

Testing Hiring Standards, Training, and Compensation
as Predictors of Officer Use of Lethal Force

by
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In dedication to my parents, without whom I could not have made it through college.

Abstract

The existing body of research on police officer use of lethal force involving both armed and unarmed persons is sparse, capturing only a narrow aspect of these events (e.g., race dynamics) and lacking other factors (e.g., organizational variables). To address this, the present author conducted an archival study in which the following variables were collected: (a) state mandated officer training hours (e.g., de-escalation training), (b) minimum officer age and education requirements in each state, and (c) average officer salary by city and state. The author hypothesized that there would be a *negative correlation* between state-level variables and the number of officer-involved lethal shootings of both unarmed and armed persons. Analyses failed to support these predictions. Implications and directions for future research on officer use of lethal force are discussed.

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Introduction

In 2014, the shooting of Michael Brown occurred in Ferguson, Missouri, and captured the nation's attention. Although different groups have viewed police officers' use of lethal force in various ways (Carter & Corra, 2016), increased concern and interest have been expressed by the general public since Michael Brown's death, as evidenced by the increased news coverage that now surrounds fatal force occurrences. Unfortunately, this increased national attention has shed more heat than light onto the issue of officer use-of-force, and relatively little is known about the nature of these events. In 2015, former California Attorney General Kamala Harris was quoted by the *Washington Post*, saying that the state of information on police shootings is "...almost entirely reactive, a system influenced by anecdote and emotion." Former FBI Director James Comey also commented on current police use of force research, stating, "It is unacceptable that the *Washington Post* and the *Guardian* newspaper from the U.K. are becoming the lead source of information about violent encounters between police and civilians..." (Davis & Lowery, 2015). Indeed, the U.S. government had not systematically collected data on these incidents until the beginning of 2019, when the FBI began compiling a private database, housing variables related to officer use of fatal force. Prior to this, only a few sources—for example, the *Washington Post*—collected and reported specific lethal-use-of-force information (e.g., name, age, race, and sex of the deceased, etc.).

Equally problematic, current studies on this topic have largely focused on the role the deceased's race may have played in officer-citizen lethal outcomes (e.g., Smith & Holmes, 2014). For example, a study conducted by Brad Smith and Malcom Holmes in 2014 tested three different hypotheses regarding the relationship between

race/ethnicity and excessive force: the minority threat hypothesis, the place hypothesis, and the community accountability hypothesis.

The researchers examined excessive force directed toward minorities, specifically blacks and Hispanics, by collecting formal citizen complaints against police officers and then identifying variables within these complaints that pertained to the hypotheses previously mentioned. Smith and Holmes found that the minority threat hypothesis and the place hypothesis provided the best explanations for police use of excessive force on racial and ethnic minorities—essentially, that the aim of police violence was “to control minority populations perceived as menacing” (Smith & Holmes, 2014, p. 98).

A related line of inquiry focuses on the ways in which racial bias might influence rapid decision making. For example, in a study conducted by B. Keith Payne in 2006, participants were asked to identify whether an object shown to them was harmless or a gun. Prior to being shown the object, a black or white face was flashed in front of the participants. Half of the participants responded at their own pace; the other half had to respond within half a second. Payne found that participants who could respond to the object at their own pace were very accurate, though they identified guns more quickly if primed by seeing a black face first. Participants in the timed response condition were more likely to falsely claim seeing a gun when they had viewed a black face (Payne, 2006).

Other studies have found similar results and identified how these biases may influence an officer’s actions. One such example is a study conducted by Joshua Correll, Bernadette Park, Charles M. Judd, and Bernd Wittenbrink in 2002. The researchers

examined the effects of racial bias on “shoot/don’t shoot” scenarios. Forty participants were asked to play a videogame in which they were shown images of men holding objects. Participants were instructed to identify, as quickly as possible, whether the object was a gun or not, and to “shoot” (i.e., click a keyboard button labeled “shoot”) if they identified the object as a gun. If participants identified the object as harmless, they were told to click a button labeled “don’t shoot.” Correll et al. (2002) found significant evidence that participants “...fired at an armed target more quickly if he was African American than if he was White...” and that they “...decided not to shoot an unarmed White target more quickly than an unarmed African American target” (p. 1317). Furthermore, participants were more likely to mistakenly shoot unarmed targets if the target was African American than if the target was White (Correll, Park, Judd & Wittenbrink, 2002).

Although findings like these described above certainly help us better understand use of lethal force, one might wonder why race is at the heart of most research on this topic. One explanation is that Michael Brown’s death, as well as the publicized deaths of other Black citizens, has racially polarized the nation’s officer use-of-force attitudes (Carter & Corra, 2016). Indeed, since Brown’s death, similar fatalities have been responded to by race-conscious groups (e.g., Black Lives Matter). Thus, perhaps researchers have yet to examine a myriad of other, non-race factors that may affect officer use of lethal force, including situational variables (e.g., precise time and location of the events), sociological variables (e.g., population of the locations where the events occurred), and officer characteristics. This relatively narrow, race-based focus has failed to consider the complexity of such incidents, may help foster a “victim blaming”

perspective, and ultimately prevents us from developing more adequate insights designed to help prevent future deadly encounters.

To address this shortcoming, the present author conducted an archival study in which several non-race related variables were obtained for police use of lethal force incidents. Through a series of statistical analyses, the author examined whether such variables predicted how frequently, at a national level, officers employed deadly force against both unarmed and armed citizens in 2016. For various reasons, the identities of most officers involved in such incidents were withheld by authorities. As a result, the author was not able to collect information tied directly to the specific officers in question (e.g., their age, race, sex, etc.). Even for the relatively few incidents in which officer identities were known, measures related to on-the-job behavior were equally elusive, because law enforcement employment and performance records are generally considered private.

Due to these limiting factors, the present author collected and analyzed state-determined officer-related variables, focusing on state-mandated law enforcement hiring criteria, training standards, and financial compensation. Specifically, each state's minimum age to become an officer, minimum education requirement prior to being hired as an officer, minimum number of training hours required to become an officer, minimum number of firearms training hours, presence of mandatory de-escalation training, and average officer salary were obtained to determine whether one or more of these variables predicted how often lethal force had been used in 2016 by officers against both armed and unarmed citizens.

Methods

In 2015, the *Washington Post* began compiling data on officer use of lethal force and currently has an online database that includes all such incidents from the years 2015 through 2018, as well as a partial database of 2019 incidents (“Fatal Force”, n.d.). The database contains the date and the location of each incident, as well as information about the involved officer(s) (in some cases) and the deceased (in every case).

Information on the deceased includes the person’s sex, race, age, and manner of death. It also includes whether the deceased was armed, whether he or she displayed signs of mental illness, and whether the deceased was fleeing from the officer or not. As for information on the officer, the *Washington Post* indicates whether the officer involved was identified or not, and if there was a body camera in use. If the officer was identified, his or her name, as well as police department, are included.

The present study limited its scope to the 962 officer-use-of fatal force incidents that occurred in 2016. The 911 incidents involving armed victims spanned all 50 states, whereas the 51 instances in which the victim was unarmed was limited to 24 states. As an addition to the information contained in the *Washington Post’s* database, the present author obtained values for each of the following variables: minimum age required to become an officer, minimum education required to become an officer, minimum training hours required to become an officer, minimum firearms training hours required to become an officer, presence of de-escalation training in curriculum, and average salary of officers at the state level. Values for these additional variables were obtained through government websites, local police department websites, and other sources (e.g., local news websites, APEX). To access some documents, such as police basic training

curriculum, the present author contacted police officer standards and training commissions via email and telephone calls.

To determine whether the variables measured in this study predict officer use of lethal force, each was correlated with the number of officer-involved fatal shootings of unarmed and armed suspects in those states. Specifically, a correlation coefficient was calculated between the number of fatal shootings (of both armed and unarmed citizens) within each of the 50 U.S. states and (a) the number of state-mandated total officer training hours, (b) the number of state-mandated total firearms training hours, and (c) officer salary (state average). The present author also conducted one-way analyses of variance (ANOVAs) on the presence of de-escalation training and minimum education requirements for police officers in each state. Additionally, an independent samples t-test was performed on the number of lethal incidents, with state minimum age requirements as the grouping (i.e., independent) variable.

It seems logical to speculate that rigorous and comprehensive training, higher pay, and selective education and age requirements would generally serve to improve officers' ability to secure and maintain situational control without the use of lethal force, particularly in cases where suspects are not armed. Thus, the present author predicted there would be a negative relationship between officer use of lethal force and each of the variables entered into the correlation analyses. That is, as education requirements and officer salaries increase, the present author predicted that the frequency of officer use of deadly force would decrease. Furthermore, the present author hypothesized that de-escalation training and minimum education requirements would serve as predictors of use of lethal force, and that increases in both would lead to decreases in lethal force

events. Lastly, it was hypothesized that a higher age requirement would also be associated with a lower number of lethal force events.

Results

Upon gathering all necessary data from government agencies, websites, news sources, etc., the present author conducted a series of statistical analyses. Using Just Another Statistics Program (i.e. JASP, a statistics software), Pearson R correlation coefficients were calculated between the number of fatal shootings (of both armed and unarmed persons) within each of the 50 U.S. states and the number of (a) total training hours required by the state, (b) average officer salary by state, and (c) the hours of firearms training required by that state.

The present author found that there was no significant relationship between the total number of officer training hours required by a state and the number of fatal shootings of *armed* persons in that state, $r(42) = -0.01, p = 0.47$. Similarly, there was no significant relationship between the total number of officer training hours required by a state and the number of fatal shootings of *unarmed* persons, $r(42) = -0.07, p = 0.32$. Thus, in both instances, the null hypotheses were accepted and my hypotheses were rejected. Correlation coefficients were also calculated between the number of fatal shootings (of armed and unarmed citizens) and state-mandated hours of firearms training. Correlations between firearms training hours and lethal shooting of both *armed* persons ($r(40) = 0.01, p = 0.54$) and *unarmed* persons ($r(40) = -0.07, p = 0.30$) hovered near zero, and were not statistically significant.

Independent samples t-tests were conducted to determine whether fatal shootings of *armed* and *unarmed* persons differed as a function of states' minimum

age requirement. The present author found that states with an older age requirement (i.e., 21) had, on average, the same number of fatal shootings of *armed* persons ($M = 16, SD = 14$) as states with a younger requirement ($M = 24, SD = 32$), $t(48) = 1.32, p = .096$. In addition, although the predicted *direction* of the difference was observed, the number of fatal shootings of *unarmed* persons in states with an older minimum age requirement ($M = 0.89, SD = 1.43$) was comparable to the number in states with a younger minimum age requirement ($M = 1.33, SD = 2.38$), $t(48) = .82, p = .21$.

Analyses of variance (ANOVAs) were conducted on the number of lethal shootings using two grouping variables - state minimum education requirement and presence of de-escalation training. Analyses indicated that, as shown in Table 1, the number of *unarmed persons* fatally shot by police did not differ as a function of state minimum education requirements, $F(1, 48) = 0.13, p = 0.72$.

Table 1. Number of Unarmed Persons Shot as a Function of Minimum Education Requirements.

Min. Education	Mean	SD	N
Associates Degree	0.67	0.58	3
HS/GED	1.04	1.81	47

Similarly, as shown in Table 2, the number of *armed persons* fatally shot by police did not differ as a function of state minimum education requirements, $F(1, 48) = 0.46, p = .50$.

Table 2. Number of Armed Persons Shot as a Function of Minimum Education Requirements.

Min. Education	Mean	SD	N
Associates Degree	10.00	7.94	3
HS/GED	18.66	21.87	47

Finally, fatal shootings of unarmed (See Table 3) and armed (See Table 4) persons did not differ as a function of states' de-escalation training requirements, $F(2, 37) = 0.92, p = 0.41$, and $F(2, 37) = 1.56, p = .22$, respectively.

Table 3. Number of Fatally Shot Unarmed Persons as a Function of De-escalation Training.

De-escalation Training Status	Mean	SD	N
Mandatory Hours Set	2.33	4.04	3
Mentioned	0.80	0.45	5
Not mentioned	0.84	1.73	32

Table 4. Number of Fatally Shot Armed Persons as a Function of De-escalation Training.

De-escalation Status	Mean	SD	N
Mandatory Hours Set	40.00	30.51	3
Mentioned	13.20	11.08	5
Not mentioned	16.63	23.42	32

Discussion

Upon completion of data collection and analyses, the present author found that there were no significant links between officer-involved lethal shootings of either unarmed or armed persons in 2016 and (a) total training hours required by states, (b) a state's minimum education and age requirements, (c) the average officer salary in the state, (d) the hours of firearms training required by each state, and (e) the level of state-mandated de-escalation training. At least three broad explanations exist for why neither the number of training hours required by the state nor the presence of de-escalation training within the training curriculum predicted the frequency of lethal shootings.

First, there was an unexpectedly narrow range of possible de-escalation training scores across the 50 American states. As a result, de-escalation training could only be assigned one of three values: no mention of de-escalation in the curriculum, de-escalation mentioned within the curriculum, or mandatory hours for de-escalation training set. In fact, most of the training curricula obtained by the present author either

did not mention de-escalation within the curriculum or only mentioned de-escalation training (but did not have a concrete number of hours dedicated to the topic). This narrow range of possible de-escalation scores hampered the present author's ability to observe possible links with use of lethal force.

A second, very different explanation is that officer training fails to prepare officers for potentially deadly encounters because of *how* the curriculum is taught (rather than *what* is taught). Traditionally, cognitive psychologists have categorized information processing into two categories: Type 1 and Type 2 thinking (Varga & Hamburger, 2014). Type 1 information processing is "intuitive, automatic, effortless, and fast." For example, Type 1 processing would include reacting to a changing traffic light or reading a word presented to you on a page. In contrast, Type 2 processing is "reflective, deliberate, effortful, and slow." For example, Type 2 processing includes mentally choosing the best option from a menu or identifying a hidden item in a difficult visual search task.

It is possible that there is a mismatch in the type of processing engaged in during officer training and lethal use of force encounters. Specifically, with its reliance on textbooks, presentations, and formal testing, officer training likely engages Type 2 processing in police trainees rather than the type of processing (Type 1) officers engage in during actual, time-pressured, high stakes lethal force scenarios they encounter on the job. For example, in California's police training curriculum, the module dedicated to searches and seizures reviews knowledge that an officer should know in these situations (e.g., recognizing the conditions necessary to conduct a warrant-less search) and tests them on this information in a controlled environment.

Although there is nothing wrong with this training approach per se, it fails to address the unpredictability of many situations that officers may be faced with (e.g., someone suddenly becoming violent during a search). In these sudden and potentially dangerous situations, officers may not have the time necessary to recall classroom information before responding.

Though further investigation would be necessary to draw any concrete conclusions, it appears that many curricula fail to place officers in rapid-decision-making scenarios. While it is impossible to perfectly replicate a crisis, it may be beneficial to attempt to elicit Type 1 thinking in officers so that they can become better accustomed to working under such conditions. Perhaps this could be achieved by having officers participate in role play scenarios where they are suddenly confronted with unexpected behaviors, circumstances, etc. and must act.

A final explanation is that a “common sense” or “straight forward” approach to understanding the possible link between training and use of deadly force is not adequate. That is, although it may be intuitive to assume that problems within officer training result in increased use of lethal force, perhaps there is no connection because other factors are more influential. This view, unfortunately, calls into question the effectiveness of previous actions that have been taken in response to lethal force incidents. For example, this third account would suggest that the inclusion of bias-awareness training (e.g., after an officer-involved shooting of an unarmed Black person) may not be particularly effective in preventing future lethal force events if training in general is not linked to officers’ use of deadly force.

Another surprising result of the present study is the lack of predictive power salary seemingly has over the occurrence of lethal use of force events. The present data suggest there is no relationship between state police salaries and lethal shootings. Perhaps this is because average officer salaries were, for the most part, below a living wage necessary for that location. For instance, officers in Alabama are paid \$45,930 on average, but a living wage for the state is \$60,016. Despite Alabama being one of most affordable states to live in, officers located there still make \$14,086 below a livable wage (Anderson, 2019). The subpar officer salaries in most locations suggest that salary is not an incentive in police recruitment, and that states may in fact be failing to attract candidates who otherwise have strong earning potential.

Interestingly, a lack of adequate officer pay does not appear to be an issue for the U.S.'s northern neighbor, Canada. In most Canadian provinces, police officers are paid far more than their American counterparts. The lowest salary reported is C\$48,464, equivalent to \$34,110 U.S. dollars, for an entry-level constable (in the province of Prince Edward Island) (Keith, 2019). Salaries reported for other provinces exceed most of the average U.S. officer salaries, even when roughly calculating the differing strengths of the U.S. and Canadian dollar. Perhaps not surprisingly, Canadian officers perform in ways that are superior to their U.S. counterparts, at least when it comes to the use of deadly force. CBC News reported that from 2000-2017, there were only 461 incidents of police use of lethal force (Marcoux & Nicholson). This rate is significantly lower than the rate of police shootings in the United States (in 2016 alone, the *Washington Post* reported 962 instances of lethal force by U.S. officers). Even after controlling for differences in population size, Americans are roughly 400 percent more

likely to be killed by police than are Canadian citizens. As with all speculations previously mentioned, further investigation is necessary to come to any concrete conclusions.

When considering the failure to observe predicted associations in the present study, it is worth noting that several variables (i.e., de-escalation training, required age, required education level) were assessed as minimums mandated by states. The present author regards this as somewhat of a weakness in the present study. It is quite possible that many officer training academies exceeded these minimums. Similarly, officer age and officer education level may, in fact, vary widely from state to state. Thus, future research on this topic should assess such standards and training requirements more precisely. For example, it would be ideal to obtain the curricula of all U.S. training academies, or at least a representative sample of them. It would also be helpful to assess the actual mean age of cadets entering police academies across the nation (though barriers to accessing detailed trainee and officer data exist due to privacy laws). It is also worth pointing out that there were eight officer training curricula absent from the present dataset, though this was due to eight states failing to make those available to the public.

In what ways can the present study inform future research on lethal officer-involved shootings? Future investigations might focus on some of the tentative explanations proffered by the present author for the lack of findings outlined above. For example, it may be helpful to examine *how* officer training curricula are implemented rather than *what* information is being taught. Specifically, studies should investigate how information processing occurs in police officer training versus how it occurs in dangerous situations. Additionally, it could be beneficial to identify whether improved salaries (e.g.,

salaries that meet or exceed the minimum living wage of that location) would draw better candidates to the police officer career.

In conclusion, the present study presents the first of its kind—a systematic, data driven investigation into the possible role officer salary, selection, and training requirements play in the lethal shooting of armed and unarmed citizens. The variety of research directions available to future researchers, based on the results of the present study, represents one of the latter's benefits. That is, the greatest contribution of the present study is the questions that arise when trying to understand the lack of obtained predicted associations.

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