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Furthering Women in Policing: How a Police Department's Duty Firearm Selection Process May

Mitigate the Gender Disparity in Marksmanship

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Abstract

Previous research has revealed that there are several benefits to increasing the representation of women in law enforcement, including less use of force, increased community trust, and better outcomes for domestic violence and sexual assault victims. While many police departments now recognize these benefits and are aiming to recruit more women, a problem persists because women are less likely to graduate from police academies than their male counterparts. A significant difference has been observed in the area of marksmanship, particularly, with more female recruits failing to meet firearm scoring standards. Currently, very little is known about how police departments select a duty firearm. However, selecting a firearm that better serves both female and male officers may be one potential way to mitigate the gender disparity that exists in marksmanship scoring. This study analyzed how marksmanship scores changed in one municipal police department following a new firearm selection process in which both male and female officers were able to provide input on possible duty firearm options. Results showed that while there was still a gender disparity in marksmanship scoring following the adoption of the new firearm, the disparity was significantly smaller than before. These findings suggest police departments may be able to increase the number of female recruits and officers they retain by choosing a duty firearm that both women and men feel comfortable with using.

Key Terms: Criminology, Law Enforcement, Police, Gender Representation, Firearms

Furthering Women in Policing: How a Police Department's Duty Firearm Selection Process May Mitigate the Gender Disparity in Marksmanship

Despite increasing calls for police departments to diversify in recent years, many departments have continued to struggle to successfully recruit and retain women as police officers. While it is assumed that not all police recruits will complete the academy, a concerning pattern has been observed showing that female recruits are disproportionately likely to fail out of or voluntarily leave law enforcement academies compared to male recruits (Buehler, 2021), further hindering departments' attempts at increasing female representation. One area of academy instruction where a significant gender difference has been observed is marksmanship, with more female recruits failing out due to their inability to pass firearms testing requirements than male recruits (Buehler, 2021). The gender disparity in academy failure rate by marksmanship is larger than that for failure rate based on physical standards, academics, or driving requirements (Buehler, 2021). The aim of this paper is to examine whether changing the method by which a police department selects a duty firearm can decrease the marksmanship scoring disparity between male and female officers, thereby offering a potential modification to increase the number of female recruits and officers that a department retains.

Factors influencing marksmanship

Studies of police recruits and officers have consistently shown that women score somewhat lower on firearms qualification exams than men (Moore et al., 1992; Anderson & Plecas, 2000; Copay & Charles, 2001; Charles & Copay, 2003; Kennedy, 2009). This difference in males' and females' marksmanship scores may result from a sex difference in grip strength, as Copay and Charles (2001) found that after controlling for grip strength, sex was no longer a significant predictor of marksmanship scores. A fair amount of research has suggested that grip

strength is one of the key factors affecting marksmanship, with more accurate marksmanship ability correlating with stronger grip strength (Kennedy, 2009; Rodd et al., 2010; Kayihan et al., 2013; Orr et al., 2017). Still, the exact relationship between grip strength and marksmanship ability remains somewhat unclear, as other studies have found that grip strength is only correlated with marksmanship score when males and females are analyzed together and is no longer a significant factor when they are analyzed separately (Anderson & Plecas, 2000). Nonetheless, there is reason to believe that women having a lower grip strength than males on average may be limiting female police recruits' marksmanship scores. One approach to address this issue is to have recruits improve their grip strength with proper training, as Rodd et al. (2010) observed that grip strength increased significantly among a sample of police recruits after completion of the academy.

Research on police marksmanship ability has yet to consistently identify any statistically significant biological factors other than grip strength that might explain females' lower scores in marksmanship. Some studies have found other variables which may be related to marksmanship scores include hand length, trigger finger length, and bench press, though all lose their significance once male and female recruits are analyzed separately (Moore et al., 1992; Anderson & Plecas, 2000). In a sample of only males, Kayihan et al. (2013) found that age, height, and BMI do not appear to be related to shooting accuracy.

Currently, a sex difference in grip strength appears to be the best explanation for why male and female recruits' have significantly different scores on firearms qualification exams. While academy firearms training does significantly improve marksmanship scores for both male and female recruits, female recruits' scores remain lower than those of male recruits (Charles & Copay, 2003). Again, this is a problem that manifests itself in the fact that significantly more

women fail out of police academies due to an inability to pass firearms qualifications than do men (Buehler, 2021). Addressing this disparity is important given the relatively low representation of women in law enforcement that persists today, despite the well-established benefits of having more female officers.

Women in policing

Women's entrance into the law enforcement field is a relatively recent phenomenon. Some of the earliest examples of women working as police officers in the United States occurred in the early 1900s, though they were typically relegated to specific tasks such as assisting on cases involving women or children as victims (Koenig, 1978). Following the feminist movement of the 1960s and Congress's 1972 amendment to Title VII prohibiting employment discrimination based on sex, women began to enter law enforcement in more significant numbers during the 1970s, often having to overcome significant barriers in order to do so (Koenig, 1978).

In recent years, the proportion of women in law enforcement in the United States has continued to increase, reaching approximately 12% in 2007 (Reaves, 2015). However, this proportion has remained stagnant with numbers still around only 12-13% today (Reaves, 2015; Hyland & Davis, 2019). The proportion of female officers is typically higher in larger cities, but generally remains below 1 in 5 (Prenzler & Sinclair, 2013). Female representation declines even more as rank increases. As of 2016, women accounted for approximately 10% of first-line supervisors (sergeants or equivalent) in local police departments and approximately 8% of intermediate supervisors (those between sergeant and chief, including lieutenants, captains, etc.) (Hyland & Davis, 2019). Only about 3% of local police chiefs are female (Hyland & Davis, 2019).

The fact that the proportion of women in policing remains this low is a substantial issue for both law enforcement organizations and the communities they serve. Prior research has shown that increasing the number of women in law enforcement can bring numerous benefits. For example, studies show that female officers use less force on average than male officers (Schuck & Rabe-Hemp, 2005; Rabe-Hemp, 2008; Ba et al., 2021). More specifically, female officers are also less likely to use deadly force than are male officers (McElvain & Kposowa, 2008). Increasing the proportion of female officers in a department could therefore decrease the use of force overall and improve police relations within a community. Research has also shown that the presence of female officers reduces public concerns about corruption within police departments (Barnes et al., 2017), offering another potential way to restore community trust in the police.

Another community relations-focused benefit to hiring more women as police officers stems from the fact that female officers receive fewer complaints from citizens than do male officers (Lersch, 1998; Brandl et al., 2001; Porter & Prenzler, 2017). This disparity in citizen complaints may be partially explained by the previously discussed findings suggesting that female officers use less force. Another possible explanation is that female police officers may employ more effective communication styles during interactions with citizens, an idea supported by Braithwaite and Brewer's (1997) observation that male officers tend to use coercive or controlling tactics more frequently than female officers. Given that female officers receive fewer complaints, they are also less likely to be implicated in civil lawsuits against police departments (Bergman et al., 2016).

Finally, another reason why police departments would benefit from hiring more women as officers is the influence that their presence can have on sexual assault and domestic violence

case outcomes. Police departments with higher proportions of female officers see both increased reporting of sexual assault cases and a greater number of subsequent arrests in sexual assault cases (Meier & Nicholson-Crotty, 2006; Schuck, 2018). A similar pattern has been observed for domestic violence cases, with reporting of domestic violence against women increasing as the number of female officers in an area increases (Miller & Segal, 2019). These findings suggest that victims in these cases may feel more comfortable reporting to female officers or investigators, a particularly promising outcome given that both domestic violence and sexual assault are known to be significantly underreported to law enforcement (Reaves, 2017; Morgan & Kena, 2018).

Clearly, there are a multitude of benefits to increasing the presence of women in law enforcement, so why have most departments failed to make substantial ground toward doing so? There are a number of challenges that make it difficult to successfully recruit and retain women as police officers. On the recruitment side, law enforcement still has a heavily male-dominated culture (Cordner & Cordner, 2011), likely causing some women to feel like police departments are not a safe and comfortable place to work. More specifically, concerns about gender discrimination do appear to be a substantial factor in limiting the recruitment of women into law enforcement. Surveys done with undergraduate students taking criminal justice courses have found that female students believe that female police officers receive less respect than male officers, both from the communities they serve and from their fellow officers (Cambareri & Kuhns, 2018). The same study also found that female students reported believing that female officers generally have less opportunity for career advancement than do male officers (Cambareri & Kuhns, 2018). A study asking current police officers about the concerns they had before applying for their jobs found significant gender differences with more female officers reporting

they had concerns about the physical nature of the job, being taken seriously by their peers and supervisors, being accepted by coworkers, and experiencing discrimination in the work environment (Clinkinbeard et al., 2021).

In addition to these challenges for recruiting women into policing, there are also several challenges that can make it difficult to successfully retain female officers once they are hired. Experiencing gender discrimination in the workplace is a commonly reported reason for why female officers left policing shortly after beginning their law enforcement careers (Haarr, 2005). Female police officers also commonly report feeling they must work harder than their male colleagues in order to prove themselves (Archbold & Schulz, 2008). While having the opportunity to seek career advancement through promotion seems like it should be one way to improve retention rates for female officers, some female officers actually report feeling dissuaded to participate in the promotion process despite encouragement from their male supervisors, largely because they fear that they would be promoted solely on the basis of their gender (Archbold & Schulz, 2008).

Despite these concerns, there is reason to be optimistic that changes to police culture may result in increasing the number of women on the force. For example, a recent study involving college students as participants found that while male students do generally report more interest in policing as a career, a substantial number of female students also express some interest in becoming a police officer (Diaz & Nuño, 2021). Certain department-level factors have been found to be associated with greater female representation, including having higher education requirements for hiring, having CALEA accreditation (Commission on Accreditation for Law Enforcement Agencies), emphasizing community policing, and serving more racially and ethnically diverse communities (Schuck, 2014). In general, women's motivations for becoming

police officers are similar to men's, though women are more likely to specifically cite a desire to help people in their community (Clinkinbeard et al., 2021).

In recognition of the importance of increasing female representation in policing, many departments have signed on to a recent initiative known as 30x30, the aim of which is for police departments to increase their proportion of female recruits to 30% by the year 2030 (30x30, 2021). Currently, more than one hundred departments have signed the pledge, and 30x30 is actively seeking more agencies to participate (30x30, 2021). The department sampled for the present study – the Lincoln (NE) Police Department – was one of the earlier agencies to sign on to this initiative, having done so in March of 2021 (LPD, 2021).

Firearms Selection Process

Since the disproportionate rate of female recruits' academy failure due to marksmanship scores is well-established, it is worth evaluating whether an improved process for selecting a police department's duty firearm could result in an increase in female recruits' and officers' scores so that they are more similar to that of males. It is important to note that not all law enforcement agencies have a standardized firearm, with some instead choosing to allow their officers to select and supply their own, but it is generally accepted that the benefits of firearm standardization greatly outweigh the possible downsides (Johnson, 2011). This is especially true for larger departments. Some of the benefits to selecting a standardized firearm include officer safety, simplification of the training process, reduction in agency liability, and cost-efficiency in purchasing ammunition (Cordero, 2016).

At present, the process by which police departments select a particular duty firearm has largely been ignored. Some factors that departments do take into consideration when selecting a duty firearm include weapon size, caliber, magazine capacity, and required care and maintenance

(Kaestle & Buehler, 2005), as well as the obvious factor of the overall cost to maintain. Additionally, departments need to be sure to select a firearm that all officers can comfortably use regardless of differences in hand size (Cordero, 2016). A failure to do so would likely exacerbate the existing gender disparity in marksmanship scoring by overlooking both grip strength and hand size variety, a fact that offers a possible explanation for why traditional methods of selecting a duty firearm have typically failed to address the gender scoring disparity.

The following analysis will examine how using a data-driven method for selecting a police department's duty firearm may influence marksmanship scoring as it relates to officer gender. The firearm selection method analyzed in this project involved a new procedure that the Lincoln Police adopted in 2018. The analyses reported here compare marksmanship outcomes before and after the LPD's adopted a new selection procedure to replace the one that department traditionally used. The new selection procedure resulted from the LPD assembling a committee of officers, including both general officers and SWAT team officers, to test and rate a variety of potential firearm choices (LPD, 2018). Committee members evaluated each of the firearms based on six categories: comfort and adaptability, ease of use, accuracy, weighting and general feel, disassembly and maintenance, and durability, resulting in a standardized, numerical rating for each firearm (LPD, 2018). They also developed a 24-round course of fire to test each firearm and assess its scoring accuracy (LPD, 2018). From there, the three firearms that were highest for scoring accuracy and committee members' ratings were selected to be included for final consideration (LPD, 2018). The differences in the accuracy and rating scores for each of these final three firearms were relatively minor, so the committee made the final firearm selection based on a group discussion and vote (LPD, 2018).

Hypotheses

1. Both male officers' and female officers' marksmanship scores will have shown improvement following the adoption of a new duty firearm using the new firearm selection process as compared to the traditional selection approach.
2. The gender disparity in marksmanship scores will have become smaller following the adoption of a new duty firearm using the new firearm selection process.

Methods

Participants

The data used for this analysis consists of marksmanship scores from 618 police officers. The marksmanship scores used were obtained between the years of 2002-2005 and 2016-2019. The 2002-2005 scores followed the traditional selection process, while the 2016-2019 scores followed the "new" data driven procedure. Officers are required to complete marksmanship testing annually in order to qualify for firearms. All participants were employed as officers with the Lincoln Police Department (LPD) at the time of their testing. The Lincoln Police Department is a municipal law enforcement agency serving a mid-sized city in the state of Nebraska. The gender breakdown of the sampled officers in 2002 was 84% men and 16% women (Figure 1). The racial and ethnic breakdown of the sampled officers in 2002 was 92.9% White, 2.9% Hispanic, 1.6% Black, 1.6% Asian American, 0.6% Native American, and 0.3% other (Figure 2). The participants' mean age at each individual testing year is between 36 and 39 years old with an overall range of 20 to 69 years old. The participants' mean years of experience with LPD at each individual testing year is between approximately 12 to 14 years with an overall range of 0 to 50 years. Figures 3 through 10 show the demographic breakdown of officer gender, age, and experience during both the 2002-2005 selection procedure and the 2016-2018 selection procedure.

Materials

Officers' marksmanship scores are obtained by calculating the number of shots that strike the correct portion of the shooting targets out of the total number of shots taken (50). To successfully qualify under LPD's standards, officers must score at least an 80 percent on the course (LPD, 2017).

Procedure

The Lincoln Police Department tests each officer's proficiency with their assigned handgun by using the Nebraska State Qualification Course as required by state statute. Officers complete a five-stage course where they shoot a total of 50 rounds at two standard FBI Q targets from various distances, firing rounds from both a standing and a kneeling position at different points during the course. Rounds must be successfully fired in under a set amount of time for each stage of the course. Officers are required to qualify for firearms under these standards annually.

Firearms training is typically a significant portion of overall law enforcement academy training in the United States. The average academy instruction time for firearms skills nationwide is around 73 hours as of 2018 (Buehler, 2021). The average length of law enforcement academy training overall is approximately 833 hours (Buehler, 2021). The Lincoln Police Department's academy training is in line with this average, comprising of approximately 800 hours of training over 22 weeks (LPD, n.d.). Following academy graduation, recruit officers complete another round of training known as field training where they are paired with senior officers while on patrol. For LPD, field training lasts approximately five months (LPD, n.d.). After they are certified to work solo, officers are required to complete continuing training hours

each year, which includes firearms training and qualifications. LPD officers are currently required to complete 40 hours of continuing training annually (LPD, n.d.).

Results

Predictor Variables

Four variables were included in the analyses as predictor variables: firearm selection process, officer gender, officer age, and officer years of experience. For firearm selection process, two rounds were analyzed, the first occurring between 2002-2005 and the second occurring between 2016-2019. The first selection process followed a more traditional method for selecting a firearm and did not include widespread input from various officers in the department. The second selection process, on the other hand, involved the previously described process of assembling a committee of officers, including both general and SWAT team officers, and having them test potential duty firearms for accuracy on a standardized shooting course as well as rate each firearm on a variety of dimensions.

The gender breakdown of the officers was similar at the time of both selection rounds. Figure 1 displays the gender breakdown of the overall sample, with approximately 16% of the officers being women and 84% being men. In 2002, before the first firearm selection process, approximately 16.42% of the officers tested for marksmanship were female while the other 83.58% were male. In 2016, before the second firearm selection process, approximately 14.86% of the officers were female and 85.14% were male.

The age range of the sample is 20 to 69 years old. In 2002, just before the first firearm selection process, officers overall had a mean age of 36.89 years ($SD = 9.31$). Male officers' ages in 2002 are shown in Figure 3 ($M = 37.59$, $SD = 9.54$) and female officers' ages in 2002 are shown in Figure 4 ($M = 33.21$, $SD = 7.04$). In 2016, before the second firearm selection process,

all officers had a mean age of 38.69 years ($SD = 9.66$). Male officers' ages in 2016 are displayed in Figure 5 ($M = 38.77$, $SD = 9.45$) and female officers' ages in 2016 are shown in Figure 6 ($M = 38.25$, $SD = 10.85$).

Years of experience as an officer for the sample ranged from 0 to 50 years. In 2002, the mean for years of experience was 11.94 years ($SD = 10.06$). The distribution of years of experience for male officers in 2002 is shown in Figure 7 ($M = 12.65$, $SD = 10.40$) and the distribution of years of experience for female officers in 2002 is shown in Figure 8 ($M = 8.19$, $SD = 7.04$). The mean for years of experience in 2016 was 13.45 years ($SD = 9.51$). The distribution of years of experience for male officers in 2016 is shown in Figure 9 ($M = 13.32$, $SD = 9.38$) and the distribution of years of experience for female officers in 2016 is shown in Figure 10 ($M = 14.21$, $SD = 10.30$).

Outcome Variables

The dependent variable for this study is marksmanship scoring. As described above, the Lincoln Police Department officers are tested for handgun proficiency using the Nebraska State Qualification Course which requires them to shoot a total of 50 rounds from a variety of positions and distances from the targets. Marksmanship scoring is out of 100 and is calculated by the number of rounds that hit the intended section of the targets.

Regarding the first firearm selection process, the overall mean marksmanship score before the change in firearms was 93.63 ($SD = 4.99$) and the mean score after the change was 94.04 ($SD = 5.23$). For male officers, the mean score before the change was 94.66 ($SD = 4.30$) and the mean score after the change was 94.99 ($SD = 4.72$). For female officers, the mean score before the change was 88.25 ($SD = 4.91$) and the mean score after the change was 89.27 ($SD =$

5.11). Male and female officers' marksmanship scores from before and after the first firearm selection process are displayed in Figure 11.

For the second firearm selection process, the overall mean marksmanship score prior to the firearm change was 94.59 ($SD = 4.65$) and the mean score after the change was 96.83 ($SD = 3.48$). For male officers, the mean score before the second firearm selection process was 95.38 ($SD = 4.12$) and the mean score after was 97.39 ($SD = 2.89$). For female officers, the mean score before the change was 90.25 ($SD = 5.02$) and the mean score after was 93.88 ($SD = 4.72$). Marksmanship scores from before and after the second firearm selection process are shown in Figure 12. As the two figures show, there was an apparent reduction in score disparity as a function of gender after the data driven process but not for the traditional process of weapon selection.

Analyses

A repeated measures analysis of variance was conducted on the average marksmanship scores from before and after the first firearm selection process – the traditional approach. Age, experience, and gender served as covariates while firearm selection was the treatment effect. Results for this analysis are represented in Table 1. Table one shows significant main effects for the selection process ($p = .025$), selection process by age ($p = .014$), and selection process by years of experience ($p = .015$) but fails to show a significant interaction between gender and the selection process ($p = .822$). A between subjects analysis of variance also conducted for the first firearm selection process resulted in only in a gender effect ($p < .001$) with males scoring higher than females.

A repeated measures analysis of variance was also conducted on the average marksmanship scores from before and after the second firearm selection process – the data

driven approach. Age, experience, and gender served as covariates while firearm selection was the treatment effect. Results for this analysis are represented in Table 3. Table three shows only a significant gender by selection interaction ($p < .001$) showing that women gained more in their marksmanship scores relative to men after the second (i.e., data driven selection process) but not after the first (i.e., traditional process). (See Figures 11 and 12). A between subjects analysis of variance also conducted for the second firearm selection process resulted in an age effect ($p = .040$) and gender effect ($p < .001$) showing that males again scored higher than females, as did the older officers – probably reflecting a practice effect.

Discussion

Summary of findings. Results from the first firearm selection process showed that male officers scored significantly higher than female officers before the change in firearms and that they continued to score higher after the change as well. Overall, the first change in duty firearm does not seem to have affected marksmanship scoring as it relates to gender, suggesting that following a traditional method for selecting a firearm failed to adequately account for gender differences that may be limiting female officers' scores relative to male officers. On the other hand, the second firearm selection process did seem to have mitigated the scoring disparity that existed between male and female officers. While male officers did still score significantly higher than female officers both before and after the switch, the effect of gender on scoring was much greater before the switch than it was after (See Figures 12 and 13).

Hypothesis 1, that the traditional firearm selection method would not affect the gender disparity in marksmanship scoring compared to the “new” data driven process was therefore supported by these findings. The effect of gender on marksmanship scoring remained both significant and large before and after the first firearm selection process. Hypothesis 2 was that

the gender disparity in marksmanship scoring would have declined following the new firearm selection process. The findings from the second selection process showed that scores increased for both male and female officers, but this increase was greater for female officers.

Implications for Recruitment. As police departments across the nation are increasingly attempting to diversify, the findings of this study have significant practical implications. Prior research has shown that female police recruits are more likely to fail to complete the academy due to low marksmanship scoring than are male recruits. The results from the present study show that by adopting a new firearm selection process that allows a diverse section of a department's workforce to provide input on potential duty firearm options, police departments may be able to mitigate the gender marksmanship scoring disparity for both their recruits and officers. By successfully retaining more female recruits, police departments and the communities they serve are likely to see more of the benefits associated with greater female representation in law enforcement, including lower use of force rates, fewer citizen complaints, and increased positive case outcomes for crimes like domestic violence and sexual assault. Therefore, it is suggested that police departments that are changing duty firearms consider seeking input on the available firearm options from both male and female officers, as well as from officers of all races, ages, and experience levels, to best ensure that they select a duty firearm which will work effectively for all of their officers.

An important limitation of this study is that the results are based on only one municipal police department and may not be generalizable to all other law enforcement organizations. Additionally, the study was unable to control for all prior firearm experience. Participants' years of experience were based only on their time serving as a law enforcement officer for the present agency and did not include previous law enforcement experience, military experience, or other

firearms training. The present study was also limited with regard to race and ethnicity. Future research examining this issue should be conducted with different departments, especially those with more diverse populations. These limitations withstanding, the results of this project suggest that increasing the diversity of voices in duty firearm selection may reduce the gender disparity in marksmanship and ultimately lead to retaining more women on the police force.

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Table 1. Results for Repeated Measures Analysis of Variance (Firearm Selection Process 1).

Effect	Sums of Squares	Mean Square	F (1, 282)	Significance	Partial Eta Squared
Marksmanship Testing (selection process)	45.96	45.96	5.05	.025	.018
Marksmanship Testing by Age	55.99	55.99	6.16	.014	.021
Marksmanship Testing by Experience	54.26	54.26	5.97	.015	.021
Marksmanship Testing by Gender	0.46	0.46	.05	.822	.000
Error	2564.62	9.09			

Table 2. Results for Between Subjects Analysis of Variance (Firearm Selection Process 1).

Effect	Sums of Squares	Mean Square	F (1, 282)	Significance	Partial Eta Squared
Intercept	61860.80	61860.80	1803.35	<.001	.865
Age	.194	.194	.006	.940	.000
Experience	.295	.295	.009	.926	.000
Gender	2747.89	2747.89	80.11	<.001	.221
Error	9673.52	34.30			

Table 3. Results for Repeated Measures Analysis of Variance (Firearm Selection Process 2).

Effect	Sums of Squares	Mean Square	F (1, 272)	Significance	Partial Eta Squared
Marksmanship Testing (selection process)	14.15	14.15	1.83	.177	.007
Marksmanship Testing by Age	2.15	2.15	.28	.598	.001
Marksmanship Testing by Experience	8.32	8.32	1.08	.300	.004
Marksmanship Testing by Gender	125.30	125.30	16.22	<.001	.056
Error	2100.91	7.72			

Table 4. Results for Between Subjects Analysis of Variance (Firearm Selection Process 2).

Effect	Sums of Squares	Mean Square	F (1, 272)	Significance	Partial Eta Squared
Intercept	81642.30	81642.30	4837.58	<.001	.947
Age	71.97	71.97	4.26	.040	.015
Experience	41.75	41.75	2.47	.117	.009
Gender	1006.24	1006.24	59.62	<.001	.180
Error	4590.46	16.88			

Figure 1.

Gender breakdown of LPD officers in the sample.

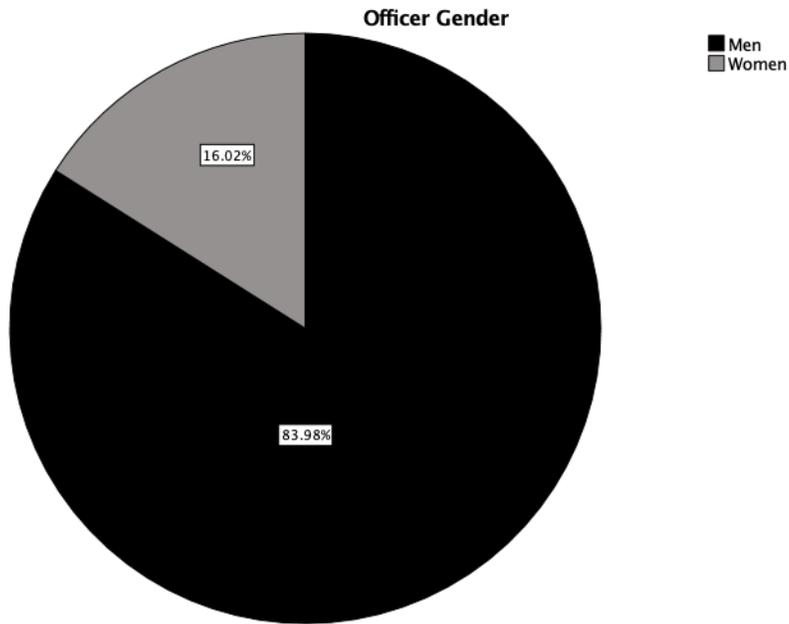


Figure 2.

Racial breakdown of LPD officers in the sample.

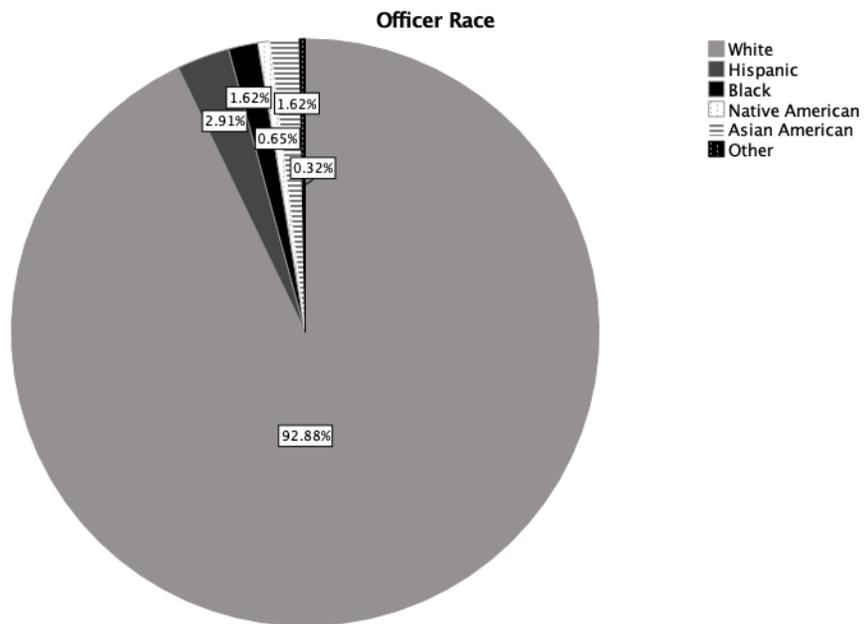


Figure 3.

Age of male officers in the sample in 2002.

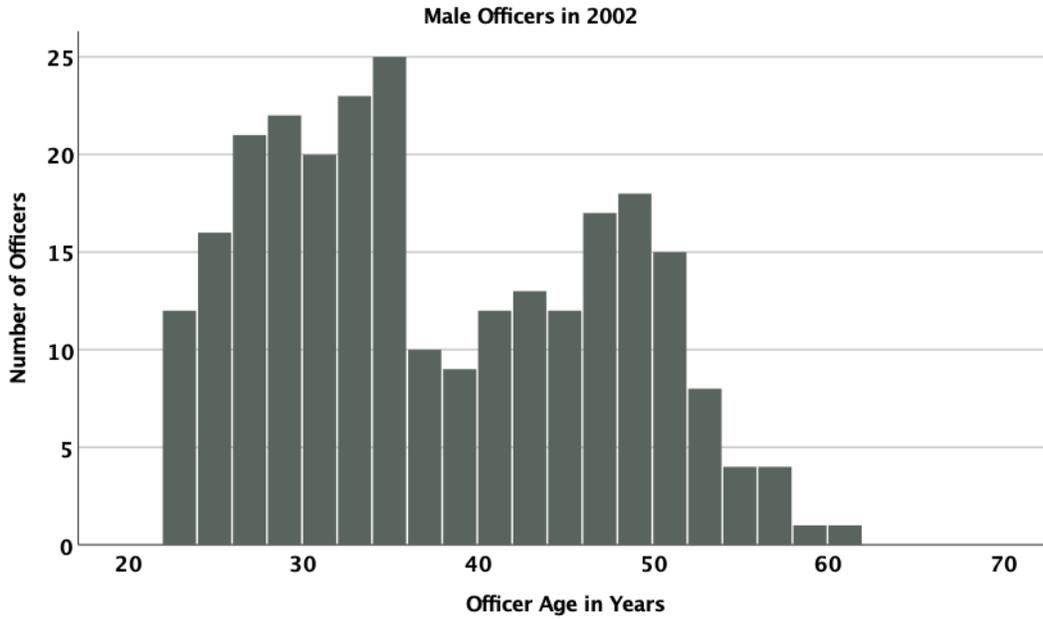


Figure 4.

Age of female officers in the sample in 2002.

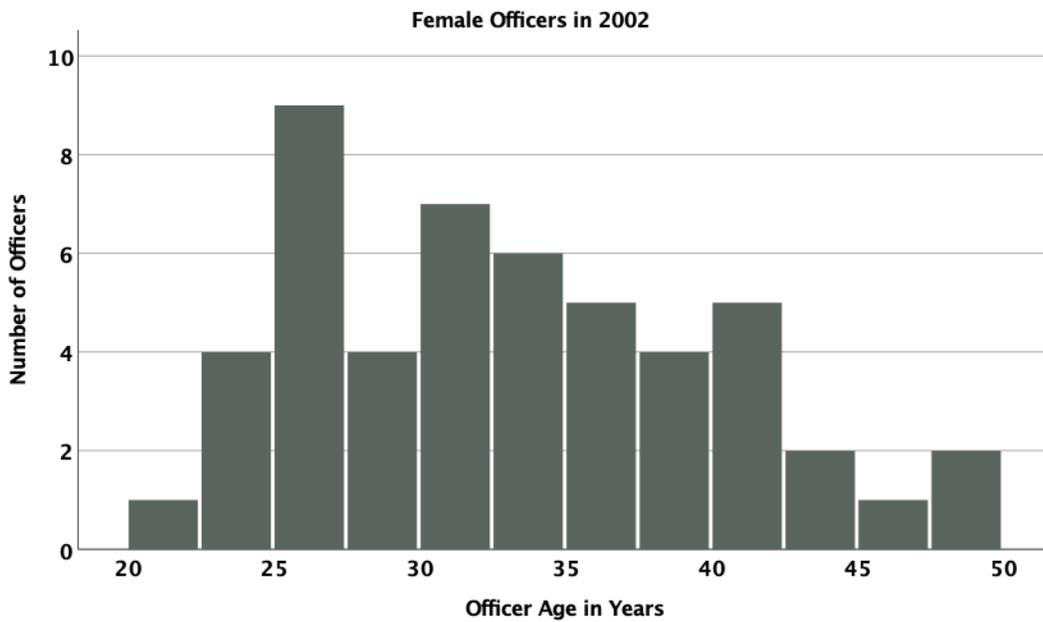


Figure 5.

Age of male officers in the sample in 2016.

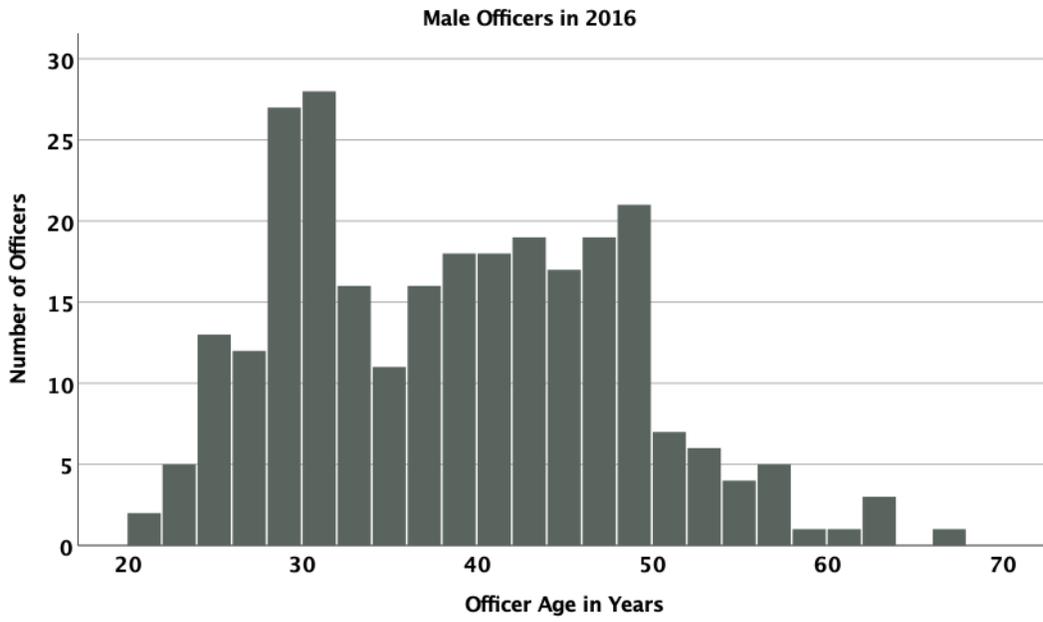


Figure 6.

Age of female officers in the sample in 2016.

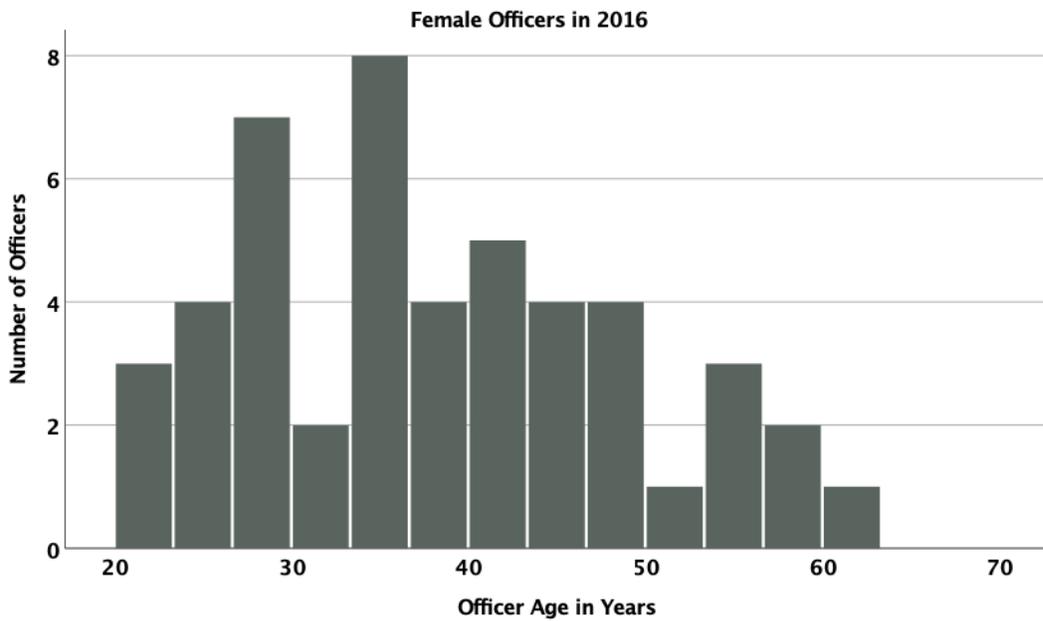


Figure 7.

Years of experience of male officers in the sample in 2002.

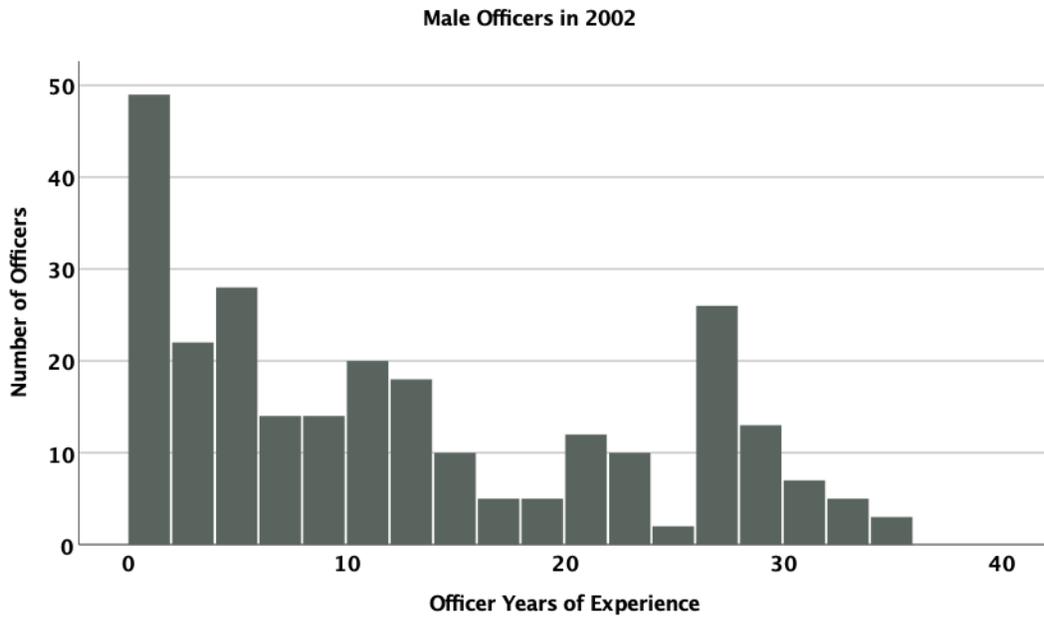


Figure 8.

Years of experience of female officers in the sample in 2002.

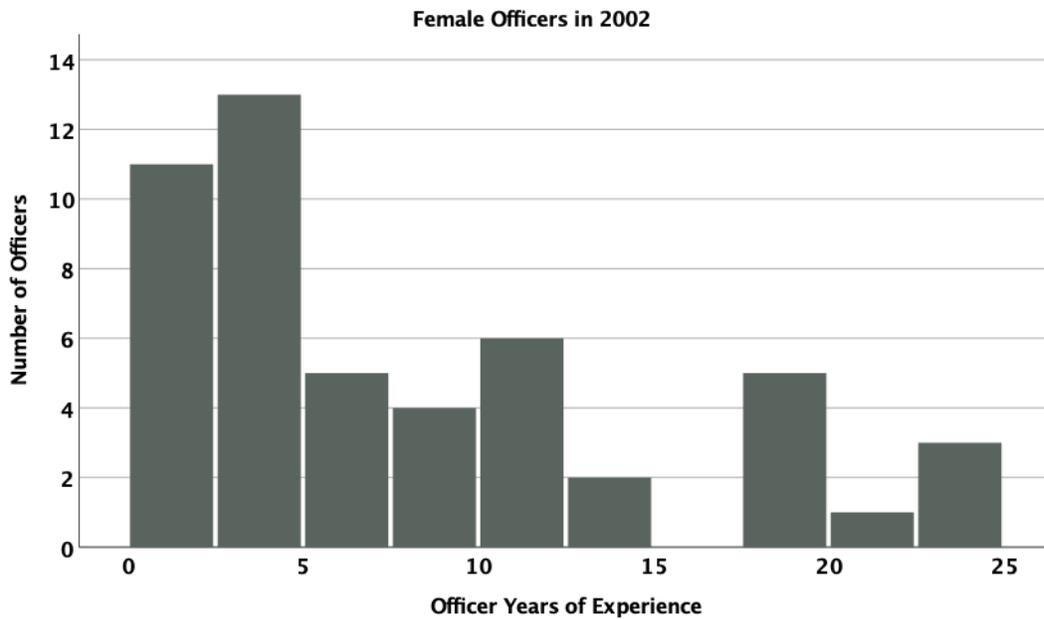


Figure 9.

Years of experience of male officers in the sample in 2016.

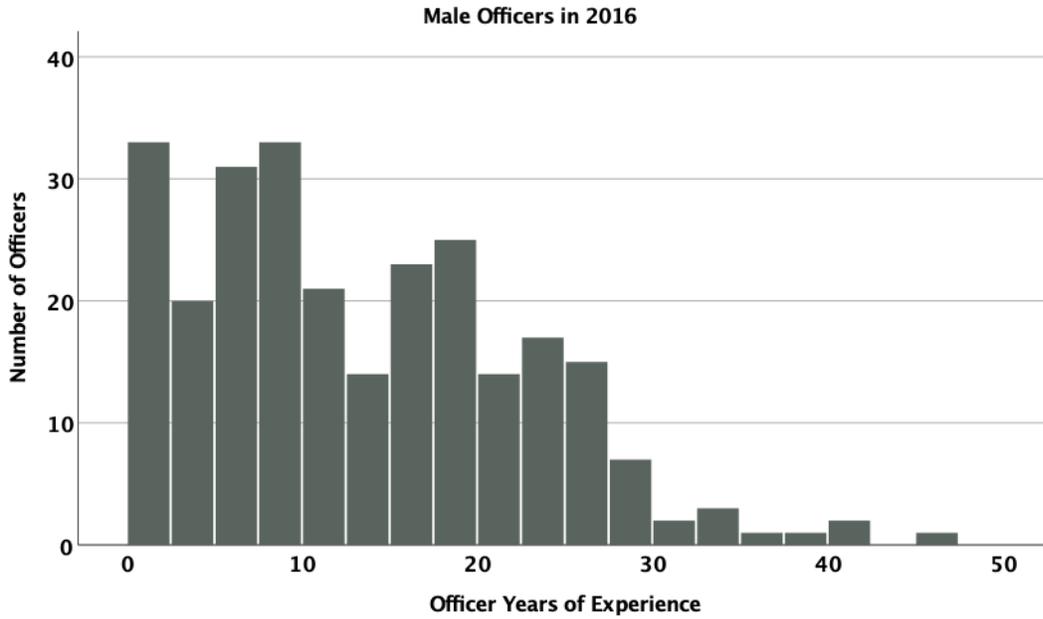


Figure 10.

Years of experience of female officers in the sample in 2016.

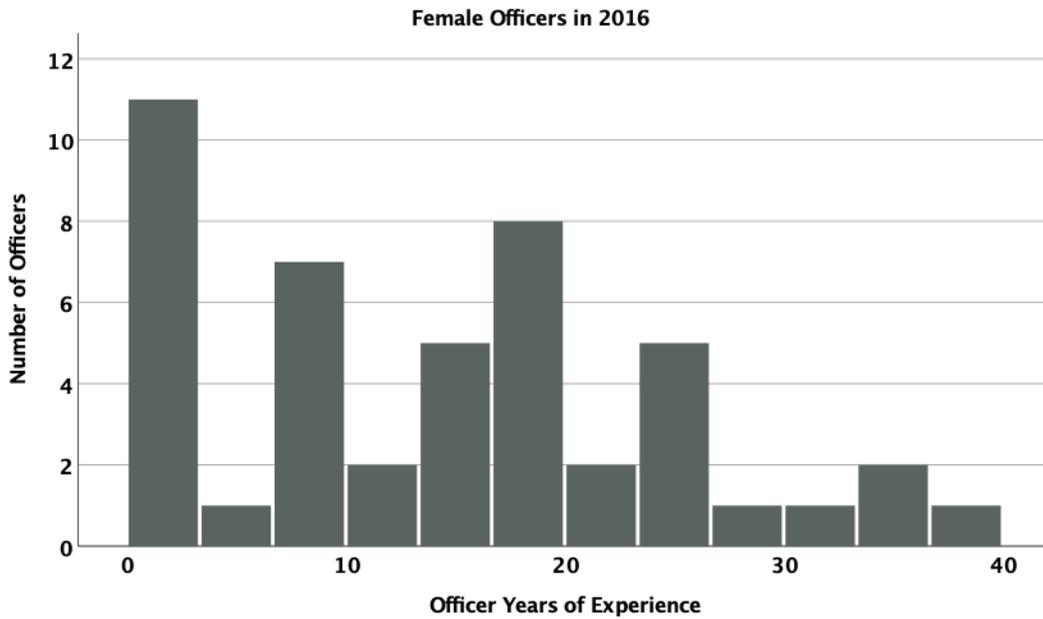


Figure 11.

Marksmanship scores as a function of gender and firearm selection process in 2005.

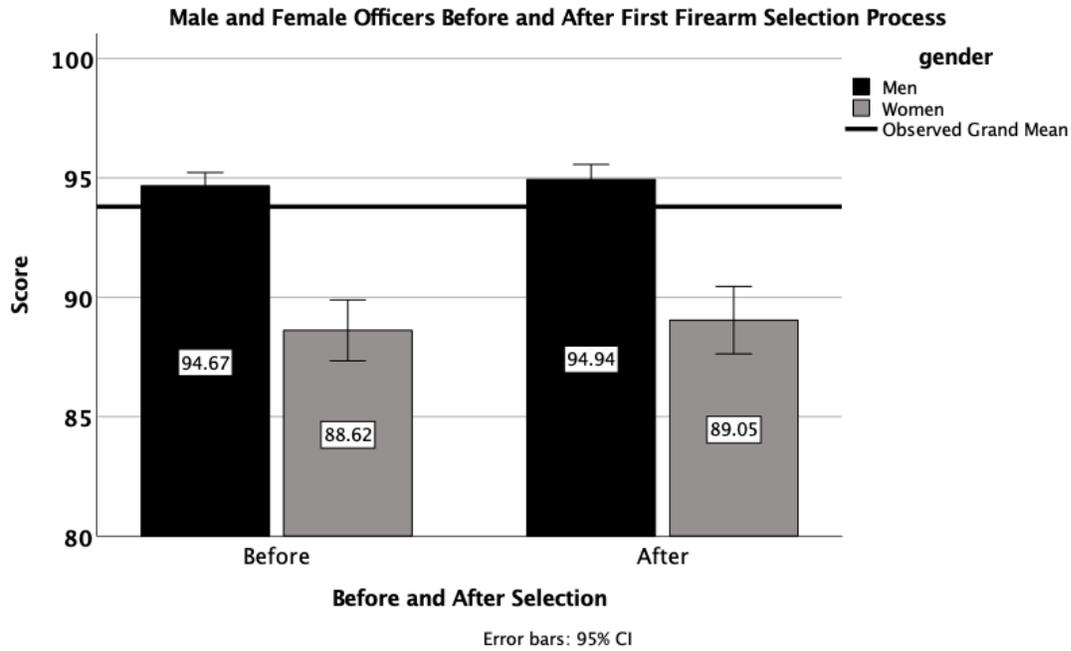


Figure 12.

Marksmanship scores as a function of gender and firearm selection process in 2018.

