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Keywords:
Intention to leave
Manager
Mobility
Public Sector
Turnover

Scandinavian Journal of
Public Administration
21(2): 89-114
© Anna Cregård, Linda
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School of Public Administra-
tion 2017
ISSN: 2001-7405
e-ISSN: 2001-7413

Abstract

Managers are key assets for the public sector in creating effective and healthy organisations. However, there are indications of a high level of voluntary managerial turnover that may decrease organisational efficiency, increase costs, and lead to a less favourable view of the public sector. In this article we review the literature relating to actual voluntary managerial turnover in the public sector in order to describe the current state of knowledge and to discuss the ways forward. Searching in three large databases, we found 12 empirical articles on actual voluntary managerial turnover in the public sector that were published between 1992 and 2014. Research is scarce, particularly regarding lower management levels, and little knowledge is available for human resource professionals in their work of supporting such managers in creating healthy and meaningful managerial roles. We argue that more research is needed to understand the extent to which and why public sector managers leave, and what the actual turnover effects are.

Introduction

The public sector today faces a number of societal, demographic, and organisational challenges to maintaining a stable and healthy workforce (Godue, 2006; Hasu & Lehtonen, 2014; World Health Organization, 2009). Managers, through their leadership, are critically important for the development of healthy organisations, not only in how they directly influence employees but also indirectly in how they organise work and change processes (Tvedt, Saksvik, & Nytrø, 2009; Whitehead, 2006). They are also responsible for the performance and development of public organisations. For example, Vigoda-Gadot and Beerli (2012), in a study on organisational leadership and change in public health organisations, found that public employees demonstrate organisational citizenship behaviour (OCB) that may explain why they try to improve job processes and the work environments even when no formal rewards are expected. Hassan and Hatmaker (2014), in a study of employees and managers in a large state government agency, found that when the quality of leader-member exchange is high, employees tend to perform better. There are also indications that transformational leadership can increase motivation in the public sector (Wright, Moynihan, & Pandey, 2012). This means that managers are key assets for public sector organisations.

However, evidence from recent years shows that more and more public sector managers are retiring or voluntarily leaving their positions. The change in demographics is one reason for this development. Bright (2013, p. 6), who describes the public sector workforce in the United States, states the following: "One of the major challenges is the fact that within the next 10 to 15 years, all levels of government will be greatly affected by the enormously large numbers of retirements from the aging public employees." This development is also found, for example, in Norway (Mykletun, Furunes, & Solem 2012) and in countries in

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the European Union. According to the European Commission (2012), the old-age dependency rate (the population aged 65 or older relative to the population aged 15 to 64) will almost double from 26 per cent in 2010 to 50 per cent in 2050. The development among public sector managers has also been observed in Sweden (Cregård & Solli, 2012) and in the United States (Leland, Carman, and Swartz (2012). It is clear that high rates of retirements and turnover are urgent issues that need to be addressed in many countries.

On the societal level, turnover in the workplace can be seen positively, for example, as an indicator of an efficient labour market (Berglund, 2007). At the individual level, job mobility can lead to improvements in the individual's work environment (De Lange, De Witte, & Notelaers, 2008), benefits to personal health (Liljegren & Ekberg, 2008), and career and salary advances (Topel & Ward, 1992). However, despite such positive effects, the issue of voluntary turnover merits attention at the organisational level (Abbasi & Hollman, 2000; McConnell, 1999).

For example, high voluntary turnover has implications for the quality and the stability of public sector services (Mor Barak, Nissly, & Levin, 2001). Such turnover is also costly (e.g., O'Connell & Kung, 2007; Sagie, Birati, & Tziner, 2002; Staw, 1980), particularly when qualified employees such as managers leave (Mor Barak et al., 2001). Moreover, organisations often have direct costs relating to the expenses of recruiting and training and indirect costs relating to the losses in efficiency, competence and productivity (Hayes et al., 2006; Mor Barak et al., 2001; Shaw, 2011). Research shows that employee turnover is also disruptive and expensive (Kacmar, Andrews, Van Rooy, Steilberg, & Cerrone, 2006). In addition, high turnover may create negative publicity and exacerbate citizen's often unfavourable view of the public sector (Leland et al., 2012).

While employee and manager voluntary turnover in the private sector is relatively well researched, fewer studies on such turnover in the public sector exist. This is particularly the case for the research on managerial turnover (Selden & Moynihan, 2000) although the negative consequences of managerial turnover may be significant (Hambrick, Finkelstein, & Mooney, 2005). Despite findings from the research related to managerial turnover in the private sector, those findings might not directly apply to the public sector where work conditions and requirements differ (Wang, Yang, & Wang, 2012). The public sector manager's role is a complex assignment that is often characterised by contradictory objectives (Cregård & Solli, 2012), competing demands and interests, and ethical dilemmas (Maslach, Shaufeli, & Leiter, 2001; Pousette, 2001). At the same time, the public sector manager works under a government budget that is typically threatened by cuts and reforms (Härenstam, 2005; Pousette, 2001). Therefore, as Cregård and Solli (2012) conclude, municipal managers should be multi-logical because they work with a wide array of strategies, problems, and actions. Furthermore, they have to appear and behave objectively.

Although generalisations across populations on voluntary turnover have provided insights on job satisfaction and alternatives (Griffeth, Hom, & Gaertner, 2000), more research on the causes of public sector managerial turno-

ver is needed. We need to know much more about why managers voluntarily leave their positions. Such research could help us respond to those societal, demographic, and organisational challenges that the public sector increasingly faces.

In this article, we review the research relating to voluntary managerial turnover in the public sector that was published between 1992 and 2014. Our aim is to identify and review studies that may be useful for public sector decision-makers as well as public sector researchers. We next list the questions that guide our review and our reasons for choosing these questions.

1. What is the magnitude of voluntary managerial turnover in the public sector and how is it measured? Because the magnitude and the measurement of managerial turnover may differ among countries and among operations, this question may lead to a better understanding of where actions are most urgently needed.
2. What are the antecedents of voluntary managerial turnover in the public sector? The question may lead to actions that can reduce managerial turnover.
3. What are the ways forward for voluntary managerial turnover in the public sector? While the first two questions concern practice in the public sector, this question looks at the possibilities for future research on public sector managerial turnover.

Theory

In this section we define managerial turnover and describe its antecedents. We also describe turnover intentions as a proxy for actual turnover as well as why we do not include turnover intentions in our investigation. In our theoretical framework, we use studies that review and discuss turnover research in general rather than specific empirical research relating to managerial turnover in the public sector.

The term turnover is often used in research to refer to the termination of an individual's employment for various reasons including retirement or change of workplace. In the latter case, we use the sub-terms external mobility and internal mobility that refer, respectively, to leaving an organisation or to changing position within an organisation (Liljegren & Ekberg, 2008; Van Vianen, Feij, Krausz, & Taris, 2003). Furthermore, turnover can be voluntary or involuntary. According to Bluedorn (1978), voluntary turnover, which is characterised by employee-initiated termination of employment, includes voluntary retirement, resignation, and suicide. Involuntary turnover includes involuntary dismissals (e.g., firings or layoffs) and mandatory retirements (Bluedorn, 1978; McElroy, Morrow, & Fenton, 1995). Involuntary turnover may also result from the em-

ployee's poor mental and physical health and from natural death (McElroy et al., 1995). The employee does not initiate involuntary turnover (Bluedorn, 1978).

The turnover research in the last two decades has mainly focused on voluntary turnover and its antecedents. One area of this research concerns the so-called push and pull factors that derive from people's perceptions of their experiences at their present employment that cause them to leave (push factors) and the appeal of employment at other organisations (pull factors) (Davidson & Wang, 2011). According to Lambert (2001), these antecedents can be grouped into three general areas: 1) personal characteristics, 2) work environment, and 3) job satisfaction and organisational commitment. Turnover intentions have a special role in the turnover literature as proxies for turnover.

Personal Characteristics

Researchers have studied various personal characteristics that may influence turnover among employees (Flinkman, Leino-Kilpi, & Salanterä, 2010; Hayes et al., 2006; Mor Barak et al., 2001). Some researchers have identified several demographic determinants such as youth, gender, and education in addition to qualifications as antecedents to turnover (Flinkman et al., 2010; Hayes et al., 2006; Mor Barak et al., 2001). The possibility of job tenure has also been shown to be significant as far as turnover intentions (Knudsen, Ducharme, & Roman, 2009) and actual turnover (Griffeth et al., 2000). Meta-analyses have revealed that performance can also predict turnover because high performers are less likely to leave (Griffeth et al., 2000; McEvoy & Cascio, 1987).

In a study on retail personnel, including managers, Hom and Kinicki (2001) found that inter-role conflicts (e.g., between work and family life and/or between work and personal demands) tend to increase turnover intentions. Other studies have pointed to the influence on a person's number of children on turnover (e.g., Griffeth et al., 2000). Some managers leave their positions because they wish to advance their careers and/or they seek more challenges and power as well as increases in compensation (Lee, Mitchell, Holtom, McDaniel, & Hill, 1999). However, in their extensive meta-analysis Griffeth et al. (2000) argue that demographic factors such as gender, race, and education are less important explanations of turnover than other factors such as promotion opportunities and increased compensation. In general, demographics (Lambert et al., 2001), personality factors such as assertiveness and rigidity (Naus, van Iterson, & Roe, 2007), and the Big Five personality factors that Van Vianen et al. (2003) describe (i.e., openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism) are less related to turnover than the work environment is.

Work Environment

Traditionally, research has paid less attention to the work environment as an antecedent to turnover (Peterson, 2007). Yet the organisation's work environment can cause employees to remain at their organisation or to leave it (Berglund, 2007). Similarly, research shows that work conditions related to organisa-

tional factors and work tasks influence turnover intentions (Tham, 2007) and may even outweigh predictors related to personal characteristics (Naus et al., 2007). As noted above, career opportunities and financial rewards in some cases are more important as antecedents to voluntary turnover than job dissatisfaction and lack of organisational commitment.

Researchers have also studied psychosocial work conditions such as various job demands as possible antecedents to voluntary turnover. For example, Kira and Forslin (2008) found that when managers who are required to be active, present, and supportive even as they engage in the bureaucratic daily practice tend to leave their positions. High role conflict also seems to influence turnover intentions (Tham, 2007) and actual turnover (Berglund, 2007; Lambert, 2001). Tham also found that employees who intend to leave their jobs experience more work task-related demands (e.g., quantitative performance measures), more role conflicts, and less role clarity and control.

Several researchers have linked social relationships to voluntary turnover. Moynihan and Pandey (2007), for example, demonstrated that the probability of remaining at an organisation increases if social networks exist (see also Lambert, 2001). Cooperation among employees has also been shown to reduce turnover intentions (Berglund, 2007). Work group cohesion has been found to influence actual turnover (Griffeth et al., 2000). In addition, Tham (2007) found that individuals with turnover intentions generally experienced a less favourable social climate at work. Nordin (2009), who surveyed the importance of social relationships at work among male and female employees, found that the lack of work social relationships increased the likelihood that men would leave the workplace voluntarily, sometimes because of poor health. For women, poor work social relationships increased the probability that they would remain at their current workplace.

Some researchers claim that psychosocial work conditions characterised by low job autonomy and control influence turnover intentions (Berglund, 2007; Griffeth et al., 2000). De Lange et al. (2008) support these results in their study that finds that low job autonomy plus scarce departmental resources are significant predictors of voluntary turnover. Lambert (2001) argues that the focus should be on work autonomy and inclusive participation as factors that increase job satisfaction and reduce turnover.

A number of psychosocial work conditions related to leadership are suggested as reasons for employees' intentions to leave their workplace. These include the lack of support and feedback from superiors (Skytt, Ljunggren, & Carlsson, 2007; Tham, 2007), the lack of rewards for jobs well done, and management's disinterest in employee health and well-being (Tham, 2007). Furthermore, managers' span of control (i.e., the number of subordinates) has been shown to increase employee turnover (Burke, 1996; McCutcheon, 2004).

Job Satisfaction and Organisational Commitment

In the early turnover research, the most researched variables of turnover were job satisfaction and organisational commitment. Researchers found that these varia-

bles were the most relevant antecedents of a person's intention to leave a job or to remain at a job (Hom & Griffeth, 1991; Tett & Meyer, 1993). However, Griffeth et al. (2000) found in their meta-analysis that different aspects of job satisfaction only modestly predict turnover. For example, people may feel that the rewards received are not proportional to their performance (Siegrist et al., 2004).

More recent research has examined why employees are (or are not) satisfied with, and committed to, their jobs. For example, McMurray, Scott, and Pace (2004) found that recognition, trust, and managerial support may explain employees' organisational commitment. Mathieu and Zajac (1990) concluded in their meta-analysis of previous empirical studies on commitment that managerial practices and leader-group relations are important explanations of the leave/remain decision.

Turnover Intentions and Actual Turnover

As several studies have demonstrated, a link exists between people's turnover intentions and actual turnover (e.g., Allen, Shore, & Griffeth, 2003; Hom & Kinicki, 2001; Liljegren & Ekberg, 2008; Mitchel, 1981; Mor Barak et al., 2001; Tett & Meyer, 1993). Thus, turnover intentions are useful proxies for actual turnover (Griffeth et al., 2000). Despite this linkage, however, the relationship is ambiguous (for an overview, see Mor Barak et al., 2001; Tett & Meyer, 1993).

Several studies emphasise that turnover intentions become turnover actions more often in some situations than in others. In general, downturns in the economy influence perceptions about employability and turnover (Mor Barak et al., 2001; Selden & Moynihan, 2000). Recessions also weaken the predictive power of turnover intentions on actual turnover as Hom and Kinicki (2001) claim in their study that shows that turnover intentions increase turnover risk when combined with the possibility of job alternatives. A study on European nurses reveals that the probability of turnover increased when the nurses could find new positions in the same town as their current positions (Josephson, Lindberg, Voss, Alfredsson, & Vingård, 2008). Steel and Lounsbury (2009) argue in their literature review that most research today addresses ease of movement (i.e., perceived job alternatives and the economy) with the desire to leave.

Nevertheless, as Griffeth et al. (2000) conclude, turnover intentions may still be regarded as one of the best predictors of actual turnover. Furthermore, turnover intentions are relevant for another reason. Despite their stated intentions to leave their jobs, employees who do not act on these intentions report more health problems such as headaches, mild depression, and fatigue than other employees (Aronsson & Göransson, 1999).

Thus, turnover intentions are often used in studies on turnover as proxies for actual turnover, particularly in cross-sectional studies in which the researcher also investigates other antecedents to turnover (Hayes et al., 2006; Flinkman et al., 2010; Mor Barak et al., 2001). However, several researchers have challenged this approach because of the perceived weakness of the relationship between turnover intentions and actual turnover (Mor Barak et al., 2001; Tett & Meyer, 1993). DiRenzo and Greenhaus (2011, p. 567) address this criticism when they

describe “the shocks or jarring events, including unsolicited job offers and family-related pressures and responsibilities ...” that influence turnover intentions. These authors also argue that today’s organisations hesitate to develop long-term relationships with employees in order to maintain the flexibility and leanness that influences employees’ loyalty and behaviour.

Because the many reasons for voluntary turnover are too complex to simply describe them in terms of turnover intentions in our review of the research on managerial turnover in the public sector, we exclude studies that do not measure actual turnover but instead use turnover intentions as proxies.

Method

We conducted our literature search with the aim of identifying published articles that empirically investigated voluntary turnover among public sector managers at all hierarchical levels. We identified relevant articles using PsycINFO, PubMed, and Scopus databases (computer-based indexing archives). These databases comprehensively cover the fields of the behavioural and social sciences, medicine, humanities, and so forth. Our first literature search (in August of 2013) focused on articles published between 1992 and 2012; our second literature search (in January of 2015) focused on articles published between 2013 and 2014. Thus we reviewed two decades of research on managerial turnover in the public sector.

We used the following terms in the two literature searches: “turnover” OR “job mobility” AND “manager*” AND “public” in the title or abstract, or keywords. We refined our search by using the databases’ search options and limiting the results by record type (peer-reviewed journal article), subject (turnover, personnel turnover, mobility, employee turnover, and turnover time, but excluding turnover intentions), and language (English).

The first literature search yielded 960 articles, of which 82 were duplicates. In the second literature search we identified 125 articles, of which five were duplicates. All duplicates were excluded in the first screening of their abstracts (see Table 1).

To be included in our review, the articles had to meet the following five criteria: 1) published in a peer-reviewed journal between January 1992 and December 2014; 2) in English; 3) a study sample of managers in the public sector; 4) based on empirical data measuring turnover as actual managerial turnover; and 5) with a focus on voluntary turnover – although the focus could also include involuntary turnover. Therefore, we had to define the term public sector, bearing in mind that different countries have different welfare and governance systems. In our review, we use only articles that examine managerial turnover at organisations that are funded, at least partly, by taxes and/or are governed by politicians.

Most (almost 800) of the articles were excluded because they did not have a sample of managers in the public sector or did not separate managers from other employees. After a third screening, where the Method sections of the articles were screened in detail, we identified 20 articles that seemed to match all our

criteria. However, after further analysis, we excluded eight of these articles for the following reasons: five articles used turnover intentions as proxies for actual turnover, one article did not specifically separate managers from other employees, and one article did not investigate managers as we had originally assumed. This left us with 12 articles on actual managerial turnover in the public sector. See Table 1.

Table 1. Literature search strategy

Databases	PubMed PsychINFO Scopus		
Search terms	turnover OR job mobility AND manager* AND public; in title, abstract or keywords; refined search (record type, subject and language) Search 1: Jan 1, 1992—Dec 31, 2012 Search 2: Jan 1, 2013—Dec 31, 2014		
Articles found	Databases	Search 1	Search 2
	PubMed	308	16
	PsychINFO	422	52
	Scopus	230	57
Total		960	125
Duplicates		82	5
Inclusion criteria	Peer reviewed, in English Published Jan 1992—Dec 2014 Study sample of managers in the public sector Empirical data measuring actual turnover		
Final selection	12 studies on actual managerial turnover in the public sector		

We developed a standardised procedure for data collection from the 12 articles: 1) background information (author, title, journal, and research location); 2) research design, setting, and sample; 3) dependent variable(s); 4) independent variable(s); 5) rates of turnover; and 6) main findings.

We used a methodological coding and analysis scheme, freely adapted from a quality-rating tool used in previous literature reviews (Cummings et al., 2010; Lee & Cummings, 2008). We used this scheme to assess each study's methodological description (research design and sampling procedure).

We categorised the articles' research location and managerial level in order to identify the types of managers studied. See Table 2. In the next step we fo-

cused on the methodological variety in the studies and how the magnitude of turnover was measured. See Table 3 and 4. The second step allowed us to investigate whether the studies were methodologically compatible with each other, for example, in the way they measured turnover. In the third step, in which we examined the articles' findings, we used three categories of antecedents that we describe in the Theory section (factors related to job satisfaction and organisational commitment, personal characteristics and work environment). See Tables 6:1-6:2 and 7.

In the final step we discussed and evaluated our methodological process and the articles' findings by focusing on our research questions. We realised that our expectations on findings exceeded the outcome, and this was due to the small volume of previous research in the field.

Results

Six studies were conducted in the United States, two in the United Kingdom, two in Sweden, one in Australia, and one in Austria. Thus, the 12 studies were all conducted in Western societies, a fact that our search strategy and our inclusion criteria may partially explain.

The 12 articles describe managers in healthcare, governmental agencies, state-owned enterprises, universities, cities, and counties. As Table 2 and 3 shows, managers at the top level are the primary focus of the articles. Nine articles examine this management level, one article investigates the lower management level, and two articles do not specify a managerial level.

Table 2. Background information on the 12 articles

Article	Country	Setting*	Level
Boyne et al., 2010a	U.K.	Local authorities	Top management
Boyne et al., 2010b	U.K.	Local authorities	Top management
Castle, 2005	U.S.	Regional authorities	Top management
Castle & Lin, 2010	U.S.	Regional authorities	Top management
Engwall, 2014	Sweden	State authorities	Top management
Ennsner-Jedenastik, 2014	Austria	State authorities	Top management
Feiock et al., 2001	U.S.	Local authorities	Top management
Johnstone, 2003	Australia	Regional authorities	Lower management
McCabe et al., 2008	U.S.	Local authorities	Top management
Peterson, 2009	U.S.	State authorities	Unspecified
Skagert et al., 2012	Sweden	Regional authorities	Unspecified
Tekniepe & Stream, 2010	U.S.	Regional authorities	Top management

Note *: Settings were categorised as follows: local authorities (also labelled as cities); regional authorities (also labelled as healthcare and counties); and state authorities (labelled as state government agencies and state-owned enterprises).

Table 3. Research design and sample in the 12 articles

Article	Research design	Sample
Boyne et al., 2010a	Time-series 4-wave panel of register-based data.	Boroughs, shires, counties and unitary authorities (n=419) that controlled by a political party.
Boyne et al., 2010b	-“-	-“-
Castle, 2005	Cross-sectional study; survey and register data.	Nursing homes (n=470).
Castle & Lin, 2010	Longitudinal design, survey and register-based study.	Nursing homes (n=2946).
Engwall, 2014	Time-series register-based study.	Vice-chancellors in universities (n=165).
Ennsner-Jedenastik, 2014	Register-based study, Cox proportional hazard regression.	Managers at 87 state-owned enterprises (n = 1671)
Feiock et al., 2001	Longitudinal pooled cross-sectional panel. Register data.	Cities (n=233).
Johnstone, 2003	Cross-sectional descriptive survey study. Response rate 42 %.	Nurse managers (N=803).
McCabe et al., 2008	A pooled time-series cross-sectional register-based design of 14 annual observations (1986-1999).	City managerial turnover in cities (n = 143).
Peterson, 2009	Survey study, response rate 73 %. Logistic regressions.	Managers (n=679) in three state agencies.
Skagert et al., 2012	Prospective longitudinal cohort survey study. Descriptive statistics and cox regressions.	Healthcare managers (n=216).
Tekniepe & Stream, 2010	Time-series register based data using a pooled cross-sectional panel (1992-2006). Cox proportional regression analysis.	County managers (N=98).

Next we present the results of our analysis of the 12 articles in relation to our two research questions on magnitude/measures and antecedents to managerial turnover in the public sector. Our third question, which concerns the ways for-

ward in reducing voluntary managerial turnover in the public sector, is addressed in the Discussion and Conclusion section.

How is managerial turnover measured?

Nine articles are register-based data (two in combination with a survey directed to administrators in the current organisation) with a time-series pooled design. Three articles are survey studies. Two articles are survey studies with a longitudinal design; one article is a survey study with a repeated cross-sectional design. The samples and data were either collected at the organisational level (the register-based studies) or from individual managers (the survey studies). Eight studies measure managerial turnover as “remained/departed” or “new in position”. The timeframes of the studies vary between eight months and five years. Two studies define managerial turnover as the number of managers no longer employed divided by the number of managers in established positions. Two studies measure turnover as the length of job tenure. Managerial turnover is treated both as a dependent and as an independent variable. See Table 4:1-4:2.

Table 4:1. The measurement of managerial turnover

Article	Dependent variable(s)	Independent variable(s)
Boyne et al., 2010a	Top management turnover rate (continuous variable). Chief executive succession (dichotomous variable).	Changes in political party, organisational performance (binary indicators).
Boyne et al., 2010b	Top management turnover rate; same as Boyne et al., 2010a	Organisational performance
Castle, 2005	Turnover: employees no longer employed divided by the number of established positions.	The per cent of turnover during one year; also staffing factors and job design, organisational and market factors.
Castle & Lin, 2010	14 quality indicators from the report card (Nursing Home Compare).	The per cent of turnover of top management during one year before the survey.
Engwall, 2014	Term of office: the difference between end year and starting year.	The age of the universities (old/young).
Ennser-Jedenastik, 2014	Tenure of managers on supervisory and executive boards.	Three dichotomous predictors indicating individuals' affiliation with parties; also size of enterprises.

Table 4:2 The measurement of managerial turnover

Article	Dependent variable(s)	Independent variable(s)
Feiock et al., 2001	Turnover as 'new in position' among city administrators or mayors during four five-year-periods.	Turnover in elected office, characteristics of local political system, potential for community cleavages, communities' economic performance.
Johnstone, 2003	Informants' reasons for leaving and for intending to remain.	
McCabe et al., 2008	Actual turnover (register data). Single dichotomous variable each year.	Push variables: elected council members turnover; short-term economic change. Pull variables: increase in per capita personal income; demographic factors (e.g., population growth).
Peterson, 2009	Dichotomous variable of turnover one year after survey data.	Instrument: Organisational Integration Survey for Managerial Employees (Peterson, 2007).
Skagert et al., 2012	Dichotomous variable of internal turnover.	Work factors, e.g. job demands and contact with patients, and individual resources, e.g. energy left for domestic work and leisure activities.
Tekniepe & Stream, 2010	Manager tenure (dichotomous variable).	Political uncertainty. Fiscal stress. Community instability. County manager profile.

What is the magnitude of managerial turnover?

Only two articles define managerial turnover as the number of managers no longer employed divided by the number of managers in established positions. These articles also report the highest turnover rates. Actual managerial turnover rates reported annually in the 12 studies vary between 5 % and 42 %. See Table 5.

Table 5. Turnover rates in percentages

Article	Turnover rates
Boyne et al., 2010a	19 % of the top management team is replaced in a given year. Chief executive succession is 19 % in a given year.
Boyne et al., 2010b	The expected probability that a chief executive succession will occur in a council is nearly 20 %.
Castle, 2005	39 % average turnover for top management.
Castle & Lin, 2010	Top management turnover for one year was more than 31 %.
Engwall, 2014	Remain in office: - young universities first time cluster. 10 years; fifth time cluster, 5 years - old universities, 7 years
Ennsner-Jedenastik, 2014	22 % leave within 550 days, 57 % stay longer than three years.
Feiock et al., 2001	Within a five-year period 67 % of the city administrators were new to their positions, and 71 % of the mayors had left.
Johnstone, 2003	During the 1990s 33% had not changed jobs, and 9 % had changed jobs at least three times.
McCabe et al., 2008	No measurement of total turnover.
Peterson, 2009	5.3 % turnover one year after the survey data were collected.
Skagert et al., 2012	74 % remained as managers two years after baseline. 60 % remained as managers four years after baseline.
Tekniepe & Stream, 2010	76 departures in 15 years in 32 counties (approx. 16 % of annual turnover).

What are the antecedents of managerial turnover in the public sector?

In the Theory section we categorized the antecedents to turnover in three general areas (Lambert, 2001): 1) personal characteristics, 2) work environment, and 3) job satisfaction and organisational commitment. See Table 6:1-6:2.

Table 6:1 Antecedents to managerial turnover

General areas of antecedents	Main findings on antecedents
Work environment	<ul style="list-style-type: none"> - Organisational performance in local government has a negative effect on turnover (the effect is weaker for chief executives than for members of the top management teams). Top team turnover is higher in the years following the chief executive succession (Boyne et al., b). - Top management turnover in healthcare influences the turnover of different staff categories (Castle, 2005). - Managers' affiliations with the political opposition predict managerial removal. Affiliation with the minister's party predicts a longer tenure (Ennser-Jedenastik, 2014). - The turnover among mayors leads to the turnover of administrators (McCabe et al., 2008). - Managers at state organisations who are part of the social context are more likely to remain (Peterson, 2009). - Daily contact with patients is associated with a reduced likelihood of remaining as a manager. Remaining on the job as a manager in healthcare is predicted by moderate to high job control (Skagert et al., 2012)
Job satisfaction and organisational commitment	<ul style="list-style-type: none"> - Nurse managers left because certain aspects of their jobs were unsatisfactory, stressful, or intolerable (Johnstone, 2003). - Aspects of the work environment that are associated with individual perceptions of job satisfaction and commitment to the organisation predict turnover (Peterson, 2009).

Table 6:2 Antecedents to managerial turnover

General areas of antecedents	Main findings on antecedents
Personal characteristics	<ul style="list-style-type: none"> - Nurse managers leave their jobs mainly for career development (often within the same organisation) or for other positive professional or private reasons (Johnstone, 2003). - Managers scoring higher in career decision-making self-efficacy, career integration, extra-organisational integration, and overall integration are more likely to stay (Peterson, 2009). - Individual resources (related to energy and recovery) do not predict remaining on the job as a manager in healthcare (Skagert et al., 2012). - Top managers with higher levels of formal education and top managers who are recruited within the county organisation are less likely to leave within a short period (Tekniepe & Stream, 2010).
Other aspects not covered in the general areas of antecedents above	<ul style="list-style-type: none"> - Political control and organisational performance influence turnover among top managers and chief executives (Boyne et al., 2010a, b). - Local government managers' careers are subject to political change and economic wellness (McCabe et al., 2008). - Increases in political uncertainty, fiscal stress, and counties' scope of jurisdiction positively influence county managers' turnover (Tekniepe & Stream, 2010). - Increased turnover in university top management may be a consequence of an increased market orientation (Engwall, 2014).

Four articles investigate personal characteristics as antecedents to managerial turnover: Johnstone (2003), Peterson (2009), Tekniepe and Stream (2010), and, to a lesser extent, Skagert, Dellve, and Ahlberg (2012). Peterson (2009, p. 456) investigated both individual and organisational factors and found that “confidence in one’s ability to engage in career information-gathering and career decision-making” is a relevant factor in turnover studies because it explains why some public sector managers remain at their organisations. In describing the most important reason that the respondents in her study remained in their positions, Johnstone (2003, p.12) writes: “. . . about 70 % of nurse managers change

jobs for largely positive, personal or professional reasons, including promotion and/or career development”.

The studies report that promotion and career development is the most important reason for changing jobs. Tekniepe and Stream (2010) found that county managers in the United States tended to remain in their jobs for longer periods if they had higher levels of formal education and their organisations had a policy of internal promotion. In their study of the Swedish healthcare sector, Skagert et al. (2012), however, conclude that working conditions rather than “individual resources” relate to managerial turnover. Thus, the research is mixed on the influence of personal characteristics in the public sector as antecedents to voluntary managerial turnover.

Six articles identify the work environment as an antecedent to managerial turnover. Boyne, James, John, and Petrovsky (2010b) suggest that chief executive turnover influences top management turnover in the United Kingdom. Similarly, Castle (2005), who examined turnover in U.S. nursing homes, argues that an increase in managerial turnover is associated with an increase in turnover among lower level employees. Feiock, Clingermayer, Stream, McCabe, and Ahmed (2001) found that turnover among mayors in U.S. cities leads to turnover among administrators.

Some articles examine other antecedents. For example, in a study of supervisory and executive boards in state-owned enterprises Ennser-Jedenastik (2014) claims that “political determinants” are a major driver of managerial turnover. The claim is that managers’ affiliations with the government, the opposition, or individual ministers can explain longer tenures in positions. Boyne et al. (2010b) conclude that public service performance has a negative effect on managerial turnover although this effect is less for chief executives than for senior managers.

According to Peterson (2009), managers in an organisation with opportunities for social interaction are more likely to remain in their positions. Skagert et al. (2012) argue that low job control and daily contacts with patients increase managerial turnover.

Two articles address job satisfaction and organisational commitment. Johnstone (2003) finds that dissatisfaction with work and the work environment is an important reason for leaving a job. In her study of managers in state agencies in the United States, Peterson (2009) describes the effect on turnover resulting from the linkage between the work environment (e.g., managerial activities and career development) and individual perceptions of job satisfaction and organisational commitment. She reports that managers who score high on career decision-making self-efficacy with “confidence in one’s ability to engage in career information-gathering and career decision-making” (p. 256) were more likely to stay. She also argues that managers’ sense of connectedness with the organisation explains why managers remain.

Although we found many antecedents to managerial turnover following Lambert’s (2001) three categories, we identified yet other antecedents. Several articles relate managerial turnover to political change and economic recession

(Boyne et al., 2010a, b; McCabe, Feiock, Clingermayer, & Stream, 2010). Engwall (2014), who claims turnover in university top management is increasing, concludes that the increased market orientation in higher education explains this trend.

Table 7 summarizes the antecedents found in the 12 articles, categorised by management level and antecedent category. The table thus reveals where the lack of knowledge on managerial turnover is particularly severe. We recognize the limitations of this summary in that it does not consider the variety of management positions in the public sector; only antecedents focused on top managers' work environment are considered.

Table 7. Antecedents to actual managerial turnover in the public sector

Level	Personal characteristics	Work environment	Attitudes (job satisfaction and organisational commitment)
Top management	Lower levels of education Recruited externally	Change in political control Partisan affiliation (with the opposition) Low organisational performance Chief executive turnover (on top team turnover) Economic insecurity Turnover among mayors/politicians Political uncertainty	
Lower management	Career development Other positive professional or private reasons		Unsatisfactory, stressful or intolerable aspects of the job
Unspecified level		Daily contact with patients (Low) job control	Career decision-making self-efficacy (low) Integration (low)

Discussion and Conclusion

Our research questions as we conducted this literature review were the following: What is the magnitude of voluntary managerial turnover in the public sector and how is it measured? What are the antecedents of voluntary managerial turnover in the public sector? What are the ways forward for voluntary managerial turnover in the public sector?

Research on the measurement of managerial turnover among public sector managers is scarce. We identified only 12 articles published between 1992 and 2014 that met our selection criteria. These articles, which examine various managerial positions, settings, and levels, report annual turnover rates ranging between 5 % and 42 %. We assume this difference may in part relate to the measurement methods used. Another explanation may be that our sample of 12 research studies is too small to compare countries (and hence welfare/governance systems) operations, or sub-sectors. Therefore, we suggest more research is needed on the reasons for this disparity in the magnitude of managerial turnover reported in the public sector.

Our findings do not provide a coherent picture of why public sector managers leave, or remain in, their positions. Therefore, we also suggest more research is needed in this area. Such research could be of value to governments and politicians in their efforts to provide society with efficient and high quality public services.

This review contributes to the literature in two ways. First, it reveals the scarcity of research related to managerial turnover in the public sector. Tables 5 and 6, which list the investigated antecedents to managerial turnover, offer some analysis into this development. Our review shows that turnover leads to more turnover, that the work environment influences turnover – at least at the top management level – that both push and pull factors influence turnover at the lower management level, and that education and recruitment are relevant factors at the top management level.

Second, and related to our third research question on the ways forward, this review adds to the discussion on the influence of a dominant analytical mindset (DAM) on turnover research. Allen, Hancock, and Vardaman (2014), who reviewed the turnover literature on employee turnover published in influential management journals during 52 years, claim that turnover research is stuck in this mindset. They describe this mindset as follows: "... researchers in a particular domain tend to approach their subject matter from the perspective of particular research designs, data collection and measurement strategies, and analytical techniques" (p. 62). The problem with turnover research stuck in a DAM is that our understanding of the phenomenon does not increase – at least not very rapidly or extensively. As a result, theoretical as well as practical research progress is slow. More research attention is therefore needed on the negative effects of high turnover (e.g., the financial, social, organisational, and individual costs) with the aim of decreasing managerial turnover in the public sector.

Although turnover research in general is fairly extensive there is much less research on actual managerial turnover in the public sector with only a few peer-reviewed articles available. This research seems uninfluenced by a DAM. Given the meagre contribution of current research on managerial turnover in the public sector, more research in the area is needed. Therefore we propose the following three avenues for further research.

1. Comparisons between and categorizations of private/public and welfare systems. According to Griffeth et al. (2000), because of the large differences between the public and private sectors it is difficult to transfer results from one sector to the other. However, there are also many differences within the categories of the public and private sectors, particularly in the area of operations, which result from the wide variety of publicly financed welfare/governance systems. Research is needed that addresses these differences based in more coherent and relevant analyses across borders of various kinds.
2. Comparisons among managerial levels. Our review reveals considerable differences among the researched antecedents to turnover at different managerial levels. A number of factors influence turnover among top managers: the political arena, the organisation itself, and the external environment. For lower level managers, personal characteristics are more investigated. Research is needed that examines these influences at the various managerial levels and addresses whether findings are applicable from one level to another.
3. Qualitative studies that complement quantitative studies. For a deeper understanding of managers' turnover decisions we need to examine further their reasoning and explanations. Follow-up, qualitative studies could strengthen quantitative studies on managerial turnover and could also help public sector organisations better control voluntary turnover.

In conclusion, our literature review supports the call by Allen et al. (2014) for more research in under-investigated areas of employment turnover. We recommend that more research be conducted on voluntary turnover among public sector managers in order to broaden this research field and to make its findings available to all interested parties, particularly governments and politicians.

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