

This is a postprint version of the article published as:

Alecu, A. & Fekjær, S. B. (2020). Female attrition from the police profession. *Policing: An International Journal of Police Strategies & Management*, 43(2), 375-389.

<https://doi.org/10.1108/PIJPSM-09-2019-0147>

Female attrition from the police profession

Abstract

Purpose: Do female police recruits drop out of police education and/or leave the profession more often than men, and has this changed over time? Can gender differences be explained by the background characteristics and family obligations of the recruits?

Design/methodology: We employed administrative registry data covering all individuals admitted to the police academy (1995–2010, N = 6570) and all academy recruits employed in the Norwegian police (1992–2014, N = 7301). We analysed the data using discrete-time logistic regression and coarsened exact matching.

Findings: The levels of dropout and attrition are generally low. However, female recruits have a somewhat greater tendency both to dropout of education and to leave the force. The gender differences are quite stable, although the percentage of female recruits has risen sharply. Family obligations do not seem to explain female attrition from the police force.

Implications: Because women tend to leave the police more often than men, we suggest further research investigating female police recruits' experiences. However, we also find reason to question whether stories of the police as a male-dominated profession not adapted to women are valid across time and in different settings.

Originality/value: Our study provides exhaustive and detailed longitudinal data not previously available in studies of police careers. We tracked attrition in a period that has involved both increased numerical representation of women and changes in police culture, while accounting for other observable differences between male and female police officers. Contrary to common explanations, we find limited importance of family obligations and altered gender composition.

Keywords: Police attrition dropout education female officers gender administrative register data

Paper type Research paper

1. Introduction

During recent decades, considerable effort has been invested in recruiting female police officers (Jordan *et al.*, 2009; Prenzler and Sinclair, 2013). Reasons for increasing the share of female officers include ensuring gender equity and providing more opportunities for women. Some argue that female officers are important to assure access to female officers for female victims of crime and to reduce the levels of police complaints and misconduct. These arguments can be criticized for gender essentialism, as they automatically assume that female officers are a different kind of police officer (Prenzler and Sinclair, 2013). Nevertheless, recruiting more female officers will have a limited effect if many of them dropout of the academy or exit the profession after a short time. Hence, investigating how and why female police officers leave the police is important.

The topic of this paper is the careers of female police officers. We ask the following research questions: First, do female police recruits more often drop out from police education and/or do they more often leave the profession? Second, to what extent can gender differences in dropout and attrition be explained by the background characteristics and family responsibilities of the recruits? Third, have gender differences in dropout and attrition changed over time as the proportion of female officers has increased?

To answer these questions, we use a novel approach in police research by employing administrative registers with individual-level data. The data cover all individuals admitted to the police academy (1995–2010) or who were employed by the Norwegian police between 1992 and 2014. Until now, studies of career trajectories in the police have mostly been based upon surveys and/or qualitative research methods (Chan and Doran, 2009; Haarr, 2005; Prenzler *et al.*, 2010; Rabe-Hemp, 2008). Our data are advantageous because they provide total coverage of the population and avoid non-response problems. The long time period allows us to track careers over time in detail (including returns to the police) and provides a unique opportunity to investigate whether gender differences change when the proportion of female officers increases. Nordic registry data have been employed in

many influential research contributions on education, employment and careers (see e.g. Flemmen, 2012; Jonsson and Rudolphi, 2010), but have not previously been used to study careers in the police profession.

Norway is one of the Scandinavian countries known for their commitment to gender equality. Compared to other European Union countries, Norway stands out with its relatively small gender gaps and high scores on gender equality measures. Promoting gender equality and diversity is official policy in the Scandinavian police forces (Finstad, 2014; Inzunza, 2015). The proportion of women is relatively high, as women currently make up 31% of the Norwegian police force (POD, 2018). The proportion is expected to increase steadily. In 2018, 46% of the recruits admitted to Norwegian police education were women (PHS, 2019a). Norway is among the countries with the highest percentages of women in the police. In an international study of 23 countries, the percentage of female officers varied between 5% and 29%, and the percentage of female recruits was between 27% and 37% (Prenzler and Sinclair, 2013). Hence, Norway can be seen as a ‘best-case’ scenario for exploring female attrition from the police. Will women still tend to leave the police even when the recruitment of female officers has been successful, support for gender-egalitarian norms is relatively strong and the official policy is to promote gender equality?

With the proportion of female officers steadily increasing towards one third of the force, the police profession in Norway is no longer extremely masculine dominated in numerical terms. Nevertheless, the police force is traditionally a masculine *typed* organization, involving masculine ideals, action, use of force and physical strength (Miller *et al.*, 2003; Shelley *et al.*, 2011). In later years, increased attention to community policing, intelligence-led policing and policing by communication and consent instead of by force has entailed a softening of the traditional view on the police role (Reiner, 2010), although it is disputable how much the traditional police culture has actually changed (Loftus, 2010). Our study provides the opportunity to track gender differences in the police over time in a period that has involved changes both in the numerical representation of women and in police culture. Hence, our results provide an indicator of both the number of changes in the police culture and the importance of female representation for the retention of women in the police academy and after joining the force.

1.1. Previous research

While female dropout from male-dominated education courses has been explored in several previous studies (e.g. Blickenstaff, 2005; Herrmann *et al.*, 2016), gender differences in the outcomes of police education have received less attention. Wright *et al.* (2011) and Nevers (2018) found that women have a lower probability of completing police education. White (2008) showed that men outperform women at the police academy. One explanation of these findings may be that women experience more harassment in male-dominated educational fields (Dresden *et al.*, 2017). However, we note that these previous studies report on settings with a low percentage of female recruits (<20%). According to theories such as Kanter's theory of tokenism (1977, see below), the mechanism may be altered when the group proportions are different. In our setting, the percentage of women among academy recruits varied from 28% in 1995 to 40% in 2014. This makes it possible for us to detect whether the gender differences in dropout decrease when the proportion of women increases.

Studies of female attrition from male-dominated occupations have generally found that women are more likely to leave as the percentage of men increases (Kahn and Ginther, 2015; Torre, 2017). It is also documented that women receive less co-worker support (Cook and Minnotte, 2008) and have fewer promotional prospects (Boye and Grönlund, 2018; Maume, 1999). The impact of work–family balance is more uncertain. While Kahn and Ginther (2015) found that that women with children are more likely to leave the male-dominated field of engineering in US, Torre (2017) reported that having children did not affect the probability of leaving male-dominated occupations in Spain.

There is quite a large body of research on the magnitude and causes of attrition in police organizations. Turnover is considered to be a major problem, especially because the loss of experienced employees entails higher costs and consequences in organizations like the police, where the personnel are specially trained and selected (Allisey *et al.*, 2014; Wilson, 2012).ⁱ While a concern about high attrition rates is more or less taken for granted in some studies, Lynch and Tuckey (2008) contest this assumption and claim that attrition rates in the police are quite similar to those of other professions. Suggested causes of police attrition include dissatisfaction with the police organization (Chan and Doran, 2009), job stress and job satisfaction (Allisey *et al.*, 2014), sexual harassment and insufficient supervisory support (Brough and Frame, 2004).

While most studies report (slightly) higher attrition rates among female officers (Brough and Frame, 2004; Jordan *et al.*, 2009; Lynch and Tuckey, 2008; Prenzler *et al.*, 2010),ⁱⁱ others found no such differences (Haarr, 2005). Previous research on the causes of female attrition from the police is inconclusive. Lynch and Tuckey (2008) suggested problems with work–family balance, based on their finding of female attrition peaking between the ages of 25 and 39 years. Brough and Frame (2004) reported that sexual harassment causes women to have turnover intentions. Haarr (2005) also found that female officers who have chosen to quit tell stories about discrimination and sexual harassment, but note that this is based on a small and possibly selected sample.

1.2. Theoretical perspectives

The main explanatory mechanisms in the literature attribute women’s exit from male-dominated settings to the psychosocial costs of being in a minority (Jacobs, 1989; Kanter, 1977) and work–family conflicts (Cook and Minnotte, 2008). These perspectives may explain both dropout from the academy and turnover among working police officers. However, we note that work–life balance conflicts are probably less relevant for understanding academy dropout, as under 5% of the recruits have children while they are at the academy and the recruits’ obligations seldom exceed regular working hours (with some exceptions during the field training period). In addition to these two main theoretical perspectives, we also discuss specific explanations of educational dropout.

1.3. Educational dropout

According to Tinto’s (1993) influential theory on educational dropout, the main cause of dropout is lack of integration between the educational institution and the student’s characteristics, motivation and expectations. Students who feel socially excluded and have trouble adjusting to the institution are more likely to drop out. According to Tinto’s conclusions, female police recruits could be expected to dropout more often if they are poorly integrated into the institution. This includes social integration, normative congruence and grade performance, which are all processes that may be more difficult for women given reports that the police force is a gendered institution characterized by hegemonic masculinity (Shelley *et al.*, 2011). As previously noted, whether this description is valid across police forces, countries and time cannot be assumed. We also note that the Norwegian police academy

provides a bachelor's degree course with academic standards and a high proportion of civilian teachers, which implies that some of the norms from the street-level police culture may be less present at the academy (Fekjær and Petersson, 2018).

1.4. Tokenism and discrimination

Starting with the seminal work of Kanter (1977), there has been increased attention to the influence of gender imbalance in the occupation on attrition of women from male-dominated occupations. Kanter (1977) suggested that minorities risk being regarded as representatives ('tokens') of their group and not as individuals. Being a token has several negative consequences, as women face a higher risk of exclusion from important networks and being more closely watched by employers and co-workers. Theorizing about these interactions, Kanter (1977) constructed a typology of four distinct majority–minority distributions: i.e. balanced groups (from a 60:40 to a 50:50 ratio), tilted groups with a minority (65:35 ratio), skewed groups with tokens (85:15 ratio) and a uniform group (100:0). As the numerical proportions of a group change, this eases performance pressure and softens group boundaries and role entrapment. Thus, women in tilted groups can avoid performance pressures and token isolation (Kanter, 1977). In our setting, this makes it especially interesting whether patterns of female attrition change when the proportion of female students and officers increases.

A main critique of Kanter's theory is that the strong focus on numerical representation disregards both the importance of individual characteristics (e.g. sex and ethnicity) and societal context. According to Zimmer (1988), social inferiority could cause negative treatment of a group, not their numerical underrepresentation. This implies that ethnicity may be an even more important cause of token status than gender in some cases, and that numerical underrepresentation per se does not necessarily cause discrimination. For example, men in traditionally female occupations may experience a glass escalator, not a glass ceiling (Williams, 1992). Both Zimmer (1988) and Yoder (1991) stress the importance of societal context: Whether a group will experience the negative consequences of tokenism depends on cultural attitudes towards the group.

According to Kanter, we would expect gender differences to decrease as the proportion of female officers increases. In contrast, *intrusiveness theory* implies the opposite pattern: i.e. increased gender

differences as the proportion of women increases (Blalock,1967; Gustafson,2008; Yoder, 1991).

Balancing numbers may amplify token effects rather than diminishing them. When the token group increases in proportion, the majority will feel that their privilege is threatened. Because male occupations generally offer higher pay and prestige, men have more to lose when significant numbers of women enter their territory. Hence, the level of discriminatory behaviour may increase when the proportion of women increases, and we would expect female dropout rates to increase.

In a police setting, the existence of tokenism is confirmed by several studies, including Strohine and Brandl (2011), Krimmel and Gormley (2003) and Archbold and Schulz (2008). For example, the latter reported that many policewomen experience different treatment from their male colleagues and tell stories of tokenism. However, Archbold and Schulz showed that the consequences of tokenism may be more complex than those described by Kanter (1977). For example, some female officers report that encouragement from supervisors to apply for promotion demotivates them, as they do not want to be promoted solely for being female. Archbold and Schulz (2008) also nuance the negative picture often painted of female officers' work situations. Most female officers would recommend the police profession to other women and do not feel isolated because they are women working in a male-dominated environment. Gustafson (2008) and Stichman *et al* (2010), both found weak to moderate support for Kanter's theory in empirical tests in US police departments. Although female officers more often reported visibility/performance pressure and contrasting social isolation, the differences were limited, and the female officers did not report more role encapsulation (Gustafson, 2008). There also seems to be signs of females still feeling underestimated even when they constitute a larger percent of the sworn officers than the tipping point of 15 % proposed by Kanter (Stichman *et al*, 2010).

Acker's (1990) theory of gendered institutions describes four processes that challenge women in these organizations: i.e. legitimization of hegemonic masculinity, control and segregation, doing gender and gendered personas (individuals are held 'gender accountable' and associated with gender-specific behaviours). According to Shelley *et al*. (2011), all the characteristics of a gendered institution accurately apply to the police. Based on previous research, they gave examples of police organizations and male officers drawing on 'masculine' images and symbols to define what it means to be a cop (a

physically strong crime fighter instead of social worker/administrator) and female officers finding themselves excluded from tight networks of male police officers. Similar stories of discrimination, disrespect and sexual harassment are told by the female officers in Rabe-Hemp's study (2008). However, the question of whether these accounts remain valid today across different police organizations and countries remains unresolved. Rabe-Hemp's sample is limited both in geographical scope and size (N=24), while Shelley et al. (2011) drew on previous studies without thoroughly discussing whether changes may have occurred during the rather long period of time that their sources cover (from the 1970s to 2011) and whether there may be variation across settings.

1.5. Work–life balance and family obligations

Occupation-specific characteristics, such as working long hours and shift work, may influence women's decisions to stay in an occupation (Cha, 2013; Cook and Minnotte, 2008). Even in Norway, where the Nordic welfare state is considered to have partly taken over some of the family's responsibilities by providing generous universal welfare services, women on average still take on more of the family obligations (Halrynjo and Teigen, 2016). This is especially problematic if the norm implies that being a caregiver should not affect one's role as a worker (Acker, 1992). Thus, part-time work or other work arrangements that depend on co-workers re-arranging their schedules are inherently negative (Cook and Minnotte, 2008) and may lead to higher attrition among women. Because police work requires coverage of continuous shifts, increased workload during nights and weekends as well as dependence on colleagues, granting some workers flexibility to allow for family obligations may be more demanding for colleagues in police professions, and hence unpopular among co-workers (Dick, 2006). Motherhood, which results in interrupted working patterns and increased family care responsibilities, is considered to be an effective proxy for capturing work–life family balance obligations (Hegewisch and Gornick, 2011).

Employers may implement various strategies to combat attrition. For example, opportunities for more flexible work arrangements have been used to keep female workers in the no longer totally male-dominated UK police force (Dick, 2006). Yet, flexible work opportunities may have limited impact as they can entail financial and reputational penalties (Cook and Minnotte, 2008). Employees who take

advantage of these opportunities may be seen as less dedicated to work or may miss out on opportunities and extra pay (Cha,2013; Halrynjo and Lyng,2009).

1.6. Social control

Another important perspective in understanding why women may face additional pressure in the police force is social control theory (Jacobs 1989). Women who choose occupations that can be labelled as ‘sex-atypical’ risk social sanctions. They might be labelled ‘unfeminine’ (Shelley *et al.*, 2011) and seen as less competent at some aspects of police work, such as managing violent situations (Bloksgaard *et al.*, 2019).

This type of social control is likely to influence women’s choices throughout their education and working life, as it is deeply rooted in gendered socialization (Jacobs 1989). Thus, it may explain both educational dropout and attrition from the police. If women choosing the police profession experience negative sanctions, for example by being seen as unfeminine and told that the police profession is unsuitable for women, this may cause a ‘leaky pipeline’ (Blickenstaff, 2005) from which women drop out during all stages of their careers.

In recent years, the official goal of recruiting women to the police force and increased numerical representation of female officers is likely to have reduced the social sanctioning of women choosing the police profession. Nonetheless, the police profession is more male-typed than most others, owing to associations with violence, physical strength, danger and action. Hence, female police officers may still risk being labelled ‘unfeminine’ and their choice of work may be questioned (Shelley *et al.*, 2011).

2. Data

This article is based on individual-level data from Norwegian administrative registers. We analysed two subpopulations. The analyses of educational dropout include all individuals enrolled in a police educationⁱⁱⁱ between 1995 and 2014. The analyses of attrition from the profession include all individuals who completed the police academy and were employed in the police or prosecution services^{iv} for at least one year between 1992 and 2014.

2.1. *Dependent variables*

2.1.1. *Dropout from the police academy*

Individuals who started police education and did not complete the course within four years are considered dropouts. As over 93% of the individuals in our data completed their courses within three years, which is the normal progression, we deem four years to be an appropriate threshold.^v This limits our subpopulation to individuals who began police education in 2010 at the latest.

2.1.2. *Attrition from the police force*

Attrition from the police force is defined to be an employment spell of at least one year outside the police force for individuals who graduated from the police academy after 1990. We code employment spells in the police as 0 and outside the police as 1.^{vi}

Attrition can be either *voluntary* (resignation, initiated by the employee) or *involuntary* (dismissal, initiated by the employer). One can also distinguish between *avoidable* turnover (resignations and terminations) and *less avoidable* turnover (caused by retirement, death or illness). In our study, almost all the turnover is avoidable, because we exclude individuals who have passed retirement age (57 years old), and the incidence of death and severe illness is limited (under 1%) in this relatively young sample selected for their health. A limitation of our study is that we cannot distinguish between voluntary and involuntary attrition. However, we expect the volume of involuntary attrition to be limited because the Norwegian police in this period expanded rather than contracted (POD, 2018), and the rates of dismissals for misconduct are moderate.

2.2. *Independent variables*

Our main independent variable is gender, coded 0 for men and 1 for women.

2.3. *Control variables*

In the dropout analyses, we consider the highest educational level of parents when the individual was 16 years old (masters' degree, bachelor's degree, completed upper-secondary, completed mandatory education) a proxy for social background. Previous academic achievements may influence dropout and may be considered an indicator of integration. Hence, we estimate additional analyses on individuals

who completed upper secondary school after 2002 (the start of registry recording of upper-secondary grade-point average (GPA)) to control for this. We also control for the GPA attained while enrolled in police education. To proxy family obligations, we include a dummy for whether the individual has children under 18 years old.

In the attrition from the police force analyses, we retained the proxies for social background and family obligations. We additionally controlled for centrality of the employment municipality (regional centres versus smaller municipalities) to account for potential labour market heterogeneity. Years since graduation as a linear trend, is included as a proxy for labour market experience.

As female recruits are younger than men in our data, we opted to match individuals on their age. We employed coarsened exact matching, which is advantageous as the functional form assumption is relaxed, and matching generally is less model dependent (Iacus *et al.*, 2012). In the supplementary material, we include additional variable details, an overview of the share of females in the force, balance tests and alternative model specifications, including different subpopulations and additional variables (parent completed police education, marital status and interactions).

3. Methods

Our data has a longitudinal, person–year structure and we model our dependent variables with logistic regressions. To account for time-varying heterogeneity in the observation period we include a dummy for each year in the observation period. This strategy allows us to investigate whether women have a higher likelihood of dropping out of the academy, or attrition from the force, while accounting for the inherent time-dependency and possible confounders. We cluster the standard errors on the individual to relax the assumption of independent and identically distributed error terms. In the occupational attrition models, we allow individuals with repeated exists (around 10%) to re-enter the sample, however, excluding them does not alter the substantial results. Our results inform us of the odds of an event occurring during the interval t , conditional on the event not occurring before t (Long *et al.*, 2006). Where appropriate, we discuss our main results as average marginal effects (AME) as a better gauge of their substantial implications.

3. Results

The following subsections first present the analyses of dropout from police education and second the analyses of attrition from the profession.

3.1. Dropout

Overall dropout rates from the police are low compared with other courses of education, such as nursing and teaching (Nedregård and Abrahamsen, 2018). In our data it averages as 7%. The size of the admitted cohorts increased from 253 students in 1995 to 728 students in 2010.

Figure 1 shows the odds ratios (OR) of dropping out from the academy on matched data including all control variables. We show the results for two samples: Sample a) cohorts between 1995 and 2010 and sample b) cohorts between 2004 and 2010, which allows us to include school grades. Our results show that female students have a higher predicted dropout rate than their male colleagues. The AME indicate that women have a modest 2.5% higher probability of dropping out than men.

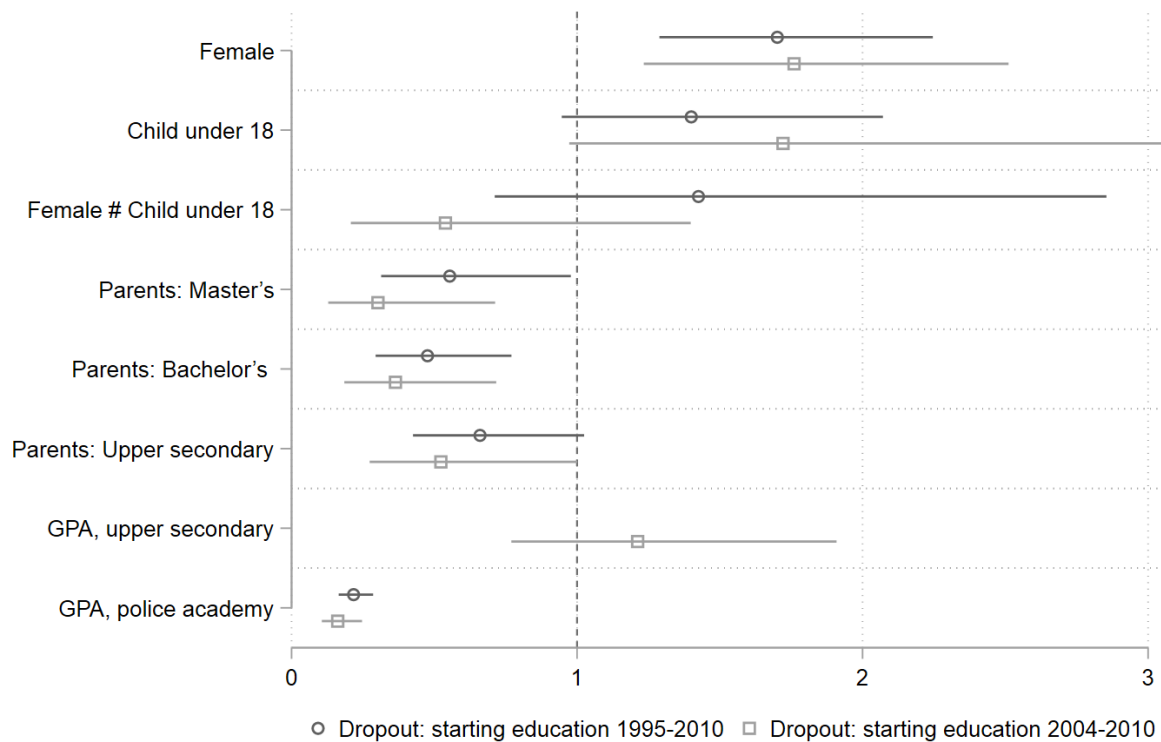


Figure 1. Odds ratio for educational dropout, 95% CI.

The ORs for having children under 18 years old are bounded by considerable uncertainty, as only 5% have children during or before entering the police academy. The models do not show a statistically significant relationship between having children and dropout. Having parents with higher education is associated with lower odds of dropout in both subpopulations. A possible explanation is that students with low parental education may be more motivated by the relative high degree of job security in the police and/or the action-oriented nature of work, however, these explanations require further research. Obtaining a high GPA at the police academy is associated with lower odds of dropping out in both subpopulations, while the association between upper secondary GPA and dropout is not statistically significant.

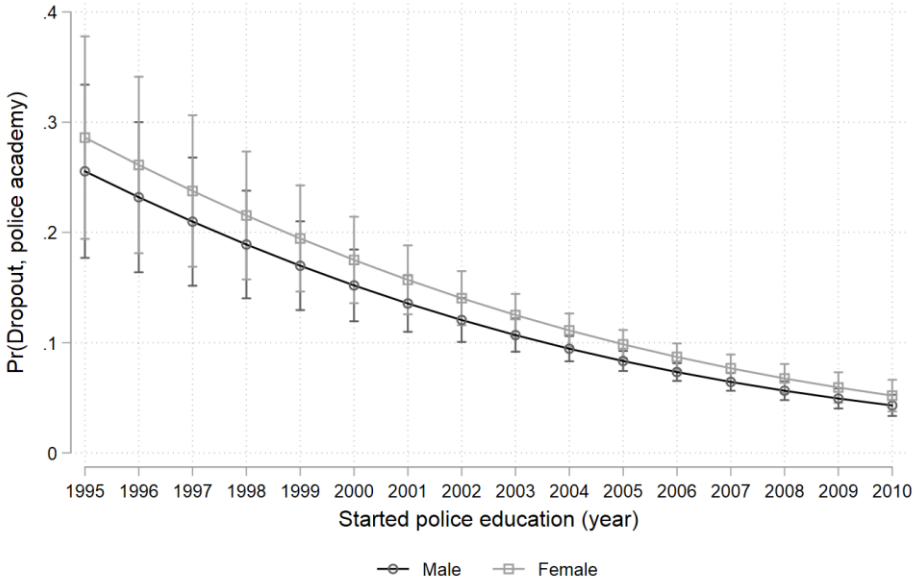


Figure 2. Predicted level of educational dropout (1995-2010) for male and female recruits, 95% CI.

One of the implications of tokenism is that once the share of women increases, they are no longer seen as tokens. As the share of female students is increasing in our data, we model the interaction between gender and the year they start their degree. The results displayed in Figure 2 show that the yearly differences between male and female students are very small and not statistically significant (although we note that the overall trend is similar to that expected from the token perspective, namely, as the share of female increases the gender differences decrease). These results indicate that while

female police students have a higher predicted dropout than men, the gender differences in dropout seem to have been quite stable despite a growing proportion of women from the police academy.

3.2. Attrition from the police force

On average, around 7% of individuals who completed the police education did not work as police officers between 2003-2013. The results in Figure 3 show the ORs of attrition from the police for our covariates of interest. The results show that women have a higher OR of leaving the police compared with their male colleagues when the full set of control variables is accounted for. The AME indicates that the predicted difference in attrition is around 4% higher for women. One potential explanation for high attrition is the work–family balance. However, our results show that having children under 18 is associated with *lower* attrition from the police force. The interaction coefficient highlights that being female and having children under 18 is associated with a statistically significant lower OR of attrition. Working in a regional centre is also associated with higher turnover. Both push- and pull-factors may explain this: Everyday life as a police officer could be more stressful in urban settings, and there are potentially more alternative job options (e.g. insurance and security companies).

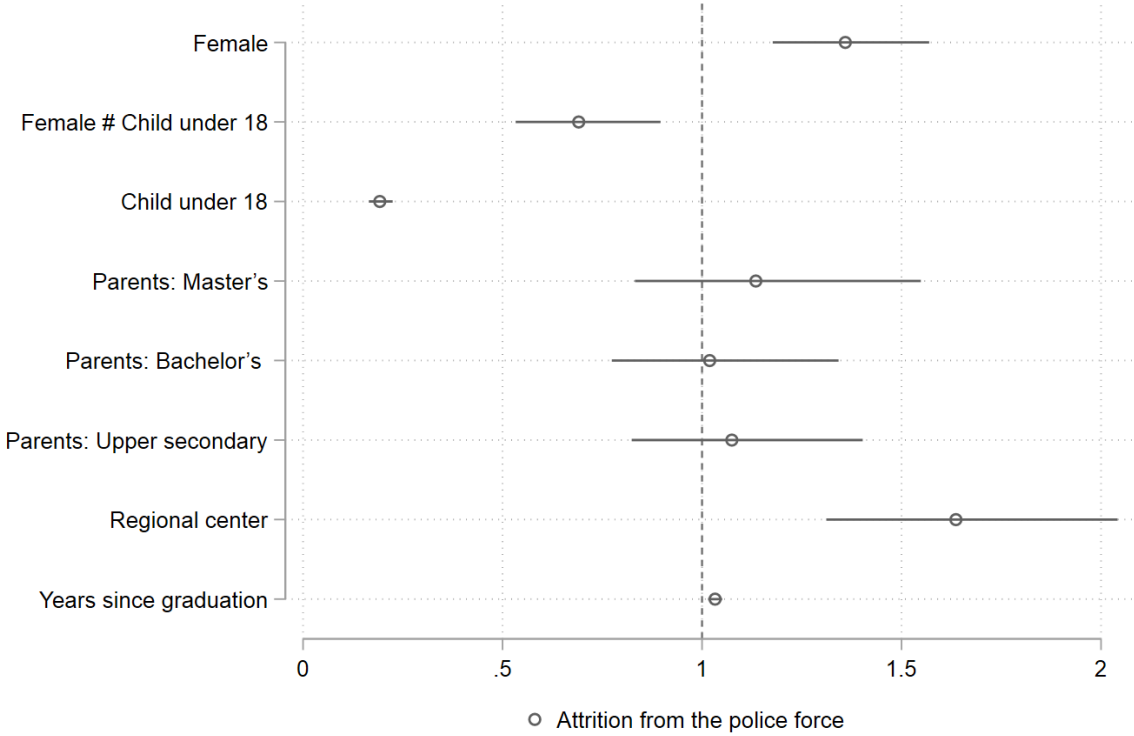


Figure 3. Odds ratio for attrition from the force, 95% CI.

In Figure 4, we investigate whether the gender difference in attrition decreased as the share of female officers increased over time. The share of female officers increased from 23% in 1992 to 31% in 2014, while the total number of officers also increased. The average yearly attrition rate was under 8%. During this period, the yearly predicted OR for attrition by women compared with male officers did not change significantly, however we note that the overall trend is comparable to that expected from the token perspective. These results reveal that women have a somewhat higher predicted turnover than men, and this does not seem to have changed notably as the proportion of female officers joining the police force increased.

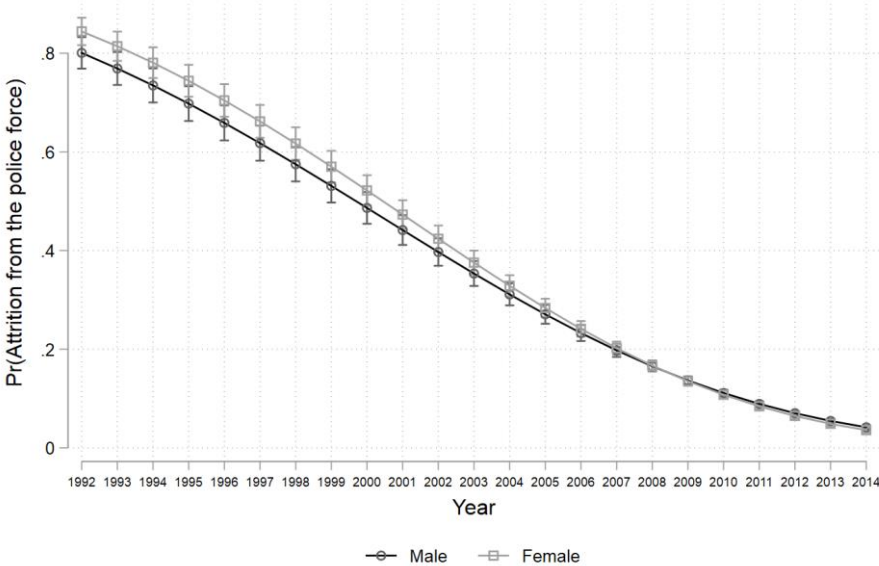


Figure 4. Predicted level of attrition from the force (1992-2014) for male and female officers, 95% CI.

4. Discussion

Our results show that both women and men most often stay in the police after having chosen the profession. Compared with other professions like nursing, both the level of dropout from education and the attrition rates from the force are quite low (Abrahamsen,2019; Nedregård and Abrahamsen, 2018). However, we note that women leave more often than men, both from the police academy and from the police force. How can this be explained?

According to Tinto (1993), lack of integration is the main reason for educational dropout. Students leave because they feel excluded and have trouble adjusting. Whether this could explain the somewhat higher female dropout rates is hard to tell based on register data. A limitation of these data is that they do not contain any information regarding attitudes, preferences or motivation. However, we note that controlling for upper secondary and police academy GPA does not seem to remove the gender differences in dropout. Integration involves more than grades, and our analyses cannot fully test the importance of integration. However, as an indicator of integration, it is interesting to note the limited importance of grades in explaining gender differences in dropout.

Social control is another possible explanation of the somewhat higher dropout and attrition rates among women. This theory implies that women who choose 'sex-atypical' occupations risk social sanctions (Jacobs, 1989). According to Blickenstaff (2005), this could cause a 'leaky pipeline' where women have a greater tendency to leave at all stages of their careers. This explanation accords with our results of a small but consistent gender gap in dropout, both during the academy years and after joining the force. However, if social control were an important cause of female dropout, we would expect gender differences to decrease during the years when the police changed the profile of the profession from clearly male-dominated to be more gender balanced.^{vii}

Similarly, Kanter's (1977) theory implies that the gender differences should decrease as the proportions of female police students and officers increase. We found quite stable gender differences in a period with rapidly changing gender composition. This is not consistent with Kanter's theory, which highlights being treated as a 'token', social exclusion and being closely watched as factors that explain the difficulties of belonging to a numerically underrepresented group. However, other scholars have proposed the reverse mechanism: Balancing numbers may amplify token effects rather than diminishing them (Blalock, 1967; Gustafson, 2008). This is because the dominant group (e.g. male police officers) may feel more threatened when the token group (women) increases in size. Initially, our finding of stable gender differences in a period of rapidly changing gender composition, contradicts both Kanter's theory of decreased tokenism (Kanter, 1977) and Blalock's theory of amplified token effects (Blalock, 1967). This suggests either that none of these mechanisms are important or that they may co-exist and counterbalance each other. Further research is necessary to

judge which mechanism may be important, preferably including longitudinal measures of women's experiences of their work environment in times of changing gender composition.

The relatively small gender differences in attrition partly contradicts previous findings of widespread negative consequences of tokenism in the police which have been reported by some previous studies (Stroshine and Brandl, 2011, Krimmel and Gormley, 2003). This could be explained by the adjustments of tokenism theory proposed by Yoder (1991) and Zimmer (1988), who underline the importance of societal context. The Norwegian context with relatively gender-egalitarian norms both at the policy level and in the police profession (Finstad, 2014; Teigen and Skjeie, 2017). may decrease the token effects experienced by women even in the traditionally male-dominated police profession and hence limit the gender differences in attrition.

Women's attrition rates have often been explained by challenging work-life balance: women's family obligations make it hard to combine work and private life (Acker, 1992). Finding the right work-life balance may be additionally challenging in occupations like the police, which involves shift work (Dick, 2006). Although this has been a debated issue in previous research on women in the police (Dick, 2006; Haarr, 2005), our results provide no support for this explanation for women leaving the police. On the contrary, having children seems to be associated with a slightly *lower* risk of attrition after joining the force. Hence, we conclude that challenges of work-life balance are not the main reason for women tending to leave the police somewhat more often than men. This conclusion comes with an important reservation. Our results are based on a 'best-case' setting, where opportunities for combining work and family life are relatively good, owing to both official policy and employers' duties and attitudes (Finstad, 2014; Teigen and Skjeie, 2017). Hence, family obligations may be a more important cause of female attrition in other settings.

When we find relatively limited gender differences, one reason may be that female officers are a preselected group, and they have chosen to apply for a traditional male-dominated profession. Norwegian police recruits undergo a long period of academy education (three years). This means that female officers will have extensive experience of male-typed settings in the classrooms prior to entering the workplace. This adaptation period also eliminates women who cannot handle male-dominated/male-typed settings as they self-select out of the education (Torre, 2017). Hence, the

women who overcome the barriers to entering a male-dominated setting and staying there may be different from other women (Cha, 2013).

The relatively high organizational commitment found among female police recruits and officers may also be part of the explanation why we found relatively small gender differences. Female officers may experience problems, but they choose to stay in the police despite this, owing to their high level of organizational commitment (Dick and Metcalfe, 2007). Although factors like tokenism and social control may be part of the reason why women have a somewhat greater tendency to leave, the gender differences may be limited by strong organizational commitment among the selected group of women who choose to join the police.

5. Conclusion

The level of turnover can be seen as an indicator of the organizational health and functioning (Wilson, 2012). In this case, differences between male and female turnover can be interpreted as a sign of how well the organization functions in relation to its female recruits and employees. In our results, we found modest but significant signs that the police organization is a less healthy and functional working environment for women. We observed gender differences both in the dropout rates from the academy and in those after joining the profession, which implies that the academy environment and working conditions for women in the police may be slightly less advantageous than those for male police students and officers. However, it is important to note the comparably low dropout and attrition rates and the relatively modest size of the gender differences.

When interpreting the results, one should remember that our findings are drawn from a setting with a uniquely high proportion of female officers (Prenzler and Sinclair, 2013) and relatively widespread gender-egalitarian norms (Finstad, 2014; Teigen and Skjeie, 2017). For women in the police, Norway is a 'best-case' scenario. Hence, the results may be different if the tests were conducted in another setting. Our results show the need to nuance the story of women in the police according to time and place. Accounts of life as a female officer in one time and place will not necessarily be valid in other settings. Our results give reason to question whether stories of policing as a totally male-dominated profession not adapted to women are valid across time and settings.

The Norwegian case shows that it is possible both to recruit women for the police and retain them to a relatively high extent, although some signs of gender-dependent career tracks remain. This implies that if the goal is to increase the share of female officers, the official policies for recruiting and retaining women in the Norwegian police may provide an example to follow. This includes official plans for achieving a gender balanced police force and presenting female officers and focusing on softer skills in the recruitment campaigns (POD, 2018).

The dropout/attrition rates are comparably modest, and the gender differences are not alarmingly high. Still, the somewhat stronger tendency among female recruits to leave the police gives reason to explore female police recruits' experiences further, both during schooling and after joining the force. Significantly higher dropout and attrition rates among female recruits even in a best-case setting, justifies the suggestion that the conditions of women in the police still can be improved.

References

- Abrahamsen, B. (2019), Sykepleiere utenfor helsetjenesten: En longitudinell studie av sykepleieres yrkesmobilitet og yrkesaspirasjoner., submitted to *Nordisk sykeplejeforskning*.
- Acker, J. (1990), "Hierarchies, jobs, bodies: A theory of gendered organizations", *Gender & Society*, Vol.4 No.2, pp.139–158.
- Acker, J. (1992), "From sex roles to gendered institutions", *Contemporary Sociology*, Vol.21 No.5, pp.565–569.
- Allisey, A. F., Noblet, A. J., Lamontagne, A. D. and Houdmont, J. (2014), "Testing a model of officer intentions to quit: the mediating effects of job stress and job satisfaction", *Criminal Justice and Behavior*, Vol.41 No.6, pp.751-771.
- Archbold, C. A. and Schulz, D. M. (2008), "Making rank: the lingering effects of tokenism on female police", *Police Quarterly*, Vol.11 No.1, pp.50–73.
- Blalock, H. M. (1967), *Toward a theory of minority group relations*, John Wiley & Sons, New York.
- Blickenstaff, J. C. (2005), "Women and science careers: leaky pipeline or gender filter?", *Gender and education*, Vol.17 No.4, pp.369–386.
- Bloksgaard, L., Fekjær, S. B. and Møberg, R. J. (2019), Is 'real' police work masculinely gendered? Conceptions of gender and competencies among Scandinavian police students, accepted for publication in *Nordic Journal of Working Life Studies*.
- Brough, P. and Frame, R. (2004), "Predicting police job satisfaction and turnover intentions: The role of social support and police organisational variables", *New Zealand journal of psychology*, Vol.33 No.1, pp.8–18.
- Cha, Y. (2013), "Overwork and the persistence of gender segregation in occupations", *Gender & Society*, Vol.27 No.2, pp.158–184.
- Chan, J. and Doran, S. (2009), "Staying in the job: job satisfaction among mid-career police officers", *Policing: A Journal of Policy and Practice*, Vol.3 No.1, pp.66–77.
- Cook, A. and Minnotte, K. L. (2008), "Occupational and industry sex segregation and the work–family interface", *Sex Roles*, Vol.59 No.11-12, pp.800–813.

- Dick, G. and Metcalfe, B. (2007), "The progress of female police officers? An empirical analysis of organisational commitment and tenure explanations in two UK police forces", *International Journal of Public Sector Management*, Vol.20 No.2, pp.81–100.
- Dick, P. (2006), "The psychological contract and the transition from full to part-time police work", *Journal of Organizational Behavior*, Vol.27 No.1, pp.37–58.
- Fekjær, S. B. and Petersson, O. (2018), "Producing legalists or Dirty Harrys? Police education and field training", *Policing and Society*, pp.1–15.
- Finstad, L. (2014), "Det konfliktfylte politiarbeidet.", in Larsson, P., Gundhus, H. O. and Granér, R. (Ed.), *Innføring i politivitenskap*, Cappelen Damm akademisk, Oslo.
- Flemmen, M. (2012), "The structure of the upper class: a social space approach", *Sociology*, Vol. 46 No.6, pp.1039–1058.
- Gustafson, J. L. (2008), "Tokenism in policing: An empirical test of Kanter's hypothesis", *Journal of Criminal Justice*, Vol.36 No.1, pp.1–10.
- Haarr, R. N. (2005), "Factors affecting the decision of police recruits to "drop out" of police work", *Police Quarterly*, Vol.8 No.4, pp.431–453.
- Halrynjo, S. and Lyng, S. T. (2009), "Preferences, constraints or schemas of devotion? Exploring Norwegian mothers' withdrawals from high-commitment careers", *British Journal of Sociology*, Vol.60 No.2, pp. 321–343.
- Halrynjo, S. and Teigen, M. (2016), *Ulik likestilling i arbeidslivet*, Gyldendal akademisk, Oslo.
- Hegewisch, A. and Gornick, J. C. (2011), "The impact of work–family policies on women's employment: a review of research from OECD countries", *Community, Work & Family*, Vol.14 No.2, pp.119–138.
- Herrmann, S. D., Adelman, R. M., Bodford, J. E., Graudejus, O., Okun, M. A. and Kwan, V. S. (2016), "The effects of a female role model on academic performance and persistence of women in STEM courses", *Basic and Applied Social Psychology*, Vol.38 No.5, pp.258–268.
- Iacus, S. M., King, G. and Porro, G. (2012), "Causal inference without balance checking: coarsened exact matching", *Political analysis*, Vol.20 No.1, pp.1–24.
- Inzunza, M. (2015), "Empathy from a police work perspective", *Journal of Scandinavian Studies in Criminology and Crime Prevention*, Vol.16 No.1, pp. 60–75.
- Jacobs, J. A. (1989), *Revolving doors: sex segregation and women's careers*, Stanford University Press, Stanford, California.
- Jonsson, J. O. and Rudolphi, F. (2010), "Weak performance—strong determination: school achievement and educational choice among children of immigrants in Sweden", *European Sociological Review*, Vol.27 No.4, pp.487–508.
- Jordan, W. T., Fridell, L., Faggiani, D. and Kubu, B. (2009), "Attracting females and racial/ethnic minorities to law enforcement", *Journal of Criminal Justice*, Vol.37 No.4, pp.333–341.
- Kahn, S. and Ginther, D. (2015), "Are recent cohorts of women with engineering bachelors less likely to stay in engineering?", *Frontiers in Psychology*, Vol.6 No.1144.
- Krimmel, J.T., & Gormley, P.E. (2003), "Tokenism and job satisfaction for policewomen", *American Journal of Criminal Justice*, Vol.28 No.1, pp.73–88.
- Kanter, R. M. (1977), "Some effects of proportions on group life – skewed sex-ratios and responses to token women", *American Journal of Sociology*, Vol.82 No.5, pp.965–990.
- Loftus, B. (2010), "Police occupational culture: classic themes, altered times", *Policing & society*, Vol.20 No.1, pp.1–20.
- Long, S. J. and Freese, J. (2006), *Regression models for categorical dependent variables using Stata*, Stata press, Texas.
- Lynch, J. E. and Tuckey, M. (2008), "The police turnover problem: fact or fiction?", *Policing: An International Journal of Police Strategies & Management*, Vol.31 No.1, pp.6–18.
- Miller, S. L., Forest, K. B. and Jurik, N. C. (2003), "Diversity in blue: Lesbian and gay police officers in a masculine occupation", *Men and masculinities*, Vol.5 No.4, pp. 355–385.
- Nedregård, O. and Abrahamsen, B. (2018), *Frafall fra profesjonsutdanningene ved OsloMet.*, Oslo Metropolitan University, OsloMet rapport 2018 nr 8. Oslo.

- Nevers, K. (2018), "Predictors of successful police academy recruits and rationalizations for attrition", *Police Practice and Research*, pp. 1–17.
- PHS (2019a) *Opptakstatistikk*. Available at: <https://www.phs.no/om-phs/fakta-og-tal/opptakstatistikk/> (Accessed:05.03.2019).
- PHS (2019b) *Om PHS/Historie*. Available at: <https://www.phs.no/om-phs/fakta-og-tal/phs-sin-historie/> (Accessed:09.07.2019).
- POD (2018), *Personlrapport for politiet 2013-2017*, Politidirektoratet, Oslo.
- Prenzler, T., Fleming, J. and King, A. L. (2010), "Gender equity in Australian and New Zealand policing: a five-year review", *International Journal of Police Science and Management*, Vol.12 No.4, pp.584–595.
- Prenzler, T. and Sinclair, G. (2013), "The status of women police officers: An international review", *International Journal of Law, Crime and Justice*, Vol.41 No.2, pp.115–131.
- Rabe-Hemp, C. (2008), "Survival in an "all boys club": policewomen and their fight for acceptance", *Policing: An International Journal of Police Strategies & Management*, Vol.31 No.2, pp.251–270.
- Reiner, R. (2010), *The Politics of the Police*. 4 edn, Oxford University Press, Oxford.
- Shelley, T. O. C., Morabito, M. S. and Tobin-Gurley, J. (2011), "Gendered institutions and gender roles: Understanding the experiences of women in policing", *Criminal Justice Studies*, Vol.24 No.4, pp.351–367.
- Stichman, A. J., Hassell, K.D., & Archbold, C.A. (2010), "Strength in numbers? A test of Kanter's theory of tokenism", *Journal of Criminal Justice*, Vol.38 No.4, pp.633-639.
- Stroshine, M. S., & Brandl, S. G. (2011), "Race, gender, and tokenism in policing: An empirical elaboration", *Police Quarterly*, Vol.14 No.4, pp.344-365.
- Teigen, M. and Skjeie, H. (2017), "The Nordic gender equality model", in Knutsen, O. (Ed.), *The Nordic models in political science: challenged, but still viable?*, Fagbokforlaget, Bergen, pp.125–147.
- Tinto, V. (1993), *Leaving College: Rethinking the Causes and Cures of Student Attrition*. 2nd edn, The University of Chicago Press, Chicago.
- Torre, M. (2017), "Attrition from male-dominated occupations: variation among occupations and women", *Sociological Perspectives*, Vol.60 No.4, pp.665–684.
- White, M. D. (2008), "Identifying good cops early: predicting recruit performance in the academy", *Police Quarterly*, Vol.11 No.1, pp.27–49.
- Williams, C. L. (1992), "The glass escalator: Hidden advantages for men in the "female" professions", *Social problems*, Vol.39 No.3, pp.253-267.
- Wilson, J. M. (2012), "Articulating the dynamic police staffing challenge: an examination of supply and demand", *Policing: An International Journal of Police Strategies & Management*, Vol.35 No.2, pp.327–355.
- Wright, B., Dai, M. and Greenbeck, K. (2011), "Correlates of police academy success", *Policing: An International Journal of Police Strategies & Management*, Vol.34 No.4, pp.625–637.
- Yoder, J. D. (1991). "Rethinking tokenism: Looking beyond numbers", *Gender & Society*, Vol.5 No.2, pp.178-192.
- Zimmer, L. (1988). "Tokenism and women in the workplace: The limits of gender-neutral theory", *Social problems*, Vol.35 No.1, pp.64-77.

ⁱ Turnover can sometimes be an advantage, as it entails opportunities to rid the organization of poor performers and facilitates change (Wilson, 2012).

ⁱⁱ Prenzler (2010) finds slightly higher attrition rates among women owing to voluntary resignation, which has been the main concern in studies of police turnover. Male officers more often quit because of retirement, death and dismissals.

ⁱⁱⁱ We do not include completing police education before 1995 because of the reform of police education in 1995 (see PHS 2019a).

^{iv} Norwegian equivalent of International Standard Industrial Classification of Economic Activities.

^v Supplement B presents substantially equivalent findings if we either set no time limit on completing education or increase the threshold to five or six years.

^{vi} Coding it as employment outside the police for at least two years or considering all graduates does not alter the results (Supplement C).

^{vii} Our results also show the importance of controlling for year of graduation when investigating gendered attrition. Because dropout rates are higher in the later years when more females entered the profession, analyses excluding year of graduation show higher dropout rates among females. Gender differences are partly explained by the fact that women more often belong to cohorts that dropout more often.