisions made in our society, it is absolutely critical to do so in a physical altercation. Police officers often find themselves outmatched by civilians of greater size, strength and physical skill. When words fail, action becomes necessary to enforce the laws that govern our society. Officers may have to escalate or deescalate their actions based on the number of officers present compared to the number of offenders. There is always at least one firearm in the altercation, and although it belongs to the officer, that gun can be taken away by force and used against the officer or the public. Additional weapons can become additional concerns. If an officer who is outmatched becomes physically beaten or exhausted, their weapon can easily be taken from them.

Incidents cannot be viewed in 20/20 hindsight, possessing knowledge the officer did not have at the time of the incident. This is particularly important in cases where an offender appears to be in possession of a weapon, real or fake. Police officers cannot freeze time to examine if someone is holding a pellet gun or a real functioning firearm. Fake guns and air-soft pistols are purposely manufactured to look as realistic as possible. Even if someone does not possess a weapon, people often times reach into their pockets, waistbands or areas of concealment despite officers' emphatic pleas to keep their hands visible. Knowledge gained after the incident cannot be used against the officer who was forced to act with limited knowledge in the moment.

Police officers regularly have to make these split-second decisions in rapidly evolving situations. The general public, media, attorneys and others are afforded weeks and months to analyze the circumstances and make careful decisions on how the officer should have done better. This retroactive analysis is deemed unreasonable in the eyes of the U.S. Supreme Court. Judges and jurors are required to examine the use of force incident based on the totality of the circumstances and the knowledge the officer had, however limited, before taking decisive action at that time.

Typically the media and the general public who engage in social media do not possess this knowledge. No one would allow you to officiate a sporting contest if you did not know the rules of the game. What, therefore, qualifies laypersons to review video footage of police interactions and determine fault? It would make sense that before anyone watch these videos, they learn exactly how to evaluate and judge what they are watching. Too often people are making determinations on police use of force incidents based on subjective values and personal beliefs when there is a clearly established set of objective criteria by which all use of force incidents are to be judged.

Forcing police officers to be recorded in everything they do may unintentionally send a dangerous message to officers that they cannot be trusted, that they are already suspect, and their next mistake may be their last. This perception can cause officers to hesitate when they should be taking action to defend themselves and others. Professor Maki Haberfeld of the John Jay College of Criminal justice in New York stated that there was no doubt in her mind that officers wearing body cameras would second-guess themselves and hesitate, which could cause danger (Hartman, 2015). Officers are also pushing back and police unions are rebuffing transparency measures as a growing

number of officers say privacy is becoming an issue of both personal safety and basic employment rights (Bruinius, 2016).

Body cameras may change not just police behavior, but suspect behavior. Some changes are not necessarily for the better. Do cameras provoke suspects, giving them a platform? Some people respond negatively, even violently, to being filmed by police. This is especially true for some under the influence of drugs, alcohol, or suffering from mental illness (ProsCons.org, 2018). Preliminary results from a study released in 2016 by Rand Corporation revealed rates of assault against officers are 15% higher when they use body-worn cameras (Body-Worn Cameras, 2016). A Cambridge University study looked at seven police departments in England, Ireland and California in 2014 & 2015. Results showed that when police-worn body cameras were in play, citizen assaults on police officers went up. Police assaults on citizens stayed the same, unless individual police officers could control when cameras were turned on, in which case police assaults on citizens rose dramatically (Gayle, 2016). It is very possible that incidents on one side or both may have gone underreported reported before, but it raises more questions (Guza 2016).

It could be argued that body cameras were not fully thought through, whether it be the privacy intrusion to officers and citizens or the unbearable cost to departments. With the advent of body cameras, policies on public records disclosures have not kept up. The state of Ohio is somewhat of a trailblazer in confronting public access to police body camera footage, but others are still lagging (Moser, 2019). The costs of video storage alone are tremendous, and there are additional costs for expensive editing and redacting software, and employee hours of viewing videos and processing requests. Most

departments that have ended body camera programs are in smaller jurisdictions, and Axon, the leading body camera manufacturer, said every one of its clients that have canceled contracts cited costs (Kindy, 2019). A Phoenix Police study revealed that police officers were also less likely to agree that body-worn cameras increase officer safety and improve officer training (Katz, Choate, Ready & Nuno, 2014). Federal agents never wear body cameras, and they prohibit local officers from wearing them on their joint operations (Jackman, 2019).

Theory

I have long suspected that scrutiny of police officers by uninformed critics could create a situation that endangers police. I suspected that police would have to succumb to the demands made by people who not only have never worked in the field, but also have not taken the time to learn the legal criteria by which police officers are to be judged. The almost forced, widespread implementation of body cameras seems to advance that even further because police-citizen encounters are so much more complex than the capabilities of a one-dimensional video. Further, the limitations of video footage combined with an untrained viewer can have catastrophic results.

Research Questions

My research in police use of force, society's responses, and what appears to be an insurmountable call for police accountability through body-worn cameras leads to two questions:

- 1.) Do police officers who believe they are being recorded for the purpose of scrutiny hesitate to fire their weapons at a deadly threat?

2.) Do police officers who believe they are being recorded demonstrate less accuracy?

Summary

This chapter built a foundation based on legal knowledge and understanding of police use of force as set forth by the United States Supreme Court. After having learned the objective criteria by which police officers are to be judged, one can make a better assessment of the legitimacy of police actions. Use of force is not typically going to look good. Anytime someone has to physically force another person to do something they do not want to do, it is going to look bad. Police officers are not required to prevail through these incidents through a strategy of prayer, hidden wisdom or happenstance. They are instead required to rely on established authority to act and use force (Shane and Swanson, 2019). Questions about police use of force have brought a push for body-worn cameras to record interactions so they can be reviewed later. This chapter also provided several layers of data on police body-worn cameras and the effectiveness, or lack thereof, of these programs around the world.

METHODOLOGY

The purpose of my research is to examine the potential for unintended consequences of police body-worn cameras. I am conducting a secondary analysis of data collected from a 2019 research study conducted with 18 police officers from a midsized municipal police department in Ohio (Kalkhoff et al. in progress). The study consisted of having experienced police officers go through a number of simulated critical incidents using a video/role-playing simulator. The Multiple Interactive Learning Objectives (MILO) simulator is a training tool used by police officers, and consists of pre-recorded videos that place a viewer inside stressful scenarios that will project onto a large screen or wall, making the subjects feel as though they are in the scene. Stressful circumstances progress and the subject is supposed to verbally interact with the characters on the screen as though they are part of the scenario. The only action by the officer that will affect the video is if he/she does or does not “fire” a simulated weapon at a character on the screen. The timing and accuracy of those shots will also determine how the video progresses.

The simulations feature high-definition interactive videos that a participant can engage with during scenarios. Most of the scenarios are based off of real life experiences. For example, one interactive video may place a participant (police officer) on a traffic stop in a first-person point of view. The participant will be walked up to the car and see the driver and occupant inside the car, and hear their voices. The situation will evolve to where one occupant starts reaching around inside the car and the participant is expected to give verbal commands like “Please keep your hands where I can see them.” The occupants ignore the commands and the participant escalates to a

loud command such as, “Show me your hands!” The video may progress to where the occupant quickly draws a gun and points it at the participant, who is expected to react quickly and fire their simulated weapon at the person on the screen.

How the situation evolves and the video progresses will depend on the timing and accuracy of the participant’s shots. The MILO software can determine the accuracy of every shot fired by the participant, and the virtual actor will respond accordingly. The software provides a “hit box” that the participant cannot see, but is essentially a preferred center mass target area that will likely result in a lethal shot. The actor in the video will fall if shot in the preferred target area, but will continue their behavior if the participant misses their shot. An analysis after the completion of the scenario will show all hits and misses, the precise second a lethal threat was presented, when the participant fired and whether the shots were effective. This hit box along with timing and accuracy analysis will be done on all scenarios. It is very important to note that not every scenario is a lethal threat or even a physical threat at all. Some video scenarios are just intended to be high-stress and the participant will be tested on restraint, control and de-escalation.

The MILO Range simulator, and similar systems like a Fire Arms Training Simulator (F.A.T.S.) are valuable training tools for agencies that can afford to purchase them or are somehow given the opportunity to participate in the training. The governing body for police training in Ohio, the Ohio Peace Officers Training Academy (OPOTA), owns the MILO Range simulator used in this study, and allows officers to use this system at OPOTA’s training locations or by way of a traveling simulator. OPOTA chooses the scenarios that officers experience and the trainers have carefully determined which of the

scenarios are “shoot” scenarios that require a participant to fire their weapon, and which scenarios are “no shoot” or “don’t shoot” scenarios where deadly force is not justified.

The officers who participated in this study were fitted with an actiCAP32-channel electrode cap. The cap was part of a hardware system that recorded brain activity throughout simulations. A heart monitor continuously measured stress levels. Participants were told that they were being recorded and their responses and reactions to the stimuli in the simulator would be shown to a panel consisting of law enforcement use of force experts who would collectively evaluate whether the participant made the “right” tactical and moral choices during each simulation (Appendix C). In reality, there was no panel. The actual purpose of this aspect of this cover story was to create a situation that mimicked the theoretically relevant aspects of body-worn cameras.

By telling participants that webcam recordings of their performances would be shown to a group of law enforcement experts, researchers attempted to recreate the experience of attentional conflict that they believed was produced by body-worn cameras. The point, essentially, was to make officers self-conscious about their performance during simulations, similar to how body-worn cameras may make them feel during real police encounters.

An additional critical aspect of the research was that there were false statements made about malfunctions in the webcam. The cover story was that there was a battery issue with the camera. Some participants were told they would be given the opportunity go through some scenarios that were not recorded, and then one of the members of the research team would get a fresh battery and start recording. Other participants started being recorded, and then the alleged malfunction came later. This provided the chance

for officers to go through scenarios where they felt they were recorded, and then scenarios where they felt they were not recorded. In reality they were never recorded at all, and it was all in their minds.

This data is still being analyzed for a number of reasons. The objectives of my research will be slightly different and focus on more specific considerations than some of the objectives of the initial researchers. The MILO Range simulator can identify the exact point where a deadly threat was presented in a video scenario, and can also analyze the timing, quantity and accuracy of simulated shots fired by the subjects using the simulated weapons. The brain activity and heart rate of the participants can be analyzed in-sync with the video scenario. While the original study will provide a tremendous amount of data regarding officers' physiological responses to stimuli, I want to focus on two specific areas. My objectives are as follows:

- 1.) Determine if subjects who believed they were being recorded showed slower response times to fire their weapons at a deadly threat.
- 2.) Determine if subjects who believed they were being recorded demonstrated less accuracy than other times.

The original researchers, Kalkhoff et al., recruited police officers from a mid-size municipal police department using a script that explained how the research experiment was to be conducted, along with the compensation for participation (Appendix A). When the participants arrived for the experiment, they were asked to complete a questionnaire so researchers could better analyze their results (Appendix B). Some of the information researchers wanted to know concerned overall experience in law enforcement, how long

the participants had been employed at that particular agency, and what their current rank was within the department.

Summary

This chapter explains the actual subject test that was performed on police officers in a 2019 study. A total of 18 officers were wired with devices to measure their brain activity and physical responses to stimuli while going through 12 high-stress video scenarios. Researchers learned early on that officers were a little more savvy and perceptive than expected. One officer asked if the camera was a “set-up,” and researchers did away with the story of the broken camera or battery malfunction. This caused the first three tests to be purged, leaving data from only 15 officers that could be used for the study. Researchers then had to change the script and abandon the dead battery or camera malfunction story altogether. The original outline (Appendix C) was replaced by a revised outline (Appendix D). Only the remaining 15 samples were used, and there was either a camera set up or not. No story about dead batteries was given, but there never were any recordings either, just the perception of being recorded. Having a small sample is one limitation to the research and findings.

RESULTS & FINDINGS

The purpose of this study was to determine two things:

- 1.) Do police officers who believe they are being recorded for the purpose of scrutiny hesitate to fire their weapons at a deadly threat?
- 2.) Do police officers who believe they are being recorded demonstrate less accuracy?

To conduct the research, 15 police officers of varying degrees of tenure and overall experience volunteered to participate in scenarios using a MILO Range firearms training simulator. Each officer completed 12 scenarios viewing a life-size video projected onto a wall, and officers were armed with simulated pistols. Officers completed a block of six scenarios, took a short break, then completed another block of six scenarios. The order of the scenarios was randomly determined for each participant with four “shoot” scenarios and two “don’t shoot” scenarios in both blocks (see appendix E). Whether or not the camera was present in the first block or the second block was also randomly assigned but counterbalanced to achieve equal numbers in each group (see appendix E).

Each of the following tables is broken down as follows. The first column, “Camera,” simply indicates whether the officer was made to believe the camera was recording their behavior. Column 2, “# of Events,” tells if the answer is affirmative in relation to what the table indicates. For example, Table 1A demonstrates “Failure-to-Shoot.” So, the “# of events” here indicates how many officers failed to fire when they should have. Column 3, “# of Non-Events” tells the number of officers who did what they were supposed to and there was no significant event. Column 4, “Odds,” indicates

the likelihood of an event by dividing the number of events by the number of non-events. Lastly, column 5 shows the “Event Risk” probability, which is the # of Events divided by the sum of the # of Events and the # of Non-Events.

The following table tells us how many officers failed to fire their weapons in pre-determined “shoot” scenarios, both when the camera was not present, and when it was present. Again, 15 officers each saw four “shoot” scenarios with a camera recording (15 x 4 = 60) and four “shoot” scenarios without a camera recording their actions (15 x 4 = 60).

Table 1A. Camera Presence by Under-Reaction Events (Failure-to-Shoot on “Shoot” Scenarios)

Camera	# of Events	# of Non-Events	Odds	Event Risk
No	1	59	0.017	0.017
Yes	4	56	0.071	0.067

Test of homogeneity (equal odds): Chi-square = 1.86, p = .17
 Odds ratio (odds camera/odds no camera): 4.214

Interpretation of Table 1A: This first table shows results of the perceived presence of a camera. When officers believed they were not being recorded, 59 of 60 fired their weapons in the presence of a deadly threat, and one officer failed to shoot when they should have done so. When officers believed they were being recorded for the purpose of having their actions analyzed by a panel of judges, four officers out of 60 failed to fire their weapons at a deadly threat. In other words, officers were 4.214 times more likely to not shoot when circumstances required it, in a simulated training exercise.

That said, the probability of the chi-square value ($p = .17$) is not less than the conventional cutoff of .05, which indicates that the difference in odds between “camera” and “no camera” is not statistically significant. That is likely due to the small sample size. With a larger sample of officers, the relatively sizeable difference in odds would likely achieve statistical significance.

To explore “failure-to-shoot” in more detail, the data set was broken down into the two phases. Camera presentation was counterbalanced such that approximately half the participating officers saw the camera in the first phase ($n = 7$) while the remainder saw the camera in the second phase ($n = 8$). Thus in Phase 1 there were 28 “shoot” scenarios when the camera was present ($7 \text{ officers} \times 4 \text{ “shoot” scenarios} = 28$) and 32 “shoot” scenarios when the camera was *not* present ($8 \text{ officers} \times 4 \text{ “shoot” scenarios} = 32$) Table 1B shows the “failure to shoot” results for Phase 1.

Table 1B. Camera Presence by Under-Reaction Events (Failure-to-Shoot on “Shoot” Scenarios) – Phase One Only

Camera	# of Events	# of Non-Events	Odds	Event Risk
No	0	32	0	0
Yes	3	25	0.120	.107

Test of homogeneity (equal odds): Chi-square = 3.55, $p = .059$

Odds ratio (odds camera/odds no camera): n/a

Interpretation of Table 1B: Table 1B shows the largest difference between those officers who fired their weapons and those who did not. In three “shoot” scenarios, officers failed to fire when they should have done so. By contrast, without the camera

present in Phase One, officers *never* failed to shoot when they should. The difference in odds approaches statistical significance ($p = .059$). Again, one of the limitations of the study is the small sample size ($N = 15$), and it would be very interesting to see how the results change with a larger sample.

Table 1C shifts attention to Phase Two. Here seven officers experienced “shoot” scenarios where the camera was *not* present (7 officers x 4 “shoot” scenarios = 28) and eight officers experienced the “shoot” scenarios where the camera *was* present (8 officers x 4 “shoot” scenarios = 32).

Table 1C. Camera Presence by Under-Reaction Events (Failure-to-Shoot on “Shoot” Scenarios) – Phase Two Only

Camera	# of Events	# of Non-Events	Odds	Event Risk
No	1	27	0.037	.036
Yes	1	31	0.032	.031

Test of homogeneity (equal odds): Chi-square = .01, $p = .924$
 Odds ratio (odds camera/odds no camera): .871

Interpretation of Table 1C: Table 1C shows no difference in the odds of failing to shoot during Phase Two between officers who believed they were or were not being recorded, ($p = .924$).

Overall Interpretation of Tables 1A-1C: Table 1A shows that across the whole dataset (both phases combined), officers trend toward failing to shoot when they should have when the camera was present. The odds are over four times greater, but the difference only trends toward statistical significance ($p = .17$). The difference is

marginally significant ($p = .059$) when one focuses on Phase One alone. In conventional terms, the probability associated with the difference in odds would be considered significant at less than .05 (i.e., less than a five percent likelihood of being due to chance, or greater than 95% certainty). However, despite the fact that the difference only trends towards statistical significance, it is worth noting that the event risk of failing to shoot when one should approaches .07 (or 7 out of 100) overall (see Table 1A) when officers believed they were being recorded. The risk is greater when we focus on Phase One only. That is, when officers started out being recorded right away, the event risk exceeds .10 (or 10 out of 100).

The next tables tell us how many officers fired their weapons during “no shoot” scenarios, again broken down by whether or not they believed they were being recorded. This would show an over-reaction on the part of the officer, as these scenarios were determined to be circumstances that would not require deadly force. The 15 total participants experienced two “don’t shoot” scenarios in each phase, roughly half with a camera and half without a camera.

Table 2A. Camera Presence by Over-Reaction Events (Shooting on “Don’t Shoot” Scenarios)

Camera	# of Events	# of Non-Events	Odds	Event Risk
No	2	28	.071	.067
Yes	1	29	.034	.033

Test of homogeneity (equal odds): Chi-square = .35, $p = .557$
Odds ratio (odds camera/odds no camera): .483

Interpretation of Table 2A: Table 2A shows that two officers fired their weapons when they should not have done so when the camera was not present. That is a surprising 7% event risk for the “no shoot” scenarios. When a camera was present, one officer fired when they were not supposed to. The presence of a camera appears to have reduced the likelihood of the over-reaction by 50%, but here too the difference in odds is not statistically significant ($p = .557$). A greater sample size is needed to gain confidence in this result.

The next two tables will break down the “don’t shoot” scenarios into the two separate phases, just as was done in tables 1B and 1C for the “shoot” scenarios.

Table 2B. Camera Presence by Over-Reaction Events (Shooting on “Don’t Shoot” Scenarios) – Phase One Only

Camera	# of Events	# of Non-Events	Odds	Event Risk
No	1	15	.067	.063
Yes	1	13	.077	.071

Test of homogeneity (equal odds): Chi-square = .01, $p = .923$
Odds ratio (odds camera/odds no camera): 1.154

Interpretation of Table 2B: Table 2B tells us that in Phase One, the presence of a camera had no significant effect on whether the officer fired their weapon in a “no shoot” scenario. There was one “over-reaction” event with a camera and one without. The small difference in odds is not significant ($p = .923$).

Likewise in Table 2C where the focus is now on Phase Two, we see that there is only one event when officers believed they were not being recorded and zero events when officers believed they were being recorded. The odds are not significantly different ($p = .285$).

Table 2C. Camera Presence by Over-Reaction Events (Shooting on “Don’t Shoot” Scenarios) – Phase Two Only

Camera	# of Events	# of Non-Events	Odds	Event Risk
No	1	13	.077	.071
Yes	0	16	0	0

Test of homogeneity (equal odds): Chi-square = 1.14, $p = .285$
Odds ratio (odds camera/odds no camera): 0.000

GENERAL INTERPRETATION OF TABLES 2A-2C: One should carefully evaluate this particular data set. There is reasonable concern that since participants saw both scenarios with and without the camera, there could be a practice effect where officers improve with more repetitions. This was well-addressed in the design as the original researchers (Kalkhoff et al.) provided counterbalancing. In the original experiment, half of the officers started without the camera and then it was introduced in the next phase. To counter that, the other half of the officers started with the camera first and went through those scenarios “cold,” and then the camera was taken away. In the end, researchers did not believe there was a significant practice effect. The statistical evidence shows that there is no effect of camera monitoring on “over-reaction” events. In other words, the camera did not make officers shoot in “no shoot” scenarios.

Lastly, I examined the effect that a camera may have on the accuracy of officers' shots. Table 3A shows us whether officers failed to hit their intended targets, both when they were and were not being recorded.

Table 3A. Camera Presence by Failing to Hit Target Events (for "Shoot" Scenarios)

Camera	# of Events	# of Non-Events	Odds	Event Risk
No	17	43	.395	.283
Yes	8	52	.153	.133

Test of homogeneity (equal odds): Chi-square = 4.06, p = .044
Odds ratio (odds camera/odds no camera): .389

Interpretation of Table 3A: Table 3A shows that officers failed to hit their intended targets 17 out of the 60 scenarios when they believed they were not being recorded. Officers actually shot more accurately when they felt they were being recorded, hitting their intended targets 52 out of 60 scenarios and failing to do so for only 8 scenarios. The difference in odds between "camera" and "no camera" is statistically significant (p = .044).

Table 3B. Camera Presence by Failing to Hit Target Events (for “Shoot” Scenarios) – Phase One Only

Camera	# of Events	# of Non-Events	Odds	Event Risk
No	10	22	.455	.313
Yes	5	23	.217	.179

Test of homogeneity (equal odds): Chi-square = 1.40, p = .236
Odds ratio (odds camera/odds no camera): .478

Interpretation of Table 3B: Table 3B shows that officers in Phase One who believed they were not being recorded missed their targets 10 out of 32 “shoot” scenarios, or looking at the event risk they hit their targets approximately 68% of the time. Officers who believed they were being recorded failed to hit their targets 5 out of 28 “shoot” scenarios, or looking at the event risk they hit their targets nearly 82% of the time.

Table 3C. Camera Presence by Failing to Hit Target Events (for “Shoot” Scenarios) – Phase Two Only

Camera	# of Events	# of Non-Events	Odds	Event Risk
No	7	21	.333	.250
Yes	3	29	.103	.094

Test of homogeneity (equal odds): Chi-square = 2.58, p = .108
Odds ratio (odds camera/odds no camera): .310

Interpretation of Table 3C: Table 3C shows that officers in Phase Two who believed they were not being recorded missed their targets 7 out of 28 “shoot” scenarios, or hit their targets approximately 75% of the time. Officers who believed they were being recorded failed to hit their targets 3 out of 32 “shoot” scenarios, hitting their targets about 90% of the time.

GENERAL INTERPRETATION OF TABLES 3A-3C: The conclusion from these last three tables is that the presence of a camera actually appeared to make officers more accurate, not less. This is interesting and there is no clear reason how this occurred. At this point one can only say officers fired into the “hit box” at least once. The locations of all of their rounds will become known once all of the data is calculated (Kalkhoff et al. in progress).

Summary

The results of the research provided very useful information. I learned that some police officers hesitated to use force in a deadly force scenario when they were under the impression they were being recorded, although the effect only trended toward statistical significance. Some officers who felt they were going to be scrutinized not only hesitated, but sometimes chose not to fire their weapons *at all* when they should have.

The presence of cameras seemed to have little effect on whether officers fired when they were not supposed to (i.e., in “no shoot” scenarios). Officers’ shot accuracy did not appear to suffer due to the feeling of being recorded. Surprisingly, officers seemed to have fired more accurately, or so it seems, when they were being recorded as

compared to the incidents where they were told they were not being recorded. The exact location of all of the shots will come out in the full study. The data indicates that officers were able to fire one round into the “hit box” according to the software that registers “hits” and “misses.” More will be learned later (Kalkhoff et al. in progress).

In reviewing all of the data for 15 officers completing a total of 120 scenarios (60 recorded and 60 not recorded), I found that the perception of being recorded could have an impact on police officer behavior. Although a change in behavior is what body camera proponents are seeking, a risk to police officers’ and civilians’ safety may not be the intended change. My research indicates that police officers who believed they were being recorded showed tendencies to hesitate or completely fail to perform when circumstances necessitated a response. We should continue to closely analyze the potential for camera monitoring to produce unintended consequences and create danger for officers and citizens alike.

CONCLUSION

I asked if officers might hesitate to fire their weapons when they believed they were being recorded for the purpose of judgment and scrutiny. The research shows that officers not only hesitated, a staggering 7% of officers tested (4 incidents out of 60) failed to fire their weapons at all when presented with a deadly threat. Some officers did not even draw their weapon from its holster. That is without question the most significant data learned in this study. With a percentage of risk at 7%, 7 officers out of 100 could hesitate to fire their weapons when circumstances would require it. That could mean 7 dead or injured police officers, very possibly due to the fear of scrutiny from third parties based on the recordings generated from their body cameras.

I also learned that officers did not seem to have diminished accuracy due to the presence of a camera. In fact, the opposite was true and officers seemed to fire more accurately when they were under the impression that their performance was being recorded. Officers actually shot more accurately when they felt they were being recorded, hitting their intended targets 52 out of 60 scenarios.

From this study alone, there is not enough information to determine what precisely caused officers to hesitate to draw their weapons, or what may have been the reason officers fired more accurately during the simulated scenarios. Perhaps a survey or interview of the officers after their performance could gain some insight into why these events occurred. Regardless of the rationale to the two previous issues, my study established that the presence of a camera does seem to impact officers' performance in a simulated high-stress scenario. Even in a safe environment, officers were impacted enough by the presence of a camera that it caused hesitation and outright inaction during

scenarios where they should have drawn and fired their weapon at a deadly threat. This data answers in the affirmative that the presence of cameras can have adverse effects on the safety of police officers and citizens. The physiological data that will be produced from the original study, Kalkhoff et al. in progress, will provide much more insight as to the possible effects of the presence of a body-worn camera.

There were limitations to this study and research. First and foremost is the sample size. I would have preferred to have more participation than 18 officers, which was reduced to 15 after an adjustment to the study. Another challenge is that within the pool of officers we had is varying degrees of skill and experience, but that is expected to be the case in any department, so it is not a significant drawback. The overall training of the group of officers in this study is likely on the high end, compared to police officers at agencies that have less training for various reasons.

From this research, one could reasonably draw a number of recommendations for future research and/or policy implications. I agree strongly with an article published in the *European Journal of Criminology* in 2016 that concludes, “First, there was no overall discernible effect of using body-worn cameras on police use of force. Second, cameras increased the likelihood of an officer being assaulted during a shift compared to not wearing the cameras” (Ariel 2016). The overall null use of force result along with the hefty costs may very well dampen the enthusiasm of those calling for body cameras to be used by all police officers. Some may even see this as justification for body-worn videos to be abandoned altogether (Ariel 2016). I would urge departments to proceed cautiously, especially if there is not funding to sustain the program.

For future studies, I would like to see a much larger pool of officers and test subjects. Some of the data gathered in this study could have been given more credibility if there were more subjects. I would also recommend doing similar testing at a department that has already had body cameras in place for a period of a few years. It would be interesting to see if the effect of nervousness or fear of scrutiny tends to wear off over time. It would also be useful to survey future participants as to whether they feel they have support from their residents, administration and local politicians. This could affect their behavior on camera as well.

Summary

This chapter highlighted the conclusions of the study overall. The major finding was that the presence of body-worn cameras affected police officers' decision-making to a degree that it caused officers not to shoot when they should. The exact reason has not yet been determined, but officers froze or failed to act when they should have done so. This could have a tremendously negative impact on police officers around the world. The presence of cameras did not seem to affect to a great degree whether officers hit their intended targets. The data shows that the shots appeared to be accurate whether officers were recorded or not. However, officers will not hit the intended target if the weapon is never fired at a deadly threat.

The data supports my theory that public scrutiny and demands for police oversight through certain means can harm police officers. First and foremost, the general public needs to be educated in police use of force and the legal criteria by which incidents must be judged. Laypersons do not possess the knowledge to review video footage of police interactions and determine appropriateness or fault.

Second, police administrators and the general public must take a thorough look at whether police body-worn cameras are providing the solution they are looking for, or whether they bring about more problems. Use of force may not look good to some under any circumstances. In many instances, regular citizens have a duty to retreat before escalating to physical violence. Police officers have no such duty (Shane and Swenson, 2019). They are authorized and at times required to use objectively reasonable physical measures to enforce the law, and it might not look good on video.

Lastly, we all must patiently and rationally examine all proposals for police reform. More research and examination is needed before expecting or requiring expensive measures that may not solve the real issues at hand. We need to carefully evaluate whether a proposed change is fairly addressing the select few who make mistakes, or handcuffing all police officers and setting them up for failure.

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APPENDICES

Appendix A

Recruitment Script

To be communicated to potential participants by KPD administrators (e.g., by email and/or in-person during roll call):

Will Kalkhoff is a researcher at Kent State University. He has been working with us for some time and recently completed our CPA. He is now a Kent Safety Ambassador.

Will is conducting a research project here at KPD that we have thoroughly vetted. The study focuses on officer decision-making during critical incident situations. The study is an opportunity for you to use a MILO Pro Range simulator and go through a variety of scenarios and get some feedback for your own use. While you go through the simulations, Will's team, which includes law enforcement personnel, will collect information on brain activity and stress that will help us better understand how officers deal with the complex demands placed on them during critical incidents. The focus is on finding ways to improve officer safety.

The study will be done right here in our building, and it will take between 90 and 120 minutes. You'll be paid \$60.00 immediately after you finish the study. Alternatively, you can schedule a time to use the simulator without taking part in the paid study. If you just want to use the simulator, though, you will not be compensated. Since you have the option of participating in the study or merely using the simulator, KPD administrators won't know if you end up doing the actual study or not.

The research has nothing to do with your employment or duties at KPD. It is strictly voluntary. Also, the study is protected by a Certificate of Confidentiality. This means that the researchers cannot disclose your identity for any reason, including for any kind of legal or administrative proceedings, without your express consent. Also, if anything comes from the research project, it will be in collaboration with KPD.

All patrol officers are eligible to participate. We just ask that you don't consume alcohol within 12 hours of participating in the study or caffeine within six hours of participating, as this can affect the measures they'll be collecting.

We'll provide you with a schedule of when the simulator will be available for use. KPD supports the project and hopes that you can all help us out. Again, though, it has no bearing on your employment or duties here. It's just an opportunity for you to use a MILO simulator and contribute to some research that aims to make police work safer.

Appendix B

Session ID _____

I. Professional Experience

1. How long have you been a law enforcement officer? _____ years and _____ months
2. How long have you been a law enforcement officer at KPD? _____ years and _____ months
3. What is your current rank? (check one) Patrol officer
 Sergeant Lieutenant

I. Participant Background

1. Please indicate your age in the space below. _____ years old
2. What is your sex? (check one) Male Female
3. What is your race? (check one)
 - White, non-Hispanic
 - White, Hispanic
 - Black or African American
 - Asian
 - Native American or American Indian
 - Pacific Islander
 - Multi-Ethnic
 - Other

Appendix C

PROTOCOL OUTLINE (ORIGINAL)

Don't forget to bring cash and record transactions with Study ID #!

1. Setup and calibrate the Milo range system (display = 1024 x 768). Don't forget calibrate the screen (with the wand) and both guns.
2. Setup the EEG and ECG systems and recording PC.
3. Get out the Condition Assignment Sheet out, prepare a logbook entry, prepare the questionnaires, and put the Consent Document and prepared questionnaires on a clipboard.
4. Be mindful of the "Monitoring Manipulation" (camera first or NO camera first) and order of simulations.
5. Wait for the Officer.
6. Greet the Officer and ask if s/he is there to participate in the research study. Ensure that they aren't carrying any weapons.
7. Administer the Consent Document. Answer questions.
8. Administer the Study Preparation Questionnaire and Handedness Inventory. Answer questions along the way.
9. Have the Officer "zero" the pistol (to make sure the system is working).
10. Afterwards read this to the officer ***exactly as follows***: "As mentioned in the consent document, we will be using video recording equipment in this study. The video will be behind you and will be focused on the screen to capture the incident as it unfolds. The video will be shown to a panel of law enforcement use-of-force experts who will collectively evaluate your decision-making during each scenario to help us better understand critical incident encounters."
- If the Officer has questions, ensure them that the camera is on the screen. If they wonder about who will see the video, ensure them that it won't be KPD administrators. You might say "I believe they are affiliated with OPOTA."
11. Hook the officer up to the EEG and ECG equipment.
12. Tell the Officer you're going to have them do a couple of "warm-ups" before starting the simulations. First do the "plates" and then do the "Auto stop HD" scenario.

Troubleshoot any issues.

13. Tell the officer that for the main part of the study you're going to have them go through **12 scenarios** and ask if they're ready? **DON'T FORGET TO ASK THE OFFICER HOW MANY SHOTS THEY THINK THEY FIRED AFTER EACH SCENARIO (RECORD THEIR ANSWERS IN THE LOG BOOK).**

For the **Monitoring=1 condition (camera first)**, go through the first block of 6 simulations, and then STOP and saying the following from memory: **“Okay, for whatever reason we’re not getting video right now from the camera. I’m not sure if it’s the camera or the software, but it’s probably the camera because we’ve had this happen before. Um...Let’s disconnect this one [disconnect the webcam and give it to the helper lab assistant].... [helper lab assistant name]...Can you run and grab another webcam? If there’s not one in the crate over there, I know there’s one in my backpack out in my car. It’s in the back seat.” [Give assistant your keys.]**

The assistant helper should rummage through the crate and then leave the room (with the supposedly “bad” camera in hand”, ostensibly to get the other camera.

From memory: **“Okay, while (s)he’s doing that, so we don’t waste your time, let’s just go ahead and do some more simulations without the camera for now, just so I can get through all 12 of them, even if we won’t have the video anymore. Is that okay? We’re not going to keep you past how long we said you’d be here.”**

Resume the simulations WITHOUT the camera.

Around when the Officer is finishing up the first block of simulations, the helper assistant should return with the bad camera still in hand. When the Officer is done, the helper assistant should say, **“I couldn’t find another camera,”** and the main assistant should say, **“That’s fine. We’re done with all 12 now anyway. We’ll just go with the first six for the ones with video.”**

The main assistant should continue, **“Okay at this point we’re done with the simulations and we’re going to unhook you from all the physiological equipment.”**

After the participant is unhooked and cleaned up, the main assistant should say, **“Okay...the last thing we’d like you to do is fill out this short post-study questionnaire.”**

Administer the questionnaire. If the participant doesn’t want to answer certain questions, that’s fine.

After the post-study questionnaire, ask the Officer if s/he has any questions. Then pay them and thank them profusely for their time and tell them that somebody will be in touch to do the debriefing once the study is all wrapped up.

For the **Monitoring=2 condition (NO camera first)**, after you say **“Ready,”** pause for a moment and saying the following”: **“Okay, for whatever reason we’re not getting video from the camera. I’m not sure if it’s the camera or the software, but it’s probably the camera because we’ve had this happen before. Um...Let’s disconnect this one [disconnect the webcam].... [lab assistant name]...Can you run and grab another webcam? If there’s not one in the crate over there, I know there’s one in my backpack out in my car. It’s in the back seat.” [Give assistant your keys.]**

The assistant helper should rummage through the crate and then leave the room, ostensibly to get the other camera.

“Okay, while he’s doing that, so we don’t waste your time, let’s just go ahead and do some of the simulations without the camera for now. These will just be for practice while we see if we can get the camera working. Is that okay? We’re not going to keep you past how long we said you’d be here.”

Around when the Officer is finishing up the first block of simulations, the helper assistant should return ostensibly with a new camera (perhaps in a small box). When the Officer is done, the helper assistant should setup the supposedly new camera and place it back in its original position on the tripod.

Then the main assistant should say, **“Okay, we’ve actually got the camera working now, so we’re going to have you do a few more simulations while we record these. The first ones were just practice. The ones coming up, then, will be the ones where we record the video for the expert panel, okay? Sorry for the technical difficulties, but I think we’re good now.”**

Resume the simulations WITH the camera.

When the Officer finishes all the simulations, the main assistant should say, **“Okay at this point we’re done with the simulations and we’re going to unhook you from all the physiological equipment.”**

After the participant is unhooked and cleaned up, the main assistant should say, **“Okay...the last thing we’d like you to do is fill out this short post-study questionnaire.”**

Administer the questionnaire. If the participant doesn’t want to answer certain questions, that’s fine.

After the post-study questionnaire, ask the Officer if s/he has any questions. Then pay them and thank them profusely for their time and tell them that somebody will be in touch to do the debriefing once the study is all wrapped up.

Appendix D

PROTOCOL OUTLINE (FINAL)

Don't forget to bring cash and record transactions with Study ID #!

1. Setup and calibrate the Milo range system (display = 1024 x 768). Don't forget calibrate the screen (with the wand) and both guns.
2. Setup the EEG and ECG systems and recording PC.
3. Get out the Condition Assignment Sheet out, prepare a logbook entry, prepare the questionnaires, and put the Consent Document and prepared questionnaires on a clipboard.
4. Be mindful of the "Monitoring Manipulation" (camera first or NO camera first) and order of simulations.
5. Wait for the Officer.
6. Greet the Officer and ask if s/he is there to participate in the research study. Ensure that they aren't carrying any weapons.
7. Administer the Consent Document. Answer questions.
8. Measure the officer's head for the EEG cap.
9. Administer the Study Preparation Questionnaire and Handedness Inventory. Answer questions along the way.
10. Hook the officer up to the EEG and ECG equipment.
11. Have the Officer "zero" the pistol (to make sure the system is working).
12. Tell the Officer you're going to have them target shoot some steel plates to test the zeroing and do a "warm-up" before starting proceeding. For the steel plates, tell them to wait for the beep after the plates pop up to begin shooting. Troubleshoot any issues.

For **Monitoring = 1** sessions (**camera FIRST**):

The person running the MILO laptop should say the following: **“Okay, next we’d like to have you complete a series of scenarios similar to the warm-up scenario you just completed. As mentioned in the consent document, we will be using video recording equipment in this study. The video will be behind you and will be focused on the screen to capture each scenario as it unfolds. The video will be shown to a panel of law enforcement use-of-force experts who will collectively evaluate your decision-making during each scenario to help us better understand critical incident encounters. Are you ready to begin?”**

If the Officer has questions, ensure them that the camera is on the screen. If they wonder about who will see the video, ensure them that it won’t be KPD administrators. You might say **“I believe they are affiliated with OPOTA.”**

After the officer completes the first six scenarios, the person running the MILO laptop should say the following ***while another assistant is, in obvious fashion, physically removing the camera, tripod, and all***: **“That completes the first part of the study. For the next part, we’d like to have you complete several more scenarios that we are considering focusing on in future research. These scenarios will not be video-recorded but will provide us with useful information and give you an opportunity for additional practice. Are you ready to begin?”**

When the Officer finishes the last set of simulations, the person running the MILO laptop should say, **“Okay at this point we’re done with all the scenarios and we’re going to unhook you from all the physiological equipment.”**

After the participant is unhooked and cleaned up, an assistant should say, **“Okay...the last thing we’d like you to do is fill out this short post-study questionnaire.”**

Administer the questionnaire. If the participant doesn’t want to answer certain questions, that’s fine.

After the post-study questionnaire, ask the Officer if s/he has any questions. Then pay them and thank them profusely for their time and tell them that somebody will be in touch to do the debriefing once the study is all wrapped up. **We should also ask them to refrain speaking with others about the study so they have the same experience.**

For **Monitoring** = 2 sessions (**camera SECOND**):

The person running the MILO laptop should say the following: “**Okay, for the first part of the study we’d like to have you complete several more scenarios similar to the warm-up scenario you just completed. We are considering using these in future research. They will provide us with useful information and give you an opportunity for additional practice before we move on to the main part of the study. Are you ready to begin?**”

After the officer completes the first six scenarios, the person running the MILO laptop should say the following **while another assistant, in obvious fashion, is physically SETTING UP the camera, tripod, and all:** “**Okay, at this point we'd like to move on to the main part of the study and have you complete several more scenarios. For these we will be using video recording equipment, as mentioned in the consent document. The video will be behind you and will be focused on the screen to capture each scenario as it unfolds. The video will be shown to a panel of law enforcement use-of-force experts who will collectively evaluate your decision-making during each scenario to help us better understand critical incident encounters. Are you ready to begin?**”

If the Officer has questions, ensure them that the camera is on the screen. If they wonder about who will see the video, ensure them that it won't be KPD administrators. You might say “**I believe they are affiliated with OPOTA.**”

When the Officer finishes the last set of simulations, the person running the MILO laptop should say, “**Okay at this point we’re done with all the scenarios and we’re going to unhook you from all the physiological equipment.**”

After the participant is unhooked and cleaned up, the main assistant should say, “**Okay...the last thing we’d like you to do is fill out this short post-study questionnaire.**”

Administer the questionnaire. If the participant doesn't want to answer certain questions, that's fine.

After the post-study questionnaire, ask the Officer if s/he has any questions. Then pay them and thank them profusely for their time and tell them that somebody will be in touch to do the debriefing once the study is all wrapped up. **We should also ask them to refrain speaking with others about the study so they have the same experience.**

IMPORTANT: Back up all the MILO data.

Save and backup the OBS recordings and EEG/ECG data.

Break down and pack-up the simulator and our lab equipment at the end of the day.

Transport all paperwork and whatever equipment we need back to the lab. **Don't leave protocols lying around.**

Appendix E

CONDITION ASSIGNMENT FOR OFFICER SCENARIOS

The tables below illustrate how participants in the original study generated ID numbers to protect participants and also randomly assigned the sequence of their scenarios.

Session ID	Date	Time	Monitoring (1=camera first; 2=NO camera first)	BLOCK 1 (check off as completed)					BLOCK 2 (check off as completed)						
5503			2	2	6	8	10	3	12	5	9	4	1	11	7
1335			2	5	1	7	4	10	11	9	12	8	2	3	6
5642			1	9	11	8	3	5	7	1	2	12	6	4	10
1369			2	10	4	1	12	7	3	11	8	9	5	6	2
8485			2	10	7	6	5	11	4	12	8	9	3	1	2
8011			2	10	2	5	9	8	7	3	6	1	12	11	4
3143			1	5	3	8	9	7	10	1	12	6	2	4	11
4775			1	7	6	10	1	4	11	8	9	2	5	12	3
1127			1	4	3	5	12	6	11	2	7	8	1	9	10
8628			1	12	6	7	1	3	11	4	8	10	2	9	5
8506			1	10	2	5	6	12	3	1	7	8	9	11	4
5470			1	3	10	5	12	2	1	8	11	6	4	9	7
8946			2	11	5	12	8	4	7	2	3	9	6	10	1
5849			2	12	2	11	4	1	7	5	9	8	10	6	3
6972			2	5	11	4	12	6	3	10	9	2	7	8	1
5856			1	2	9	4	3	1	10	5	7	8	6	11	12
8987			1	5	8	10	2	9	4	7	1	3	6	12	11
6034			2	11	6	5	3	12	2	10	4	9	8	1	7
7945			1	6	5	7	3	12	11	9	4	1	8	10	2
6978			2	4	7	6	5	10	9	12	8	11	2	1	3
3194			1	11	2	8	1	10	6	3	12	4	5	7	9
8720			2	2	1	10	7	3	11	5	9	4	12	6	8
2667			2	7	5	10	12	2	1	11	4	9	3	6	8
6092			2	8	2	5	12	6	11	3	7	10	9	4	1
6528			1	6	4	9	12	3	1	2	7	11	10	5	8
1498			1	12	1	5	10	7	6	8	2	9	4	11	3
1157			1	7	5	4	8	12	9	1	10	6	3	11	2
1301			2	9	2	5	3	1	10	12	7	6	4	8	11
5454			2	2	3	6	9	1	10	5	7	8	4	12	11
2058			1	2	5	10	3	9	4	11	12	1	7	6	8
4965			2	9	4	10	5	7	2	8	6	12	3	1	11
7130			2	11	12	6	7	2	1	4	10	9	5	8	3
1849			2	8	10	12	2	3	1	11	7	4	6	5	9
3737			1	6	12	10	7	5	8	3	2	11	9	1	4
7224			1	10	2	6	11	4	8	5	1	7	12	9	3
2703			1	11	3	2	1	9	7	8	10	5	6	12	4
8159			2	12	11	8	7	2	3	4	5	6	9	1	10
3130			1	12	10	2	3	6	1	8	7	4	5	11	9
8387			2	11	5	1	12	2	8	6	4	3	9	10	7
5992			1	9	11	2	3	1	5	4	7	6	10	8	12

Appendix F

Simulation Key (grey shading indicates “don’t shoot” scenarios)

The warm-up scenario is “**Auto stop HD**” (DESCRIPTION: “You are backing up another officer who has just made a traffic stop on a green truck. When the scenario starts you’re going to see the other officer at the truck’s driver’s side door.”)

Simulation ID	Simulation Name (branches)
1	Child care center (pulls gun) DESCRIPTION: “You are responding to a loud dispute between a man and a woman outside the entrance to a child care center.”
2	Deadly assault with bat (walks away) DESCRIPTION: “You will see some text on the screen that explains this scenario.”
3	Domestic dispute 2 (baby hostage) DESCRIPTION: “You are responding to a domestic dispute.”
4	11 baby hostage DESCRIPTION: “You will see some text on the screen that explains this scenario.”
5	Lod ga car stop DESCRIPTION: “You are going to see some text on the screen that explains this scenario. The only thing I’ll add is that you are on a dead end road.”
6	Restaurant girl fight (Intro/) DESCRIPTION: “You are responding to a verbal fight at a bar.”
7	Second shooter as hostage DESCRIPTION: “You are responding to an active shooter call.”
8	Son with a gun DESCRIPTION: “You are the assisting detective with an arrest warrant for a white male in his 50s for fraud. He has no violent history. No concealed carry permit. No prior calls at this address. The man lives at the address with his son. You are in full patrol uniform.”
9	Active shooter-suspect in hall (turns fast with phone) DESCRIPTION: “You are responding to an active shooter in progress. <u>You should begin with your gun drawn.</u> ”
10	Car sleeper (comply)

	DESCRIPTION: "You are responding to a man slumped over at the wheel of his vehicle."
11	Domestic abuse call (reach into pocket; wallet) DESCRIPTION: "You are responding to a domestic violence call."
12	Suicidal woman 2 (comply) DESCRIPTION: "You are responding to a suicide in progress with a gun."

If an officer asks for more information for any scenario, simply say, "That's all the info you have at this time."

Appendix G



One University Plaza, Youngstown, Ohio 44555
Office of Research
330.941.2377

December 17, 2019

Attorney Patricia Wagner, Principal Investigator
Chief James Willock, Co-investigator
Officer Mike Pieton, Co-investigator
Mr. Michael Lewis, Co-investigator
Department of Criminal Justice & Forensic Science
UNIVERSITY

RE: HSRC PROTOCOL NUMBER: 064-2020
TITLE: Setting Cops Up for Failure: The Possible Implications of Police
Accountability through Body-Worn Cameras

Dear Dr. Wagner, et. al.:

The Institutional Review Board has reviewed the abovementioned protocol and determined that it meets the criteria of DHHS 45 CFR 46.104(d)(4)(iii) and therefore is exempt from full committee review and oversight. Your project is approved.

Any changes in your research activity should be promptly reported to the Institutional Review Board and may not be initiated without IRB approval except where necessary to eliminate hazard to human subjects. Any unanticipated problems involving risks to subjects should also be promptly reported to the IRB.

The IRB would like to extend its best wishes to you in the conduct of this study.

Sincerely,

~~XXXXXXXXXXXX~~

Dr. Severine Van Slambrouck
Director Research Services, Compliance and Initiatives
Authorized Institutional Official

SVS:cc

c: Dr. John Hazy, Chair
Department of Criminal Justice & Forensic Sciences