



# Police Use of Force: An Analysis of Factors that Affect Police Officer's Decision to Use Force on Suspects

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## Abstract

*The purpose of this study is to investigate the multivariate relationship between a selected number of demographic and behavioral factors that best predict the likelihood of police use of force on a suspect. Specifically, this study attempts to determine the amount of variation that can be explained in officer's decision to use force on suspects by taking into account factors that relate to the suspect (e.g., age, gender, race, and suspect's behavior) and factors that relate to the officer (e.g., age, gender, race, and years of service as a police officer). The analyses are based on a total of 882 recorded police-suspect incidents in the Metro-Dade Police Department, Florida, U.S.A. The findings of this study show that suspect's resistance during police-suspect encounters is the strongest predictor of police use of force, followed by suspect's passive non-physical behavior (calm vs. visibly upset). Additionally, this study shows that officer's years of service in the law enforcement is manifested with an increase in the likelihood of police use of force on suspects. Overall, this study shows that the largest amount of variation on police use of force is explained by suspect's behavioral factors.*

**Keywords:** Police use of force; suspect's behavior, suspect's resistance, police-suspect encounters..

## Introduction

Police use of force is a critical issue in every society that has many differing points of view on the issue. On one hand, there is a need for order and safety that is achieved through enforcement of our collection of laws. To a degree, the enforcement of laws is often accomplished through the use of reasonable physical force or threat of use of physical force when certain situations arise. In this aspect, the use of reasonable force is justified and in fact necessary. On the other hand, there is the obligation of law enforcement officials to use the correct amount and frequency of force as a means to an end of lawlessness. While the terms necessary and reasonable amount of force and frequency of use of force may be a subjective issue, there are other factors that affect the use of force that can be researched and defined more concretely. Focusing on the individuals involved in the instances of police force use, a profile can be accurately compiled, defined, and empirically tested to determine what are the characteristics of a typical law enforcement officer that is more likely to use force on the suspect, and the characteristics of a typical suspect or offender who would be subjected to police use of force.

**Officer-Related Variables:** Across the board in nearly all levels of police use of force, research shows that female law enforcement officers are less likely to use force than male officers<sup>1,2,3</sup>. Research further shows that female officers used less force in the face of equal resistance from the suspects<sup>1,4,5</sup>. One reason for this gender difference in the frequency and level of use of force proposed by Bazley et al.<sup>1</sup> is that females, by nature, are less prone to aggressive behaviors than males and

incorporate better communication skills that may diffuse an escalating situation. Another individual characteristic to consider when compiling this profile is the officer's age. Williams and Hoster's<sup>4</sup> research shows that of the three age groups they researched, the least likely to use force were cops under the age of 25 and those over the age of 36. That frequency increased between the ages of 26 to 35 years old; though not substantially. However, comparing younger officers (age 21 to 25) and older officers (age 36 or older), older officers were less likely to use force on the suspect<sup>4</sup>. In other words, overall, an increase in officer's age is manifested with a decrease on the likelihood of use of force on the suspect.

Officer's decision to use force on the suspect can also be explained by looking at the years of service and experience in law enforcement. Research indicates that officers with fewer years of experience are more likely to use force on the suspect<sup>6,7</sup>. Prior research shows that the newer an officer is to the department, the more likely he or she is to use force<sup>8</sup>. Controlling for the influence of experience and years of service on the force, the likelihood of police use of force occurrence during police-suspects encounter can also be linked to the number of officers present during a police-suspect encounter. Research shows that police use of force is more likely to occur when multiple officers are present during the encounter compared to a one-officer police-suspect encounter<sup>9</sup>.

In terms of officer's race, research shows that black officers are more likely to use force on suspects, including unjustified deadly force<sup>10</sup>. Also, Gau, Mosher, and Pratt's<sup>11</sup> study shows that white officers are less likely to use force on suspects.

However, other recent studies indicate that this conclusion is not universally supported. Contrary to Reiss's<sup>10</sup> study and Gau et al.'s<sup>11</sup> study, Williams and Hoster's<sup>4</sup> research shows that white officers are more likely to use force against suspects compared to black officers. Thus, the results of prior studies should be viewed with caution regarding the influence of officer's race on his or her decision to use force on suspects. In terms of officer-suspect race match, research shows that officers are more likely to use force against suspects of their own race<sup>12</sup>. For example, a white officer is more likely to use force against a white suspect than other races. It is noteworthy that Garner and Maxwell's<sup>12</sup> research also shows that the use of force was more frequently applied when the officer was black and the suspect was white, which deviates from the race-match profile expectation on the use of force.

A very serious but frequently ignored and under-estimated set of factors that have an influence on police use of force are psychosocial in nature (e.g., level of job-related stress, job satisfaction, job burnout, etc.). Research shows that officers who are exposed to job-related stress, those who show signs of job burnout, and those who are less satisfied with their job are more likely to use force on suspects than those who do not show the same psychosocial properties<sup>13</sup>. It is noteworthy that Manzoni and Eisner's<sup>13</sup> research findings were significant only at the bivariate analysis. Nonetheless, these variables should not be ignored.

**Suspect-Related Variables:** In regards to the characteristics of the suspects or targets of police use of force, some findings were significant and some were surprising but overall, they were very inconsistent. Despite much media focus and the responding public perception increase, race has been found to have a mixed significance in the use of force by an officer. Some researchers have found little or no relationship between suspect's race and police use of force<sup>14,15,16</sup>. On the other hand, there is a large number of research studies that indicate race plays a role on officer's decision to use force on the suspect. Studies that have found a relationship between suspect's race and police use of force show that police are more likely to use force against African Americans and other minority suspects compared to white suspects<sup>11,17,9,7</sup>. The more significant and one of the few undisputed influencing factors on police use of force is suspect's gender. Research shows that male suspects were much more likely to have force used against them during a police-suspect encounter than female suspects<sup>11,18</sup>. Another factor is the suspect's age in which some studies proposed that a younger suspect is more likely to receive some form of police force than an older suspect<sup>19,16,17,9</sup>. Typically, offender's physical traits (e.g., height, weight, muscularity, perceived strength, etc.) are also taken into consideration when a level of force is decided used or not used by a law enforcement officer. If the suspect is not able to be handled safely with the appropriate level of force, an officer is trained not to initiate the force until the situation is leveled by either the arrival of additional officers or a level of cooperation from the suspect.

The two most likely characteristics of the suspect that will determine the level of force or likelihood of police use of force is a suspect's behavior (e.g., assaultive behavior or being visibly upset) and a suspect's level of resistance during a police-suspect encounter<sup>11,1</sup>. Research shows that disrespect towards the engaged officer increased the chances of force being used during the encounter. Likewise, resistance to force began the eventual escalation through the continuum level of force by which most police departments train on and use<sup>9</sup>. Moreover, research shows that police officers were more likely to use force on suspects who presented some level of resistance during police-suspect encounter<sup>11,14,12</sup> or were impaired under the influence of alcohol or drugs<sup>6</sup>.

In summary, the profile of a typical suspect against whom police are more likely to use force is less definite or polished. Some of the suspect's typical attributes researchers agree upon include the following: the suspect most likely will be male, intoxicated and behaving disrespectful during an encounter with the police and increasingly resistant while police attempt to use force to control the situation.

**The Present Study:** This research overall attempts to answer the following research question: what factors best predict the likelihood that police officers would use force on a suspect? The first objective of this study is to determine what demographic and behavioral factors that relate to the suspects would significantly influence police officer's decision to use force on the suspect. Factors related to the suspect tested in this study include age, gender, race, and suspect's behavior. The second objective of this study is to determine what demographic factors that relate to the police officer would significantly influence officer's decision to use force on the suspect. Factors related to the police officers tested in this study include age, gender, race, and years of service in law enforcement.

## Methodology

The dependent variable or the outcome variable of interest in this study is police use of force on suspects. The dependent variable was re-coded as a "yes/no" dichotomous indicator of police use of force on suspects. The official records that showed the police officer(s) did not use force on suspect(s) were classified as "no force was used" (coded = 0). On the other hand, records that showed police officer(s) used minimum force, equal force as the suspect, or forcibly subdued the suspect, were collapsed into one category and were classified as "yes force was used" (coded = 1). The binary nature of the dependent variable in this study necessitated the use of multiple logistic regression models to analyze whether the likelihood of police officer's decision to use force on the suspect relates to a selected number of demographic and behavioral variables of the suspects and a selected number of demographic variables of police officers.

The independent variables or the predictors in this study are 1) demographic factors related to the suspect (e.g., age, gender, and

race); 2) suspect's behavioral factors (e.g., calm vs. agitated, suspect impaired either on drugs or under the influence of alcohol, and suspect's level of physical resistance during the police-suspect encounter); and 3) demographic factors related to the officers (e.g., age, gender, race, and years of service as a police officer). Four hierarchical logistic models were used to determine the likelihood of officer's decision to use force on a suspect. The purpose of using hierarchical logistic models was to enter similar groups of variables in blocks, allowing us to see which group of variables is the best in predicting officer's decision to use force on a suspect.

All categorical variables in this study were re-coded. Suspect's race and officer's race were converted into dummy variables (0 and 1) with whites being the reference category. Suspect's behavioral factors (e.g., impairment, behavior during police-suspect encounter, and resistance) were also converted into dummy variables with binary response categories (Yes, coded 1 and No, coded 0). Impairment variable had six categories (e.g., suspects under the influence of alcohol, suspects under the influence of cocaine, etc.). Five categories were collapsed into one, which was then classified as "Suspect impaired" coded 1, otherwise coded 0. The behavior of the suspect during police-suspect encounter, as reported and recorded by the police, had five categories. Four categories (e.g., suspect visibly upset, suspect erratic, suspect highly agitated, etc.) were collapsed into one category classified as "Suspect visibly upset" coded 1, otherwise coded 0. Suspect's resistance had six categories. Five of them were collapsed into one category (e.g., from suspect attempting to flee the scene, resisting arrest, to assaulting officer), coded 1, no resistance was coded 0. The age of suspects and police officers were measured in years. Also the years of service in law enforcement was measured in years.

**Data Source:** This study drew from the data that were released to the public in 2011 by the ICPSR. The data were originally gathered by Geoffrey P. Alpert and Roger G. Dunham from official Metro-Dade Police Department Control of Persons Reports, Florida, from 1993 to 1995. The data that are analyzed in this study focus primarily on police use of force in Metro-Dade, Florida. These are administrative data that were stored on computerized information databases. The data originated from the information that was reported by police supervisors after talking to the officers, suspects, and available witnesses for each reported/recorded incident in Metro-Dade, Florida, for a period of two years. The analyses are based on a total of 882 recorded police-suspect incidents.

## Results and Discussion

Table 1 provides descriptive statistics of the suspects and police officers for the 882 recorded police-suspect encounters that were analyzed in this study. The age distribution of the suspects in these data ranged from 12 to 90 years old. The average age of the suspects was 32 years old (SD = 18.67). Among the suspects,

17% were Whites, 44% Blacks, and 33% Latinos. In terms of gender, 85% of the suspects were males and approximately 10% were females. The racial composition of police officers, on the other hand, was different compared to the racial composition of the suspects. Table 1 shows that 52% of officers were Whites, about 13% Blacks, and 30% Latinos. The age distribution of police officers ranged from 20 to 64 years old. The average age for the police officers was approximately 33 years old (SD = 7.99). About 86% of officers were males and 11% females. The average number of years of service in law enforcement was about 9 years (SD = 6.27), and they ranged from 1 to 32 years of service.

Hierarchical logistic regression was used to assess the impact of a number of factors on the likelihood that police officers would use force on the suspects. The full model containing all predictors as control variables plus the years of service was statistically significant,  $\chi^2 (12, N = 882) = 72.818, p < .001$ , indicating that the model was able to distinguish between those who reported police use of force and those who did not report police use of force on suspects. The model as a whole explained between 9% (Cox and Snell R squared) and 31.5% (Nagelkerke R squared) of the variance in the officer's decision to use force on the suspect, and correctly classified approximately 96% of the cases. It is noteworthy that of the four models (Table 2), Model 2 included a group of predictors with the best prediction power, explaining between 7% (Cox and Snell R squared) and 23% (Nagelkerke R squared) of the variance in the officer's decision to use force on the suspect (see R-squared change, Table 2).

As shown in Table 2, only five of the independent variables made a unique statistical contribution to the model (suspect's age, suspect's race – being Latino, suspect's behavior and resistance, and police officer's years of service in law enforcement). The strongest predictor of police use of force was suspect's resistance during a police-suspect encounter, recording an odds ratio of 14.02. This indicates that police officers were 14 times more likely to use force on the suspect (s) if the suspect resisted during the police-suspect encounter, all other factors being equal. The second strongest predictor of police use of force on the suspect was suspect's behavior (calm vs. visibly upset). The odds ratio for suspect's behavior was 2.09, indicating that police officers were two times more likely to use force on the suspect if the suspect became visibly upset compared to staying calm. The results in Table 2 indicate that impairment does not significantly increase the odds of using force on suspects (odds ratio = .822;  $p = .660$ ).

The third strongest predictor in this model was officer's years of service in the force. The odds ratio for the year of service in the force was 1.16. This indicates that the odds of police use of force on suspects increased by a factor of 1.16 for each additional year of service in the force. In other words, the odds of police use of force increased by 16% for each unit increase in the years of service, holding all other variables in the model constant.

**Table-1**  
**Descriptive Statistics for the Participants**

Variables	Frequency	Percentage	
<i>Suspect's Gender</i>			
Males	755	85.6	
Females	94	10.7	
Missing data	33	3.7	
<i>Suspect's Race</i>			
Whites	150	17.0	
Blacks	391	44.3	
Latino	295	33.4	
Missing data	46	5.2	
<i>Officer's Gender</i>			
Males	764	86.6	
Females	97	11.0	
Missing data	21	2.4	
<i>Officer's Race</i>			
Whites	460	52.2	
Blacks	116	13.2	
Latino	266	30.2	
Missing data	40	4.5	
Variables	Range	Mean	SD
Suspect's Age	12 to 90	32.21	18.67
Officer's Age	20 to 64	33.66	7.99
Years of Service	1 to 32	9.27	6.27

**Table-2**  
**Hierarchical Multiple Logistic Regressions Predicting Officer's Use of Force on the Suspect (N=882)**

Hierarchical Steps		$\beta$	S.E	Wald	df	p	Exp( $\beta$ )
<b>Model 1</b>	Age (S)	-.026	.013	3.824	1	.049	.975
	Gender (S)	.470	.509	.853	1	.356	1.600
	Black (S)	-1.302	.773	2.838	1	.092	.272
	Latino (S)	-1.419	.772	3.379	1	.046	.242
	Constant	4.742	.961	24.331	1	.000	114.654
<b>Model 2</b>	Impaired (S)	-.196	.445	.194	1	.660	.822
	Behavior (S)	.739	.443	2.779	1	.036	2.093
	Resistance (S)	2.640	.436	36.748	1	.000	14.020
	Constant	2.287	1.108	4.262	1	.000	9.847
<b>Model 3</b>	Age (O)	-.029	.025	1.369	1	.242	.971
	Gender (O)	.727	.603	1.450	1	.228	2.068
	Black (O)	.170	.711	.057	1	.811	1.185
	Latino (O)	-.543	.438	1.542	1	.214	.581
	Constant	2.891	1.466	3.888	1	.048	18.003
<b>Model 4</b>	Years of Service	.148	.061	5.810	1	.016	1.160
	Constant	4.115	1.522	7.312	1	.007	61.241
<b>Model 1</b>		<b>Model 2</b>		<b>Model 3</b>		<b>Model 4</b>	
Cox and Snell Nagelkerke		Cox and Snell Nagelkerke		Cox and Snell Nagelkerke		Cox and Snell Nagelkerke	
<b>R<sup>2</sup></b>	.011 .037	.078 .272		.083 .289		.090 .315	
<b><math>\Delta R^2</math></b>	---- ----	.067 .235		.005 .017		.007 .026	

Notes: Dependent Variable = police use of force on suspects. Age (S) = Suspect's age. Age (O) = Police officer's age. (S) represents the suspects; (O) represents officers.  $\Delta R^2$  = R-squared change.

Other predictors that made a significant contribution to the model were suspect's age and suspect's race (being Latino). The odds ratio for the suspect's age was .975. This indicates that as the suspect's age increases, the odds of a police officer's use of

force against the suspect decreases by a factor of .975, holding age, gender, and race constant. In other words, a unit change in suspect's age, measured in years, yielded a 2.5% decrease in the odds of police use of force against him or her. The predictor Latino recorded an odds ratio of .242. This suggests that the odds of police use of force against a Latino suspect decreased by a factor of .242, holding age, and gender constant.

## Conclusion

The purpose of this study was to determine what factors best predict the likelihood of police use of force on suspects during police-suspect encounters. The logistic model employed in this study explained about 32% of the variance in officer's decision to use force on the suspect, and correctly classified 96% of the cases. The analysis of this 12-variable model shows that only five of them were statistically significant in predicting police use of force on suspects. The twelve predictors were grouped and entered into four hierarchical steps. Suspect's demographic variables (e.g., age, gender, and race) were grouped and entered in step one. Suspect's behavioral variables (e.g., suspect impaired, suspect calm vs. visibly upset, and resistance used during the police-suspect encounter) were grouped and entered in step two. Officer's demographic variables (e.g., age, gender, and race) were entered in step three. Finally, officer's years of service in law enforcement, as an independent variable, was entered in step four.

The key finding in this study is the strong impact of suspect's resistance on the outcome variable. Consistent with most prior research studies<sup>14,11,12</sup>, the analysis shows that suspect's resistance during police-suspect encounter increased the odds of police use of force by a factor of 14.02. In other words, police officers were 14 times more likely to use force on a suspect who resisted compared to suspects who did not resist during police-suspect encounters.

While some researchers have concluded there is little or no relationship between suspect's race and police use of force<sup>14,15,16</sup>, a large body of literature suggests that suspect's race is a contributing factor in predicting police use of force. In other words, police officers are more likely to use force against African Americans and other minorities than Whites<sup>11,17,9,7</sup>. This conclusion is not supported in this study. By contrary, this study shows that being a Latino suspect; it decreases the likelihood of police use of force. Being black African American also decreased the likelihood of police use of force. However, this finding was statistically significant only for Latino suspects. Furthermore, contrary to prior research, which indicates that officers with less work experience or fewer years of service on the force are more likely to use force on suspect<sup>6,4,7</sup>, the current study shows that officers with more experience are in fact more likely to use force on suspects. Adding each additional year of service in law enforcement increased the likelihood of police use of force on suspects by a factor of 1.16, controlling for all other variables in the model.

In terms of the influence of officer's gender on police use of force, prior research shows that male officers are more likely to use force on suspects compared to female counterparts<sup>1,2,3,20</sup>. The analyses of this study concur with prior studies regarding gender influence on officer's decision to use force. However, the results were statistically insignificant. The influence of officer's race on his or her decision to use force on the suspect was also statistically insignificant in this study.

Although not substantially a good predictor, suspect's age was a statistically significant factor in determining the police use of force on the suspect. Consistent with prior studies<sup>19,16,17</sup>, police officers were less likely to use force against older suspects. Needless to say, suspect's age did not have a substantial influence on police use of force in this study compared to other significant variables in the model (e.g., suspect's resistance, or suspect's behavior, calm vs. visibly upset).

As with any other research studies, this study has its limitations. The results of this study should be viewed in the context of the following limitations: i. the data were self-reports of police officers. Therefore, the information on police reports may have been inflated by the police officers in an attempt to justify the use of force on suspects. ii. The data do not speak on behalf of the suspect. The police supervisors who recorded the reports that were analyzed in this study, do not tell the story from the suspect's perspective. They have recorded the data from police officers' point of view. iii. Female officers may have perceived suspect's behavior more threatening than male police officers. Thus, the police use of force in terms of gender influence may have some inaccuracies in reporting incidents. iv. It is noteworthy that the dependent variable in this study was re-coded dichotomously. The analyses were limited to an outcome of "yes" force was used, and "no" force was not used on the suspect(s). The analyses did not measure the outcome based on the continuum level of police use of force. In other words, this study does not address or analyze the likelihood of police use of "minimal force," "equal force as the suspect," or "more force than the suspect" based on the individual influence of the twelve variables that were included in the logistic model. The continuum level of force categories were collapsed into one category, classified as "yes" force was used, and "no" otherwise. v. The type of suspect's resistance (e.g., physical with no weapons, use of firearms, knives, or any other method of resistance) and the corresponding level of force used by the officer during police-citizen encounters were not analyzed in this study, as they were not the objectives of this study. Perhaps future research can fill the gaps identified above on this list of limitations.

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