

**Management interventions and
motivation crowding effects
in public service provision**

Christian Bøtcher Jacobsen

PhD Dissertation

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motivation crowding effects
in public service provision**

Department of Political Science and Government
Business and Social Sciences
Aarhus University

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Aarhus University

Bartholins Allé 7

DK-8000 Aarhus C

Denmark

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Chapter 1: Introduction

This dissertation studies how managerial interventions affect the motivation and performance of public service providers. With an outset in motivation crowding theory the dissertation focuses on how the effects of managerial interventions depend on whether employees perceive them as either controlling or supportive (Frey, 1997). Providing knowledge about the success and failure of managerial interventions in the public service sector is important, because public service organizations undertake vital tasks with great impact on people's lives and the functionality of society. The performance of public service organizations is therefore a topic of major concern for policy makers, scholars, and managers alike. They are all interested in knowing more about how employees can be motivated and how the performance of the service personnel can be increased, so more services can be provided at lower cost and higher quality (Walker, Boyne & Brewer, 2010). This concern is especially prevalent in these times of economic austerity.

A dominant example of this interest is the wave of New Public Management reforms, which have swept public sectors world-wide over the past two to three decades (Kettl, 2005). These reforms stress a number of improvements at the organizational level such as budgetary transparency, increased competition, quasi-markets, and decentralization (Dunleavy & Hood, 1994), but many reforms also involve the assumption that the public sector lacks incentives for individual public employees to perform (OECD, 2005; Dixit, 2002; Hood, 1991; 1995; Dunleavy & Hood, 1994; Moe, 1984). Based on the latter argument many public service organizations have introduced individual pay-for-performance (Langbein, 2010; Perry et al., 2009; Kellough & Lu, 1993), and though it is often said that the reforms have supplanted traditional command-and-control for greater delegation (Dunleavy & Hood, 1994; Christensen & Lægheid, 2006), this delegation is paradoxically also associated with increased use of command systems with specific regulations of process and performance (Bertelli & John, 2010; James, 2000) in the attempt to maintain accountability. Typically both pay-for-performance schemes and command systems imply assumptions of public employees as potential shirkers, and the expectation is therefore that interventions can motivate them to higher performance.

However, the dissertation takes its point of departure in the observation that such interventions in public service organizations often cause more harm than good for employee motivation and performance (Perry et al., 2009; Frey & Jegen, 2001). Economically inspired explanations can to some extent help explain such failures as caused by for example transaction costs (Williamson, 1975; 1981), program design problems (e.g. low-powered incentives or insufficient contracts) (Moe, 1984; Fama & Jensen, 1983; Holmstrom, 1979), team production (Alchian & Demsetz, 1972), and the principal's lack of credible commitment (Miller, 2000; 2005; Serritzlew, 2006). These explanations deliver some explanations of the variations in the effectiveness of managerial interventions, but with the insistence on economically rational man, they also neglect important aspects of employee motivation, which are often equally important. Particularly in a public service setting, where people work for many other reasons than pay (Perry & Hondeghem, 2008; Rainey, 1982), a perspective that takes motivation seriously is necessary to provide a better understanding of the failure and success of reforms. Theories on self-determination and public service motivation stress the importance of interest in the work itself (Gagné & Deci, 2005; Ryan & Deci, 2002) and the possibilities for helping others and society (Perry & Wise, 1990; Perry et al., 2009). According to these views, most public service providers are motivated to carry out their duties irrespective of external factors. This does not mean that money and commands have no effect, but rather that autonomous types such as intrinsic motivation (Frey & Jegen, 2001; Ryan & Deci, 2002) and public service motivation (Brewer, 2008; Perry & Wise, 1990) are expected to affect the strongest effects on behavior and performance. The implication is that instead of tightening the control and reward mechanisms, managers should grant employees more autonomy and discretion.

Motivation crowding theory argues that traditional economic theory holds too narrow assumptions about human aspirations (Frey, 1997; Frey & Jegen, 2001). People are not just motivated by self-interest to obtain benefits and avoid sanctions, and when interventions build on the assumption that they are, failure is certainly an option. The affected employees tend to perceive the interventions as control factors, and when employees feel controlled, their intrinsic motivation and performance are harmed. On the other hand, management interventions are sometimes implemented successfully. Thus, the economic argument is also relevant, and from a motivation crowding perspective this could mean that the disciplining effects of rewards or sanctions exceed possible crowding out effects. However, it may also mean that intrinsic motivation is enhanced, which is termed crowding in. According

to motivation crowding theory, crowding in happens when interventions perceived as supportive boost motivation and performance.

Thus, there is little doubt that managers play a vital role in the public service sector, but the important and disputed question is how they can manage successfully. There is fundamental disagreement on the degree to which public managers should rely on control and reward systems, and whether such interventions generally do more harm than good to employee motivation and performance. The dissertation builds on motivation crowding theory because it offers possibilities for reconciling the otherwise very oppositional literatures, and an important purpose is to offer empirically based answers to add nuance and show a way out of the trench warfare. Hence, the argument of the dissertation is that managerial interventions are indeed necessary in a politically led public sector, and that they can be successful if managers pay attention to employee motivation, and without such attention interventions will often fail, because employees become de-motivated. A prerequisite for such de-motivation is that employees are from the outset motivated intrinsically, and studies of the formation of motivation through recruitment and socialization processes are relevant as well. The dissertation focuses especially on the significance of the perception of the managerial interventions for their successfulness, and formally stated the central questions under study are: *How do managerial interventions affect public service providers' motivation and performance?*

The empirical studies on the effects of extrinsic motivators in the public sector show inconsistent results, and support is found for both the argument of tighter control and for more autonomy. Whereas some have found positive effects of economic incentives on performance (Burgess et al., 2002; Perry et al., 1989), others find no effects (Kellough & Lu, 1993; Pearce & Perry, 1983) or even negative effects (Perry et al., 2009). Regarding command systems, positive effects (Zoghbi-Manrique-de-Lara, 2011), no effects (Podsakoff et al., 1982) and negative results (Falk & Kosfeld, 2006) are likewise found.

Motivation crowding theory can help us understand these conflicting results and explain why incentives and command systems sometimes work but often backfire and harm both employee motivation and performance. The argument of motivation crowding theory is that employees are motivated both by external and internal factors, and that different types of motivation are closely related (Frey, 1997). In line with the economists, motivation crowding theory asserts that managerial interventions (commands and rewards) have positive effects on performance, because they alter the pay-off structure for the employees. Simply put, employees are expected to be interested in more money and in avoiding sanctions. However, people are also

motivated autonomously,¹ and autonomous motivation may be affected (usually without intention) by managerial interventions. This effect is termed the crowding effect. As mentioned above, the direction of the crowding effect depends on how the employees perceive the extrinsic motivators as either controlling or supportive. If extrinsic motivators generate crowding out, the performance effects will be smaller than expected, and if the crowding effect is big enough, performance may even be harmed. On the other hand, there is a potential 'double' win situation for managers, because if employees perceive incentives or command as supportive, their intrinsic motivation will be enhanced, and add to performance.

Motivation crowding theory has already become popular in the public administration literature, but too often motivation crowding is left only as a theoretical argument (e.g. Kettl, 2005; Burgess & Ratto, 2003; Dixit, 2002), as a residual explanation when other explanations have failed (e.g. Besley & Ghatak, 2005) or as a catchy term applied to related phenomena of motivational development such as attraction (Georgellis et al., 2011) or attrition (Lee & Whitford, 2008) of employees. However, there are a number of published studies of actual motivation crowding in the public sector, and they generally support the argument that interventions can have crowding effects on motivation (Bertelli, 2006) and performance (Andersen & Pallesen, 2008; Holmaas et al., 2010), and that perception plays a decisive role for the direction of the crowding effect (Andersen & Pallesen, 2008). This support for the overall motivation crowding argument makes it interesting and relevant to dig deeper into related questions. The dissertation will address some important questions, which are still left unanswered and offer four contributions to the motivation crowding literature.

First, the existing motivation crowding studies have mainly focused on managerial interventions through financial interventions, but in practice public managers rely much more on regulation and command than on incentives (Miller & Whitford, 2007). The few crowding studies of command systems (e.g. Falk & Kosfeld, 2006; Dickinson & Villeval, 2008) are based on laboratory experiments, and though they find support for the crowding mechanism, the results are not necessarily applicable to public service settings. Command systems may have utterly different effects than incentives, because they rely on potential sanctions instead of rewards, and they therefore imply wholly different signals to the affected employees. The crowding effects may therefore be stronger or at least different for command systems,

¹ Economists do not necessarily reject the existence of intrinsic motivation, but they usually treat it as a constant factor.

and an ambition of the project has been to study crowding effects of both command systems and incentive systems. The studies show that interventions sometimes have direct effects and sometimes not, and that the perception of the interventions can have substantial impact on the overall effectiveness of an organization.

Second, studies of motivation crowding have focused on performance effects, but only few studies have looked directly at motivation. The published studies that focus directly on motivation are either experimental (Weibel et al., 2010) or employ imprecise definitions of motivation (Bertelli, 2006). Furthermore, motivation crowding theory could apply to other types of motivation than intrinsic motivation (related to personal enjoyment and interest), and incorporation of especially the literature on public service motivation (Perry & Wise, 1990; Perry et al., 2010) can allow more depth to the motivation crowding studies. In the project, the term autonomous motivation covers intrinsic motivation and other types of motivation, which can potentially be crowded. Finally, this relationship is relevant because motivation crowding theory argues that the crowding mechanism goes through autonomous motivation, and since there is an established link from autonomous motivation to performance in the literature (Brewer, 2008; Ryan & Deci, 2002), it is relevant to test the effects directly on different types of autonomous motivation. The studies in the dissertation are very clear on this question, and the results show strong support for the argument that both intrinsic motivation and public service motivation can be negatively related to controlling perceptions.

Third, motivation crowding theory has introduced the perception of interventions as a crucial factor, but we have almost no knowledge of how this crucial factor is formed. The most intriguing question for public management is how managers can affect their employees' perception of interventions. First and foremost, managers should be interested in how they can avoid that their employees perceive interventions as controlling, because this will very likely lead to crowding out effects. According to motivation crowding theory, factors such as the personal relationship between managers and employees, the uniformity of the intervention, and the hardness of the regulation are expected to matter for whether employees perceive the managerial interventions as controlling or supportive (Frey, 1997). However, we have little evidence to back these propositions empirically. The dissertation commences on these questions in a study of the hardness of implementation strategies applied by school managers and finds support for the argument that hard enforcement is related to controlling perceptions. However, the picture also seems to be more complicated because this only applies when

the implementation is harder than the manager's general implementation style.

Fourth and finally, it is relevant to find out more about how motivation is shaped in public organizations in a broader sense. Motivation crowding is first and foremost relevant when people are highly motivated by autonomous motivation such as intrinsic motivation and public service motivation. It is therefore important to test the possibilities for organizations to attract applicants with certain motivational structures and to nurture motivation among employees. The studies show that both across the public and private sectors as well as between public organizations with different values and goals, the motivational patterns can differ substantially. An important result is that when public service providers enter the labor market for the first time, they can experience strong reality shock effects, but that the public sector dampens this negative effect on motivation. This may have important consequences for the motivational patterns in the two sectors and thereby for potential crowding effects.

This report provides an overview of the PhD dissertation, which has been conducted at The Department of Political Science and Government, Aarhus University. Apart from this report, the dissertation consists of seven articles and papers. The function of the report is to explain the contribution of the individual papers, and how they in combination form an argument about the relationship between management, motivation, and performance in public service provision. The papers in the dissertation are:

Jacobsen, C.B. & Andersen, L.B. (forthcoming). Performance management for academic researchers. How publication command systems affect individual behavior. [Referred to as *Performance Management*]

Jacobsen, C.B. (2011). Opening the black box of motivation. Crowding in or crowding out? [Referred to as *Black Box*]

Andersen, L.B., Jacobsen, C.B., & Serritzlew, S. (2011). How relative fees affect service utilization. [Referred to as *Relative Fees*]

Jacobsen, C.B., Hvidtved, J., & Andersen, L.B. (2011). Command and motivation, How the perception of management interventions relates to intrinsic task motivation and public service motivation. [Referred to as *Command and Motivation*]

Kjeldsen, A.M. & Jacobsen, C.B. (2012). Public Service Motivation and Employment Sector: Attraction or Socialization? [Referred to as *Attraction/Socialization*]

Jacobsen, C.B. (2012). Public service motivation og udfordringer for offentlig ansatte: Kalder offentlig service? *Politica*, 44 (1): 47-65. [Referred to as *Challenges*]

Mikkelsen, M.F., Jacobsen, C.B., & Andersen, L.B. (2012). How do managers affect employees' perception of command systems? [Referred to as *Perception*]

The papers in the dissertation draw on a number of different theoretical perspectives (mainly motivation crowding theory, but also literatures such as public service motivation theory, self-determination theory, and the attraction-selection-attrition model) to pose some critical questions on managerial interventions, employee motivation, and performance. To shed light on these questions, a number of occupations are selected so they allow the best possible empirical test of the specific theoretical arguments. Each article focuses on only one occupation, so as many factors as possible can be held constant. There is no intention of a larger comparison between the occupations, and the purpose of having several occupations is simply to allow for the best possible tests of theoretical arguments. For example the performance of researchers is investigated, because article production is a useful performance indicator, whereas the effects of command systems are investigated on teachers' perception, because a uniform command system has been implemented differently in the school system.

Table 1.1 lists the papers in relation to the theoretical focus, profession studied, the dependent variable(s) of each study, and the applied method(s). The two first papers, *Performance Management* and *Relative Fees* attempt to explain the effects of managerial interventions on performance. The papers *Black Box* and *Command and Motivation* study the effects of managerial interventions on motivation. The fifth paper offers a take on explaining how the very central perception variable can be affected by managerial actions. The two last papers, *Attraction/Socialization* and *Challenges* study the formation of motivation through job choices.

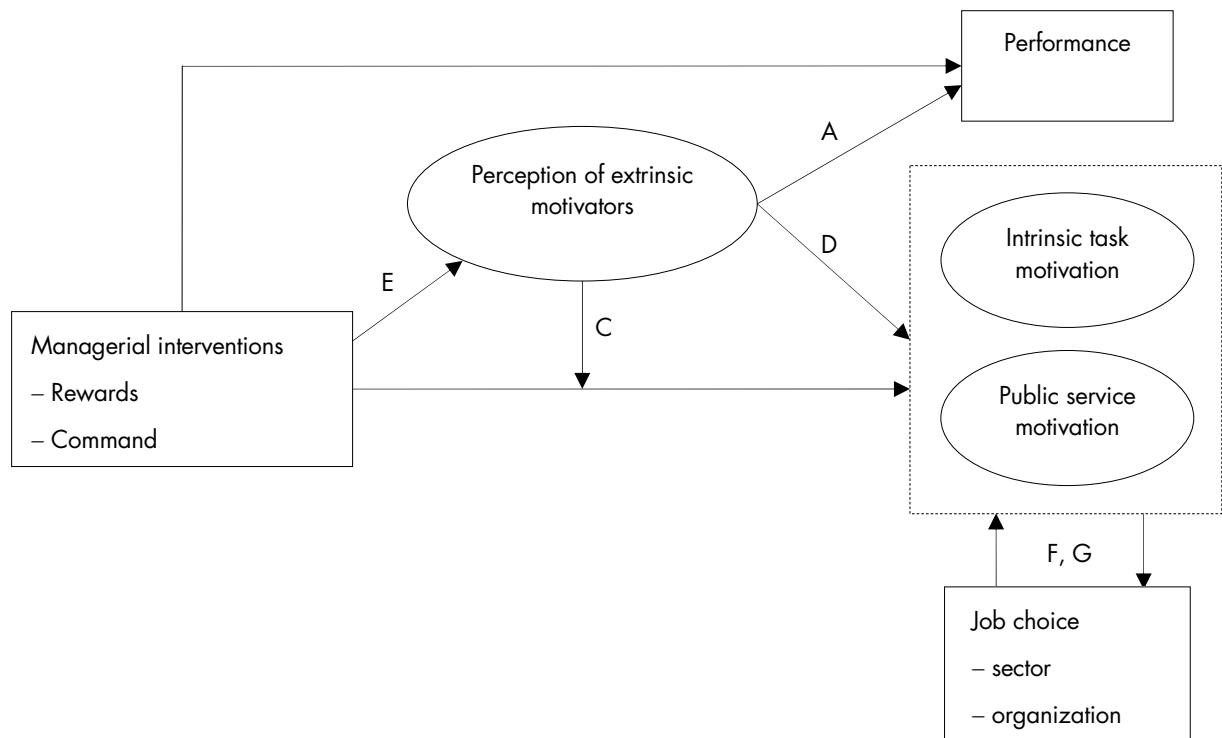
Table 1.1: Overview of focus and method in the papers

Paper title	Theoretical focus	Occupation	Dependent variable(s)	Status
A <i>Performance management</i>	Motivation crowding	Researchers	Performance	Forthcoming (<i>Review of Public Personnel Administration</i>)
B <i>Relative Fees</i>	Economic incentives	Physiotherapists	Performance	Accepted with minor revisions (<i>Health, Economics, Politics, and Law</i>)
C <i>Black Box</i>	Motivation crowding Public service motivation	Physiotherapists	Motivation	Submitted
D <i>Command and Motivation</i>	Motivation crowding Public service motivation	Teachers	Motivation	Revise and resubmit
E <i>Perception</i>	Motivation crowding Public service motivation	Teachers	Perception	Conference paper (<i>International Research Society for Public Management</i>)
F <i>Attraction/Socialization</i>	Attraction, selection, socialization Public service motivation	Physiotherapists	Sector Motivation	Resubmitted (2nd round)
G <i>Challenges</i>	Attraction, selection, attrition, socialization Public service motivation	Dentists	Motivation	Published (<i>Politica</i>)

Note: The table is inspired by Jensen (2009).

Figure 1.1 depicts the contributions of the individual articles (referring to the alphabetizing in Table 1.1). As the figure shows, the articles shed light on different aspects of the theoretical model (the arrows do not show all potentially relevant causal links, see Chapter 2). In relation to the four contributions listed above, articles A and B (*Performance Management* and *Relative Fees*) address the first question on the effects of managerial interventions on performance, and articles C and D (*Black Box* and *Command and Motivation*) address the second question on motivation crowding effects directly on motivation. The third question on the formation of perception is addressed in article E (*Perception*), and articles F and G (*Attraction/socialization and challenges*) are studies on the formation of motivation in organizations.

Figure 1.1: The contributions of the project's papers and articles



The report proceeds as follows: In Chapter 2 I argue for the overall theoretical framework of the project, and Chapter 3 presents the methodological approach and the data in use. Chapter 4 presents the main findings of the articles, and the purpose here is mainly to account for the project results in a way, which is accessible to a wider audience than the typical readers of the individual articles.² Chapter 5 concludes on the significance of management for motivation and performance before Chapter 6 provides a more general discussion and puts the findings into a wider perspective in relation to competing theoretical perspectives and applicability for practitioners.

² Naturally, the individual articles contain more nuance than what can be presented in a report like this one, but I hope that many readers will take the time to read the articles to get some more perspective on the findings.

Chapter 2: The motivation crowding argument in a public service context

The leader can never close the gap between himself and the group.
If he does, he is no longer what he must be. He must walk a tightrope
between the consent he must win and the control he must exert.
(Vince Lombardi, American football coach)

The purpose of this chapter is to provide an overview of the dissertation's theoretical framework, which is centered on motivation crowding theory. The central assumptions of motivation crowding theory will be discussed and related to management and motivation in the public service sector. This implies a wider approach than what is usually seen in the motivation crowding literature to the types of motivation, which may be affected by crowding effects. On this background, I will point to some significant holes in our knowledge on motivation crowding processes (in the public sector), where this project adds to our knowledge and begins to alleviate some of the theoretical and empirical shortcomings.

A number of scholars have argued that employees' work motivation is important for performance in the public service sector. On a general level work motivation (from here on motivation) can be described as a set of energetic forces that originate both within and beyond an individual's being, to initiate work-related behavior and to determine its form, direction, intensity, and duration (Pinder, 2008: 11). However, there is a debate in the public management literature on whether public service employees' motivation is mainly extrinsically or intrinsically driven. The view on motivation is important because it more or less determines whether managerial interventions, based on the use of rewards and sanctions, are expected to be effective or not. On this issue there is a fundamental division between scholars who consider public employees as mainly driven by extrinsic factors (Prendergast, 2007; 1999; Miller, 2005; 2000; Moe, 1984) and those who argue that intrinsic and altruistic factors are more important for the motivation of public employees (Langbein, 2010; Perry et al., 2010; Le Grand, 2010; 2003; Vandenabeele, 2007; Rainey & Steinbauer, 1999; Perry & Wise, 1990). The first group of scholars emphasize economic theory and purport the individual economic

rationality as the crucial factor for institutional design with specific attention to incentive structures (Prendergast, 2007; 1999; Moe, 1984). According to Williamson 'much of what economists do is to rationalize how human behavior is to be understood in net gain terms, and to debunk such relatively loose concepts as atmosphere' (1975: 256). Though many economists have a different view (e.g. Francois & Vlassopoulos, 2008; Falk & Ichino, 2006), it applies as a general statement of how many economists portray the world. A more recent observation underlining this argument says that '... today, for many economists, economics is to a large extent a matter of incentives ...' (Laffont & Martimort, 2001). The other group of scholars argue that task-related factors and the social environment (or atmosphere in Williamson's words) play the dominant role for motivation in organizations, and that particularly public service providers are oriented towards the social interferences with the organization, their colleagues, and clients (Gagné & Deci, 2005; Perry & Wise, 1990; Deci et al., 1985; Hackman & Oldham, 1980; Deci, 1971; Herzberg, 1968), and that organizations should leave some discretion and autonomy to avoid impeding these aspirations. Though these literatures often acknowledge the significance of both extrinsic and intrinsic factors, it is rarely given empirical attention (Scheuer, 1999; Winter & Nielsen, 2008). This is where motivation crowding theory comes in.

Motivation crowding theory offers a theoretical framework that can bridge the gap between the conflicting perspectives on motivation and public management. Motivation crowding theory claims that it is necessary to incorporate both extrinsic and intrinsic motivation into an explanation of performance in organizations. Thus, motivation crowding theory acknowledges that rewards and sanctions are important motivators, because they affect people's well-being, but people also care about aspects related to the job or the consequences their effort has for others. According to motivation crowding theory, rewards and sanctions always involve the risk of moving people's focus from these inherent values and needs towards the immediate consequences of the interventions.

The chapter is structured as follows. First, the logic behind financial incentives and command systems comes from economic theory and the theoretical background of these managerial interventions will therefore be discussed below. Second, the motivation crowding process is discussed, and the motivational black box is opened. This includes a discussion of recent insights from social psychological theory and the introduction of public service motivation as an important type of motivation in public service delivery. Here the term autonomous motivation is suggested as an overarching term covering both intrinsic motivation and public service motivation. Third, the

crowding mechanism of public service motivation is discussed. Fourth, some theoretical arguments underlying the formation of the perception of interventions are discussed, and finally the sorting and socialization of employee motivation are discussed in relation to both intrinsic motivation and public service motivation.

Managerial interventions in the public service sector: Financial incentives and command systems

Mankind is governed by pain and pleasure. Pleasures and pains, then, are the instruments with which the legislator has to work.

(Jeremy Bentham, philosopher)

The prevailing organizational principle in the public sector is hierarchy. Though some studies point to an increased importance of networks (Agranoff & McGuire, 2001; Considine & Lewis, 2003) and markets (Kettl, 2005; Pollitt & Brouckaert, 2000) in public administration, hierarchy remains dominant in most areas of government (Hill & Lynn, 2005). To some degree almost all parts of the public sector are characterized by a relationship between subordinates and superiors, and public leaders use their authority on a daily basis to motivate employees and get things done (Rainey, 2009). Especially in the delivery of public services, hierarchy is often preferable to pure market solutions (Coase, 1937; Williamson, 1975), but principal-agency theory has demonstrated that delegation of tasks within hierarchies can also involve significant losses due to agent shirking. Principals therefore have an interest in inducing agent performance through the use of either rewards or sanctions to ensure more efficient hierarchical solutions (Moe, 1984). Consequently, an understanding of the logics of hierarchy and the possibilities for principals to control agent performance is important.

Principal agency theory addresses the issue of inefficiencies in hierarchies and seeks solutions to remedy deficiencies. According to this economically inspired theory, a principal depends on one or more agents to perform a task, but due to the stochastic nature of the work environment and incomplete information (Hart & Holmström, 1987; Stiglitz, 1987; Fama & Jensen, 1983), the principal has imperfect knowledge about the agent's work effort: 'in general the outcome is determined in part by some exogenous factor ... This random variable creates variability, or risk, in the outcome, and in the principal's well-being' (Miller, 2005: 233-34). This leads to a problem of moral

hazard (Holmström, 1979). Since agents have preferences for leisure and the principal has preference for outcome, which is in part dependent on agent effort (which is the opposite of agent leisure), agents will be tempted to exploit the information asymmetry by shirking (Alchian & Demsetz, 1972; Douma & Schreuder, 2002: 121).

As a solution to this problem, early principal agency theory advised that monitoring of agent performance could be used to prevent agent shirking (Alchian & Demsetz, 1972). However, scholars have since argued that full observation of actions is usually either impossible or prohibitively costly (Holmström, 1979: 74). Especially the complexity of modern organizations increases monitoring costs, and the theoretical focus has therefore shifted to more indirect managerial tools, especially monetary incentives (Holmström, 1983; Miller, 2005). According to this perspective, the principal can use his authority to make effort more attractive: 'the question is whether the principal can induce the more expert agent to take those actions that the principal would take if the principal had the same information as the agent' (Miller, 2005: 204). To alter the agent's calculus the principal can regulate the agent through 'a process consisting of the intentional restriction of a subject's choice of activity, by an entity not directly party to or involved in that activity [...] In order to regulate the agent – restrict his choice of actions – the principal can employ incentives or directives' (Mitnick, 1980: 9). Hence, the principal can generally choose two types of interventions to make the agent put in more effort: the carrot or the stick – rewards or sanctions.

The axiomatic statements about rationality and self-interest but limited information for both agents and principals lead to the suggestion that principals shall put risk on their agents by linking the agents' payoff to their performance or compliance. Since preferences for input and output are conflicting for agents and principals, principals can use the payoff structure to align the agents' interests with his interests. The use of financial incentives will force agents to perform better, because shirking will result in foregone payment (Burgess & Ratto, 2003; Dixit, 2002), and the result is that agent shirking will be minimized and the principals' payoff maximized (for a review, see Miller, 2005). The implication for managers is that they must pay close attention to the incentive structures in their organization and pay their employees according to their outputs, so they are not tempted to shirk by working too little or devoting effort to tasks from which the manager has little gain.

Though monetary incentives have received substantial research interest in the literature, most interventions in public service organizations are based on the threat of sanctions for noncompliance rather than rewards for compliance (Miller & Whitford, 2007). Managerial interventions based on the use

of sanctions are here referred to as command systems. Following agency theory, the use of command systems typically involves three steps: 1) setting up directives for employee performance, 2) monitoring of employee performance, and 3) specifying sanctions for noncompliance. Like reward systems, command systems shift risk to the employees and employees are therefore expected to align their behavior to the directives because shirking becomes more expensive (Boly, 2011; Mitnick, 1980; Alchian & Demsetz, 1972; Becker, 1968). Thus, command systems are expected to have a disciplining effect on the agents' extrinsic motivation. Sanctions can be of differing hardness, and as an ultimate threat the risk of firing (resulting in unemployment) can be highly motivating (Shapiro & Stiglitz, 1984), but typically command systems involve more modest sanctions (Zoghbi-Manrique-de-Lara, 2011; Houser et al., 2007; Gneezy & Rustichini, 2000; Frey, 1997). According to rational theory, sanctions are expected to follow the same underlying rational, economic logic as rewards: 'The two labels of the payment as price or fine are equivalent' (Gneezy & Rustichini, 2000: 14), and sanctions are sometimes referred to as 'negative incentives' (Mitnick, 1980: 9). In a purely economic logic this leads to an expectation that regulation and economic incentives have the same effect when they are of equal strength (in opposite directions). Using rewards or sanctions is therefore mostly a matter of style. However, as we shall see later, this is not the case for motivation crowding theory.

Across public organizations in the Western world, performance related pay has been an increasingly popular strategy (OECD, 2005), and especially the wave of New Public Management seems to have affected the use of incentives as part of individual payment. Nonetheless, studies have identified factors that can reduce the usefulness of individual financial incentives in the public sector, where goals are often ambiguous, performance difficult to measure, and the numerous tiers and principals can undercut the logic of the incentives (Burgess & Ratto, 2003; Dixit, 2002). Furthermore, the credibility of incentives is generally low in a system where the ultimate political principals will often be tempted to circumvent the incentive logic (Andersen et al., 2010; Miller, 2000). Among economists it has also been argued that environmental factors such as problems with measuring output and outcome, multiple goals and teamwork or agent factors such as intrinsic motivation, the need for autonomy, and peer effects will undermine the effectiveness of financial incentives (for an overview see Langbein, 2010).

Empirically, some studies find that financial incentives in the public sector can sometimes be effective (Andersen et al., 2009; Burgess et al., 2002). Several studies on health care suggest that employees produce more when they are paid on a fee-for-service rather than on a fixed salary basis

(Flodgren et al., 2011; Gosden et al., 2001; Taylor-Gooby et al., 2000; Donaldson & Gerard, 1993; Krasnik et al., 1990), and specifically that relative fee sizes matter for performance (Decker, 2009; Gruber et al., 1999; Travis, 1999; Cohen & Cunningham 1995; Sloan & Cromwell, 1978). However, others report rather disappointingly (at least from a managerial perspective) that incentives in the form of pay-for-performance at best have little effect on performance and that the effects may even be negative sometimes (Perry et al., 2009; Ingraham, 1993; Kellough & Lu, 1993). These studies find that public organizations that have adopted pay-for-performance schemes 'have had little positive impact on employee motivation and organization performance' (Kellough & Lu, 1993) and 'performance-related pay in the public sector consistently fails to deliver on its promise' (Perry et al., 2009). Also studies on the health care sector have found negative results (Coburn et al., 1999; Long et al., 1986). Thus, the evidence on the effectiveness of financial incentives in public service provision is mixed.

Regarding empirical knowledge on the effectiveness of command systems there were, until the writing of this dissertation, almost no studies on public service organizations despite the wide application of command systems in the public sector. Miller and Whitford (2007) argue that 'because the price mechanism does not operate in a hierarchy, economists traditionally had little to say about the more coercive hierarchical institutions of society, except to regret the necessity of their existence'. However, from a public administration perspective, such studies are highly needed, because even though many command systems are implemented for other purposes than to increase performance, motivation crowding theory demonstrates that they may have effects on performance, and that these effects are probably not always positive. In fact command systems can be expected to work negatively on performance in many instances, especially if they are implemented without attention to employee motivation and perceptions of control. This is also indicated in studies outside the public sector, which have shown that commands can be associated with detrimental effects to performance (Boly, 2011; Dickinson & Villeval, 2008; Falk & Kosfeld, 2006). Public administration scholars have also noted that interventions are not always effective and argue that 'performance is higher in agencies that empower employees, clients, and other stakeholders, and lower in agencies that rely on autocratic or top-down management strategies' (Brewer & Selden, 2000: 706). According to motivation crowding theory this can be explained with the application of a broader perspective on motivation.

The view on agent motivation in motivation crowding theory

Classic economic theory, based as it is on an inadequate theory of human motivation, could be revolutionized by accepting the reality of higher human needs, including the impulse to self actualization and the love for the highest values. (Abraham Maslow, Psychologist)

Motivation crowding theory builds on principal-agent theory and acknowledges that external interventions can induce agents to increased effort. However, motivation crowding theory adds that principal-agent theory has overseen the effects of interventions on intrinsic motivation (Frey, 1994; 1997; Frey & Jegen, 2001). This assertion is reached by adding insights from social psychological research (Deci, 1971; Deci et al., 1999), that has demonstrated the importance of intrinsic motivation for the effort people devote to work tasks (Gagné & Deci, 2005) and shown that interventions will often reduce performance because intrinsic motivation is reduced (Deci, 1971; Ryan & Deci, 2002). Synthesizing this social psychological insight with principal agency theory, Frey distinguishes the disciplining or price effect, which addresses people's extrinsic motivation, from the crowding effect of external interventions, which is the effect on intrinsic motivation (Frey, 1994: 338; Frey & Jegen, 2001; 593). Whereas the price and disciplining effects are expected to be positive, the crowding effect can be either positive or negative. In fact Frey argues that monetary income and sanctions can indeed be important for an agent's work effort, but that the agent's perception of such interventions will often be more important, because the perception decides the direction of the crowding effect. Thus, the direction of the crowding effect depends on the agent's perception of the external interventions as either controlling or supportive (Frey & Jegen, 2001: 594-95). According to Frey, '[w]hen individuals perceive the external intervention to be controlling in the sense of reducing the extent to which they can determine actions by themselves, they substitute intrinsic for extrinsic control' (1994: 337). In this situation, motivation crowding theory argues that the introduction of external interventions actually counteracts the targeted behavior.

Frey thereby generalizes the possible dual impact of external interventions by distinguishing between situations in which the interventions are perceived as controlling and situations in which the interventions are seen as supportive (Frey, 1997: 18). Specifically, managerial interventions are expected to crowd out intrinsic motivation if the affected individuals perceive

them as controlling. If the crowding out effect is greater than the price/disciplining effect, interventions might even reduce the targeted behavior. If managerial interventions, on the other hand, are seen as supportive, both the crowding in effect and the price/disciplining effect are expected to increase the work effort, and the interventions will 'over-perform' in terms of increasing the targeted performance. The implication is that the perception of the extrinsic motivation factors may be more important for performance than the extrinsic motivation factors themselves.

Most studies of motivation crowding have concentrated on monetary incentives (e.g., Frey & Jegen, 2001; Bertelli, 2006; Andersen & Pallesen, 2008) and generally support the claims of potential crowding out, and that the perception of interventions can explain the direction of the crowding effects. The few studies that have tested the motivation crowding proposition for command system are experimental lab studies, and these also support the theoretical expectations (e.g., Bohnet et al., 2001; Falk & Kosfeld, 2006; Dickinson & Villeval, 2008). Thus, there is good reason to be interested in the motivation crowding problems from managerial interventions in the public sector, and there are a number of unanswered questions that need to be addressed.

An important question relates to the motivation crowding processes and which kinds of motivation we should expect to be exposed to crowding effects. So far motivation crowding theory has focused on the effects of managerial interventions on performance and has treated the distinction between extrinsic and intrinsic motivation rather superficially. It therefore remains unclear whether motivation crowding theory applies to for example prosocial types of motivation such as public service motivation. The few studies that have opened the black box of motivation in crowding studies (Weibel et al., 2010; Bertelli, 2006) have addressed intrinsic motivation from enjoyment and interest in the tasks, but based on the significance of public service motivation (Perry et al., 2010) in the public service sector, it is very relevant to shed more light on motivation crowding of other types of motivation.

Motivation crowding theory provides a useful framework for studying public management, because it attenuates the complexity of motivation. This is helpful because public service providers are claimed to be motivated by many other factors than money and sanctions (e.g. Delfgouw & Dur, 2010; Francois & Vlassopoulos, 2008; Buelens & Broeck, 2007; Rainey, 1982). Especially, the wish to contribute to society seems to play an important role for many public service employees compared to people outside the public service sector. Due to the focus in the motivation crowding literature on managerial interventions and performance, the theoretical distinction between

extrinsic and intrinsic motivation still needs some elaboration to encompass prosocial types of motivation. Motivation crowding theory has not yet paid much attention to the concept of motivation, and this is a fact Frey is refreshingly honest about when he argues that 'the distinction between intrinsic and extrinsic motivation is not relevant as such'. According to Frey all actions can in the end be ascribed to external factors such as recognition or expected payoffs in the future (Frey, 1997: 14). Though Frey may be right that external factors can play a role in all actions, it does not mean that intrinsic motivation and other types of autonomous motivation cannot be separated from these. I will return to this discussion below and argue that recent developments in social psychological theory offer a more fruitful view on motivation, and that this can help move studies on motivation crowding theory forward.

In the existing literature on motivation crowding theory, the definition of intrinsic motivation is acquired directly from early social psychological theory (Deci & Ryan, 1985) where 'one is said to be intrinsically motivated to perform an activity when one receives no apparent reward except the activity itself' (Frey, 1997: 13). However, the usefulness of this definition in relation to explanations of motivation crowding is not taken into consideration even though it is obvious that the definition is not very fruitful. Since the definition emphasizes the absence of rewards, intrinsic motivation is limited to settings where rewards are not present, but in organizational contexts rewards are almost always present at some level (incentives, general wages, the prospects of promotion etc.), and earning money is a basic premise for most people. If the definition is taken seriously, intrinsic motivation rarely exists in organizations. However, this is not at all Frey's intention, since he emphasizes that intrinsic motivation is a supplement to extrinsic motivation (Frey, 1997). Social psychologists have realized this problem and instead defined intrinsic motivation as purely driven by factors inherent in an individual: 'intrinsic motivation is noninstrumentally focused, instead originating autotelically from satisfactions inherent in action' (Ryan & Deci, 2002: 10), or that intrinsic motivation is: 'where the behavior is done simply for its inherent enjoyment or for fun' (Ryan & Connel, 1989: 750), which gives the definition an almost Freudian connotation. Grant has mixed these approaches: 'Intrinsic motivation refers to the desire to expend effort based on interest in and enjoyment of the work itself' (Grant, 2008: 49). This more constructive view on intrinsic motivation is also expressed in motivation crowding theory, though less formally than in actual definitions of the concept. For example, Frey writes that: 'People do things by intrinsic motivation when they just enjoy doing them' (1997: 1). The dissertation follows this view on intrinsic motivation, and since intrinsic motivation is here applied restrictively to a work context it is referred to with

the term 'intrinsic task motivation' to stress that employees' intrinsic motivation relates to the inherent enjoyment and satisfaction in their work tasks.

This more precise definition of intrinsic motivation makes the concept more useful, but it also conflicts with Frey's and the literature's more general understanding of motivation crowding effects. Describing crowding effects, Frey shifts between emphasis on enjoyment (as above) and on a broader prosocial motivation. Referring to an argument that introduction of pecuniary rewards for blood donation will cause a drop in blood donation (Titmuss, 1973) Frey acknowledges the existence of altruistic orientations as intrinsic motivation (Frey, 1997: 83). It also seems plausible that blood donors are motivated by helping society rather than by enjoying blood donation as such! In later works Frey treats prosocial motivation as an integral part of intrinsic motivation: 'Prosocial preferences are a special case of intrinsic motivation. It is important to see that not all intrinsic motivation is prosocial' (Frey & Osterloh, 2005: 101). This points to a general imprecision in the definition of intrinsic motivation, which has caused some confusion among scholars. In a well-cited study of public service motivation, Crewson writes that: 'A delicate balance must be achieved between providing adequate economic rewards and taking care not to destroy or ignore the intrinsic or service needs of public employees' (1997: 515).

Insights from self-determination theory and the relevance for the motivation crowding argument

Internalization. This occurs when you've exploited impact, when you've molded the standard material to your needs and made it yours, when you've made your new skills strong through hard use. All of a sudden these new concepts stopped churning within you, and a new reality is born: You and the concepts are one. They have literally become you. You have become them.
(Tom Hopkins, scholar)

The more recent insights from the social psychological self-determination theory not only help define the concept of intrinsic motivation better, but also provide an understanding of which other types of motivation we can expect to be relevant for crowding theory. Self-determination theory has acknowledged that people often carry out a number of tasks which are not intrinsically interesting according to the definition even though they are not rewarded or sanctioned to do so. The theory therefore describes motivation as a continuum ranging from controlled types of motivation to autonomous types of motivation (Ryan & Deci, 2002). The relatively autonomous types of

motivation depend on how the environment satisfies three basic needs for competence, autonomy, and relatedness (Deci & Ryan, 2000). The needs for competence and autonomy are particularly important for maintaining intrinsic motivation (Ryan & Deci, 2000), and these are also the needs motivation crowding theory sees as underlying the employees' perception of interventions (referred to as self-determination and self-esteem (Frey & Jegen, 2001: 594)). The need for competence refers to an individual's feeling of being effective in interactions and having the opportunity to feel capable, whereas the need for autonomy is the feeling of being the perceived origin or source of one's own behavior (Ryan & Deci, 2002: 7-8). The need for relatedness, which is the universal desire to connect to others, to care for and being cared for by those others, to have a sense of belongingness both with other individuals and with one's community, relates to factors that are external to the individual, and therefore this need is only important for other types of autonomous motivation than intrinsic motivation.

Intrinsic motivation is seen as the most autonomous type of motivation in contrast to the fully controlled type of motivation, external regulation, which depends solely upon 'the perception of a contingency between the behavior and a desired consequence such as implicit approval or tangible rewards' (Gagné & Deci, 2005: 334). Thus, external regulation corresponds to the disciplining effect of command systems and the price effect of rewards. Between these two ideal types of motivation, self-determination theory adds three types of motivation, introjected, identified, and integrated regulation, which are extrinsic but also relatively autonomous. That these types of motivation are extrinsic means that there is an 'instrumentality between the activity and some separable consequences such as tangible or verbal rewards, so satisfaction comes not from the activity itself but rather from the extrinsic consequences to which the activity leads' (Gagné & Deci, 2005). According to self-determination theory, these types of motivation are all internalized regulation, which are neither fully controlled nor fully autonomous. Introjection is almost fully controlled, identification is relatively autonomous but controlled to some degree, whereas integration is almost fully autonomous.

Though the three types of internalized regulation can be theoretically meaningful, scholars have generally had difficulties separating them empirically (Gagné et al., 2010), and the distinction is not relevant here. What is important is that we can distinguish intrinsic motivation from internalized regulation, and that internalized regulation can be seen as a type of relatively autonomous motivation, which like intrinsic motivation can be affected by the introduction of external interventions. This distinction makes it clear how motivation crowding theory has mixed intrinsic motivation with other types of

autonomous motivation. Frey is not the first researcher to do so, and for example research on job design has classified opportunities to benefit others as intrinsic rewards (Herzberg et al., 1967) that increase intrinsic motivation (Hackman & Oldham, 1976). In leadership theory it has been argued that transformational leaders can help increase public service motivation, which is seen as a type of intrinsic motivation (Park & Rainey, 2008), and both Crewson (1997) and Moynihan (2010) define public service motivation as intrinsic work attributes like a sense of usefulness to society and a wish to help others.

Following self-determination theory, Adam Grant has instead suggested that prosocial motivation, which he defines as 'the desire to expend effort to benefit other people' (Grant, 2008; Batson, 1987), can be seen as a type of internalized motivation, which is to some degree autonomous but also directed at the consequences of exerting effort. Thus, prosocial motivation is like external interventions extrinsic motivation in the sense that it is focused on consequences, but whereas the consequences of external interventions are separable from the actions (as wages, sanctions, etc.), prosocial motivation is targeted at the difference the work makes for other people or a larger unity of people (for example a group, an organization, or a country). Since this dissertation deals with public service provision a specific type of prosocial motivation is particularly interesting, namely public service motivation. Public service motivation has been described as a particular type of prosocial motivation, which is attached to the delivery of public services (Perry et al., 2010).

The relevance of public service motivation for motivation crowding theory

How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it, except the pleasure of seeing it. (Adam Smith, philosopher and economist)

The literature on public service motivation is an increasingly important literature in the study of the public service personnel, which argues that people who work with public service provision are particularly conscientious of how their work affects society and clients (Perry & Hondeghem, 2008; Vandenberghe, 2007; Perry & Wise, 1990). Thus, employees in the public sector are not just attentive to their own hedonistic needs to find pleasure or avoid pain,

but also to other human beings. Public service motivation is sometimes described as a special kind of altruism relevant for people performing public service: 'a general, altruistic motivation to serve the interests of a community of people, a state, a nation or humankind' (Rainey & Steinbauer, 1999: 20). Brewer and Selden detached public service motivation from the public sector and applied it to other organizational settings (e.g. non-profit and privatization of public services) where public services are also performed as 'the motivational force that induces individuals to perform meaningful public service' (1998: 417). Building on institutional theory, Vandenabeele defines public service motivation as 'the belief, values and attitudes that go beyond self-interest and organizational interest, that concern the interest of a larger political entity and that motivate individuals to act accordingly whenever appropriate' (Vandenabeele, 2007: 547), which links public service motivation to a logic of appropriateness (March & Olsen, 1989). This view is particularly appropriate here, since public service motivation is integrated with self-determination theory building on the argument that public service motivation becomes internalized as part of people's public service identity (Vandenabeele, 2007). This view leaves an important role for societal institutions such as parents, religion, educational institutions in shaping public service motivation, but it also leaves room for organizational impact, such as the motivation crowding effects under study here. The various definitions all focus on motives and actions that are intended to do good for others and shape the well-being of society (Perry & Hondeghem, 2008).

According to Perry and Wise (1990), public service motivation is situated in three motives: rational, normative, and affective. Rational motives are grounded in individual utility maximization, norm-based motives are grounded in a desire to pursue the common good and further the public interest, and affective motives are grounded in human emotion (Kim, 2010). A number of rational, norm-based, and affective motives are associated with public service provision, but following Perry (1996) a number of studies have identified PSM as a multidimensional construct (Kim et al., forthcoming; Kim & Vandenabeele, 2010; Coursey & Pandey, 2007; Kim, 2006; Perry, 1996) usually reflected in the dimensions: attraction to policy making, commitment to the public interest, compassion, and self-sacrifice. Based on this model public service motivation can therefore be seen as a first-order reflective (the dimensions) and second-order formative construct (the sum of the dimensions) (Kim, 2011). Perry's measurement scale has been highly influential in the literature on public service motivation, and most studies have taken departure in the scale, though it is sometimes reduced to three dimensions (Coursey & Pandey, 2007) or even to a uni-dimensional construct (Alonso & Lewis, 2001;

Brewer & Selden, 2000; Kim, 2005, 2006; Karl & Peat, 2004; Wright & Pandey, 2008). Though the measurement scale was originally designed for an American context, it has shown some consistency across organizational and cultural borders with only minor adaptations (e.g. Andersen et al., 2011; Ritz, 2009; Leisink & Steijn, 2008; Vandenabeele, 2008).³

Public service motivation is important because it influences what public service providers do. A review of the literature concludes that there is some support for the argument that public service motivation has positive effects on performance (Brewer, 2010, 2008; Ritz, 2009; Alonso & Lewis, 2001; Brewer & Selden, 1998; Naff & Crum, 1999). However these studies have mostly drawn on the omnibus construct of public service motivation, which may not be sensitive enough to explain differences in performance (Brewer, 2008: 146). Recent studies have shown a promising avenue for the sub-dimensions as better predictors of public service performance (Andersen & Serritzlew, 2011).

However, in this context the most pertinent question on public service motivation relates to the antecedents of public service motivation. The literature has found that public service motivation depends on social demographic antecedents such as age and gender (DeHart-Davis et al., 2006; Naff & Crum, 1999) and institutional antecedents like family socialization, religion, and education (Camilleri, 2007; Perry, 1997; Perry et al., 2008). Some studies have looked at organizational antecedents of public service motivation (Moynihan & Pandey, 2007; Scott & Pandey, 2005; Taylor, 2007) and found that a number of job characteristics are related to public service motivation, and this indicates that public service motivation is also affected by organizational factors. A general finding is a negative effect of red tape (Moynihan & Pandey, 2007; Scott & Pandey, 2005; Taylor, 2007), which may be seen as support to the argument that employees can lose motivation in intensely bureaucratic organizations. Moynihan and Pandey (2007) also find that hierarchical authority in an organization is positively related to public service motivation, and this surprising result underlines that hierarchy is not necessarily an outdated, oppressive mode of organization. In relation to this result, Taylor (2007) finds that a perceived supportive environment supports public service motivation. In a motivation crowding perspective, these findings are imperative, because if public service motivation was stable there would be little reason to expect crowding in and out of public service motivation. Based on

³ However, recently a group of international scholars have suggested a revision of the measurement instrument for use in international, comparative projects (Kim et al., forthcoming; Kim & Vandenabeele, 2010).

the existing evidence observers are already speculating that especially the use of economic rewards can have damaging effects on the service ethic and public service motivation (Moynihan, 2010; 2008). An aim of this dissertation is to provide some empirical answers to these questions.

A number of other studies suggest a connection between managerial interventions and public service motivation. Rainey showed that although public employees care about doing meaningful work for society, they also care about how much they are paid (Rainey, 1982: 297). Others have proposed that rewards can affect public service motivation in unintended ways (Crewson, 1997; Houston, 2000), which is expressed by Perry et al. (2009) in relation to incentive systems: 'external controls that performance pay imposes on employees have the potential to diminish overall motivation, especially when intrinsic motivations direct and sustain employee behaviors' (note, however, how Perry et al. also confuse public service motivation for intrinsic motivation). A recent study finds that the public sector should aim to achieve a balance between providing adequate economic rewards without undercutting the service needs of government employees. In particular, consideration should be given to paying employees wages at a level that encourages them to put forth greater effort without risking a drop in PSM (public service motivation). This level is proposed as the 'PSM-adjusted wage' (Taylor & Taylor, 2011). This notion is based on the later writings of Bruno Frey in which he, as mentioned, focuses on the risk of crowding out prosocial motivation (Frey & Osterloh, 2005). All this points to a need for theorizing the potential crowding in and out of public service motivation further.

Intrinsic motivation is crowded out when external interventions are perceived as controlling, and this is said to be caused by thwarting of needs satisfaction. Public service motivation can also be seen as a relatively autonomous type of motivation, which to some degree depends on satisfaction of the three basic needs for autonomy, competence, and relatedness (Vandenabeele, 2007; Moynihan, 2010). According to Vandenabeele public service motivation is tied to people's public service identities, and institutionally carried values are 'internalized into a public service identity because certain basic psychological needs are satisfied within this institution' (Vandenabeele, 2007: 551). Thus, parallel to intrinsic motivation, public service motivation depends on the degree to which the environment supports needs satisfaction. All three needs can be expected to matter for public service motivation, including the need for relatedness, which is not seen as important for intrinsic motivation (Gagné & Deci, 2005). The need for relatedness matters for public service motivation because it is carried by the wish to help other people, but also because it is institutionally grounded in a set of common norms and val-

ues. Thus, the feeling of serving a larger community is inherent in public service motivation. The need for relatedness may also be thwarted if the individual feels that the interventions create a barrier in interactions with the users or their colleagues, or if they feel that they serve because the intervention demands them to do so rather than because they serve the common good. Following self-determination theory the basic need for autonomy can be constrained if an individual loses the feeling of voluntary engagement in service provision and instead feels under orders. Furthermore, the satisfaction of the need for competence may be diminished if the person now ascribes output changes to the command system and not his own voluntary actions. According to Miller and Whitford interventions can signal that working is unpleasant and shirking is expected, and this message alone may devalue the actions involved, hampering need satisfaction related to competence (2002: 253). For these reasons, the crowding out argument can be said to apply to public service motivation, but how about crowding in? Moynihan has similarly suggested the relevance of self-determination theory for public service motivation, though he only expects crowding out to happen.

A different approach to the crowding mechanism is based on the works of Julian Le Grand, who argues that an important aspect of altruistic motivation can be act relevancy, which means that involvement in helping is motivating in itself rather than just having the problem solved by someone else (Le Grand, 2003: 36, 38). For many prosocially motivated people it is a sacrifice to provide the help, and they 'may in turn be motivated by "warm-glow" feelings, by feelings involving the alleviation of guilt, or by feelings of duty' (Le Grand, 2003: 38). As a result, managerial interventions can lead to crowding out if they reduce the service providers' feelings of making sacrifices by engaging in an activity (p. 54). Le Grand further argues that for volunteers, the greater the 'sacrifice', the more 'pure' is the volunteer in the public perception (p. 55). Though public employees are not exactly volunteers, they can often feel that they are making sacrifices that are much greater than what is expected from them, and this sacrifice can in turn be interpreted by the employees as a vocation carried out with volition. This also relates to the need for autonomy.

Interventions do not necessarily thwart employees' needs satisfaction, because they can also provide the employees with opportunities to devote more attention, work in a more structured way, or simply be rewarded for something they already find motivating. If people feel they are making a sacrifice, it can in some cases support their motivation if they feel that the management level acknowledges this effort by giving a reward (Le Grand, 2003). People may also feel that a command system allows them to devote

their effort in a targeted direction, and that they are supported by the managerial level to work on these tasks. In these situations people can feel reinforced in their actions if recognition via an intervention makes the individual think that the outside world is recognizing – and appreciating – their voluntary actions (2003: 56). In these instances ‘crowding-in’ can thrive and interventions will instead indicate social recognition and approval of the activity, which leads to perceptions of the management interventions as supportive rather than controlling.

Defining work motivation

An implication of the discussion so far is that work motivation is an important aspect for public managers to attend to. However, motivation is also a complex construct, which can be driven by a number of different sources. This dissertation studies a selection of motivational types, which are expected to have particular relevance in the provision of public services. Thus, work motivation can be divided into external regulation, which is a fully controlled type of motivation, and the relatively autonomous types of motivation. The types of external regulation studied here are reward motivation and disciplined motivation, which are related to the price effect and disciplining effect of financial incentives and command systems. The relatively autonomous types of motivation of interest here are intrinsic task motivation and public service motivation.

Table 2.1: Motivational typology

Work motivation		
A set of energetic forces that originate both within and beyond an individual’s being, to initiate work-related behavior and to determine its form, direction, intensity, and duration (based on Pinder, 2008)		
External regulation	Relatively autonomous motivation	
Motivation initiated and maintained by contingencies external to the person (Gagné & Deci, 2005)	Being motivated by one’s interest in an activity and/or because the value and regulation of the activity have been integrated within one’s self (Gagné & Deci, 2005)	
Reward/disciplined motivation	Intrinsic task motivation	Public service motivation
Work motivation to obtain tangible rewards or avoid tangible sanctions for oneself	Work motivation grounded in the expected enjoyment or interest in a task	Work motivation grounded in the wish to help others and society

Basically, the argument here is that external interventions can affect reward motivation and disciplined motivation as expected by principal agency theory, but that depending on the perception of the incentives, relatively auton-

omous types of motivation can also be affected. Hence, the perception of managerial interventions is a key variable in the motivation crowding argument.

What determines the perception of managerial interventions?

Blessed is he who expects nothing, for he shall never be disappointed.
(Jonathan Swift)

Despite the relevance of the perception variable in the determination of motivation crowding effects, there are hardly any studies on the determinants of the perception of managerial interventions. In his book on motivation crowding theory, Frey formulated a number of propositions that specified conditions under which motivation crowding was expected to be particularly relevant (Frey, 1997: 25-33). These propositions relate to different aspects such as employee participation (proposition 3), command versus reward (proposition 5), the hardness of regulation (proposition 7), and the degree to which an intervention supports the intrinsic motivation of the affected employees (proposition 8). The propositions share at least one feature, which is that they all address needs satisfaction in one way or another. For example participation allows autonomy for the employees, and interventions restrict satisfaction of this need. Similarly commands are expected to be perceived as more controlling than incentives, because they allow less autonomy for the employees. Generally, Frey has proposed that whether an intervention will be perceived as either controlling or supportive depends on how it supports self-determination and self-esteem (autonomy and competence) among the affected individuals. Based on self-determination theory, one could add the need for relatedness (which should at least be expected to matter for public service motivation). Thus, the need for autonomy may be negatively affected by managerial interventions if they signal that the employee is seen as unwilling or unable to fulfill the assigned task to the manager's satisfaction (Frey, 1993). As far as relatedness, Frey (1993, 1994) argues that when a psychological contract exists between manager and employees, the employees perceive (increased) interventions as an indication of distrust, and this induces them to reduce work effort (1997: 30). Hence, interventions may decrease the need fulfillment for relatedness and thereby cause employees to perceive the intervention as controlling. Finally, the need for competence can matter for perceptions when people feel that their performance will be

ascribed to the managerial interventions rather than their own effort. Thus, the perception of an intervention is expected to be closely related to how it supports the three basic needs among an organization's employees. When individuals experience that a command system thwarts their needs for especially competence and autonomy (but also relatedness to some degree), they are expected to perceive it to be controlling, which hinders internalization of the values of the command system. Oppositely, command systems that support needs satisfaction will lead to supportive perceptions of an intervention. This view is supported by an empirical study of Danish teachers, which found that the degree of needs satisfaction was strongly related to the perception of command systems as supportive (Nielsen et al., 2011).

However, there may be a twist to this otherwise straightforward story, because managerial interventions are rarely implemented in a vacuum. If perceptions are reliant on needs satisfactions, it can be highly relevant how their needs are supported by existing managerial interventions. The implication is that in organizations where the employees enjoy high degrees of self-determination, there is an increased risk that new interventions will thwart needs and be perceived as control factors. This is opposite to organizations where employees already have little self-determination, where it makes little difference to them whether new systems are rather hard and inattentive to their basic needs. This leads to an expectation that it is the relative hardness of an intervention compared to the existing interventions that matters for how employee perceptions develop. Thus, managers can affect the perception of their employees and thereby employee motivation, but in order for motivation crowding to happen there must be some level of autonomy in the first place.

The sorting and socialization of employee motivation in public service organizations

The greatest thing in this world is not so much where we stand,
as in what direction we are moving.
(Oliver Wendell Holmes, physician and writer)

A prerequisite for the relevance of motivation crowding theory is high levels of autonomous motivation among employees (Frey, 1997). In a meta-analytic review of experimental studies Weibel et al. (2010) found that pay-for-performance is generally effective when tasks are uninteresting, but that pay-for-performance reduces performance for interesting tasks. The authors

argue that this moderating effect of task type reflects that interesting tasks are intrinsically motivating, and that pay-for-performance is very likely to crowd out this motivation. The authors conclude that managers must be particularly attentive to their use of interventions when intrinsic motivation is expected to be high. Based on the discussion above the expectation would be that the same picture applies to settings where other types of relatively autonomous motivation such as public service motivation are relatively high. But how does motivation develop (apart from through crowding effects) in organizations, and when can we expect motivation to be high and motivation crowding theory to be particularly relevant?

An important focal point in especially research on public service motivation has been to disentangle the dynamics surrounding public service motivation in various settings (Leisink & Steijn, 2008). Based on a proposition from Perry and Wise (1990) that 'the greater an individual's public service motivation, the more likely the individual will seek membership in a public organization', a number of studies have expected public service motivation to be high in the public sector, and they have therefore focused on identifying sector differences in public service motivation. Most of these studies have found somewhat higher levels in the public sector (e.g., Crewson, 1997; Gabris & Simo, 1995; Houston, 2000; Lewis & Frank, 2002), at least at the sub-dimensional level (Andersen et al., 2011). However, there is very little knowledge about the causal processes behind these differences, since they can be caused by both sorting mechanisms and socialization. The arguments about sorting of employees is mainly based on the person-environment fit theory (Kristof-Brown, 1996; Kristof-Brown et al., 2005) and the attraction-selection-attrition (ASA) model proposed by Schneider (1987). The main argument is that an important aspect of a job choice is to find an environment that matches the individual characteristics of the job taker and thereby maximizes the fit between individual and environment. When people seek a job involving delivery of public service, public service motivation is likely to play a role, and individuals will seek to match the workplace with respect to the wish to help others and contribute to society (Leisink & Steijn, 2008). According to Perry and Wise, the public sector is more likely to offer such a fit, but later studies have instead argued that public service organizations outside the public sector can also ensure a high fit for public service motivated individuals (Brewer & Selden, 2000; Steen, 2008). Hence, public service motivated employees might as well seek to live out their public service aspirations in the non-profit sector or in private companies that deliver public service through for example contracts with the government.

The question of socialization is somehow related to the motivation crowding argument. Both the socialization argument and the motivation crowding argument address stability of public service motivation. Is public service motivation a stable construct, or is it also formed at the work place? Despite Perry and Wise's contention about an attraction effect towards the public sector based on public service motivation, they also speculated that 'public service motivation should be understood as a dynamic attribute that changes over time and, therefore, may change an individual's willingness to join and stay with a public organization' (1990: 370). This argument is important not only in relation to socialization, but also for the more general question here about motivation crowding. Nonetheless, there are to my knowledge no actual studies of socialization or crowding of public service motivation. Brewer states that: 'In all likelihood, organizational socialization is an important mechanism for transmitting a "public institutional logic" and seeding public service motivation in the individual. Organizational socialization may quicken an individual's sense of public service and inculcate public service-related virtues and norms' (2008: 149). Thus, studies of the dynamics of public service motivation are highly needed.

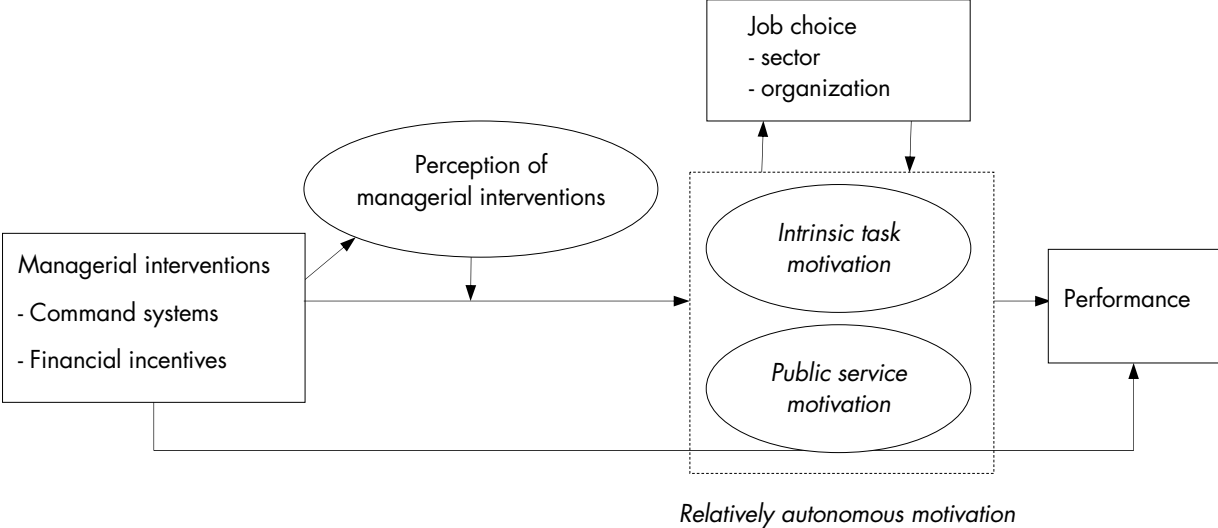
In relation to intrinsic motivation, socialization effects are not expected to be relevant because intrinsic motivation is defined by the detachment from the surroundings. Since socialization happens through inculcation of norms, goals, and values from the surroundings, it should not apply to intrinsic motivation. However, it could be argued that people seek a fit between their intrinsic motivation and the goals offered by a given job or organization, and that people select themselves into organizations and jobs where they fit and out of organizations where they do not fit. However, this question will not be studied in the dissertation.

Theoretical model

Based on the theoretical discussion so far a motivation crowding model with a wider perspective on motivation can be presented. First, the model suggests that it is important to study regulation and economic incentives simultaneously because the effects may very well be different and interacting. Second, relatively autonomous motivation consists of intrinsic task motivation and public service motivation, and both are expected to be affected by motivation crowding. Third, agent performance is determined by both extrinsic and intrinsic motivation, and the net effect depends on the overall direction of the crowding effects. Finally, relatively autonomous types of motivation

are expected to co-vary with job choices due to attraction, selection, attrition, and socialization effects.

Figure 2.1: Theoretical model of agent motivation and performance



Chapter 3: Methodology and data

The purpose of this chapter is to discuss some of the consequences of the choices made throughout the dissertation. Particularly the research design, the data sources, and the different types of variables used in the studies are associated with both advantages and drawbacks, and these three topics will be discussed below.

Research design of the studies

First the studies, which look at the effects of managerial interventions on performance (*Performance Management* and *Relative Fees*) focus on the utmost dependent and independent variables of the theoretical model. These studies assume that motivation is a mediating variable, but do not measure motivation directly. The explanatory variables are managerial interventions in the form of command systems (*Performance Management*) and financial incentives (*Relative Fees*). The interventions are measured through interviews and studies of formal documents and agreements. Another explanatory variable is the perception of the interventions, which is measured as a latent variable using survey data. The dependent variable is performance, which is measured using highly reliable register data. The difficulties with measuring such latent variables will be discussed below. Both studies use panel data in order to deal with potential endogeneity bias (King et al., 1994: 185).

Second, the studies of the effects of managerial interventions on motivation crowding attempt to open the black box of relatively autonomous motivation. The studies (*Command and Motivation* and *Black Box*) use cross-sectional data to look at the relationship between interventions (incentives and command systems), perception, and motivation. The data in these studies come from two large surveys (see data descriptions below). The explanatory variables are the interventions, which are measured through self-reported information, and the perception variable, which is as above a latent variable measured through survey data. The dependent variable, relatively autonomous motivation, is also measured as a set of latent dimensions. A couple of methodological challenges in these studies are potential bias from measurement validity issues and common source bias. Due to the available

data these problems cannot be done away with, but in the articles they are addressed theoretically and methodologically.

Third, the study on the effects of managerial interventions on perception also uses survey data, but it has the advantage of using two independent surveys targeted at different types of respondents: Managers (school principals) and employees (teachers). The explanatory variable, the implementation of a command system, is measured through self-reported data on actual management actions in relation to the command system and to other command systems in the organization. This variable is along with a number of individual and organizational level control variables measured in the principal survey. The second survey to the teachers measures the dependent variable, the perception of the command system as either controlling or supportive as a latent variable. The study uses multilevel analysis to address the shared variation in managerial interventions and perceptions in schools.

Finally, the studies on the sorting and socialization of employee motivation look at the relationships between on the one hand the organizational variables sector of employment (private/public) (*Attraction/Socialization?*) and challenges in the surroundings (*Challenges*) and on the other hand the public service motivation. Public service motivation and organizational characteristics are used as both explanatory and dependent variables, and in one *Attraction/Socialization* the panel structure of the data allows for both specifications and a better test of the causal direction. Public service motivation is measured as latent dimensions through survey data, as are the organizational membership variables. A number of control variables from highly reliable registers are used in *Challenges*.

The dissertation's studies focus on one occupation each. This allows the best possible control for potentially disturbing third variables. It would be challenging to perform studies across occupation due to variations in for example tasks, management styles, and types of performance. Thus, the mono-occupation strategy secures high-quality tests of the theoretically interesting questions. However, an implication of this approach is that the dissertation generally prioritizes internal validity over external validity and the generalizability to other occupations and sectors is not necessarily straightforward if the boundary conditions vary. This does not mean that the results cannot be generalized at all, but only that one should be cautious when doing so. For example one could expect that results from studies of physiotherapists are to some extent applicable to the nursing and teaching professions, which also have a preponderance of women and are somewhat professionalized, whereas the applicability to for example doctors and city managers is less clear due to status and gender differences.

Data

As can be seen in the descriptions above, the empirical material for the most part comes from two sources: surveys and registers. The survey data is tapped from four professions, and it is mainly used to measure latent variables such as motivation and perceptions. The surveys also tap a few manifest variables such as sector of employment, age and gender. The register data come from several sources and are used to measure both control variables and performance.

As Table 3.1 shows, the project draws on data from seven surveys and four registers. The surveys cover four areas – schools, physiotherapy, research, and dentistry. Two of these areas, physiotherapy and research, are covered by panel data, and the analyses in two of the studies (*Attraction/Socialization* and *Performance Management*) are panel regressions. In the school area, the surveys cover employees and managers separately (surveys D and E), whereas the managers and employees are covered in same surveys in the other three areas. Six surveys have been carried out by email, and though results have generally shown that this approach can harm the response rate (HENVISNING), this has not been a severe problem in these surveys (though it can only be speculated what the response rate would have been with other approaches), since the response rate varies between 46 and 70. The response rate for the paper questionnaire is 99 percent because questionnaires were handed out at staff meetings. This means that we could only ask schools that had a staff meeting in the period of data collection.

The register data are used for three purposes: 1) Performance indicators, 2) other dependent variables (social challenges) and 3) control variables. The project uses two types of performance indicators drawn from two highly reliable registers. First, the data on services provided by private physiotherapy clinics are delivered from the Danish National Health Insurance Register, which is a government sponsored authority. These data are registrations of physiotherapy service utilization for each physiotherapy clinic.⁴ The register has delivered a uniquely high quality panel data over eight years. The other type of performance data is the publication data for researchers. Since the command system, which is under study in *Performance Management*, is aimed at article production, the study used Web of Science, an international citation database that registers all articles in international scientific journal that have been indexed. Web of Science is by many seen as the most relia-

⁴ The register has also provided background information on the physiotherapists, which is used for control purposes.

ble source for research publications (at least for ISI indexed journals). We have collected data for the same researchers over a ten year period, meaning that this study is also based on panel data. The data on social characteristics of the Danish municipalities is used as dependent variable in *Challenges*. Data is gathered by the Ministry of the Interior and Health from Statistics Denmark and summarized for population information at municipality level. The fluoride data are drawn from a very large data base, *Jupiter*, which holds information on the content of Danish drinking water sources, and it is used as control variable because the fluoride content is known to have a substantial effect on children's dental health (Kristiansen et al., 2010; Andersen & Blegvad, 2006; Driscoll et al., 1986).

The studies in the dissertation use a number of different approaches to make as precise analyses of the theoretical questions as possible. Thus, three studies use panel data (*Performance Management*, *Relative Fees*, and *Attraction/Socialization*) in order to separate causal effects and control potential endogeneity bias as much as possible. Endogeneity bias relates to situations where the dependent variable affects the explanatory variable. The problem with endogeneity is that the effects of the explanatory variable on the dependent variable are inflated when the explanatory variables cannot be fully controlled, which they hardly ever can. Even in experimental setups in the social sciences it will often be a problem to fully control the explanatory variable (Angrist & Pischke, 2007), and therefore endogeneity will always pose a potential problem. Data alone cannot reveal the size of endogeneity bias, but theoretical considerations can give an idea about the size of the problem (Serritzlew, 2004). Some of the studies in the dissertation are based on cross-sectional data, and endogeneity bias is therefore potentially existent in these studies. The endogeneity bias is discussed in the articles, but since data do not allow any solutions to remove the problem, it is discussed mainly on theoretical grounds and tackled as much as possible methodologically. Furthermore, these studies are still seen as contributing to the literature on motivation crowding, because they address questions that so far have not been investigated empirically.

Table 3.1: Overview of data

Data type	Description	Year	Data source	N	Response rate	Applied in papers	
Survey	A	Physiotherapists ¹	2009	Email questionnaire	2,779	65	<i>Black Box</i> <i>Attraction/Socialization</i>
	B	Physiotherapist	2011	Email questionnaire	2,317	54	<i>Attraction/Socialization</i>
	C	Dentist survey	2011	Email questionnaire	380	46	<i>Challenges</i>
	D	Teacher survey ²	2010	Paper questionnaire	3,230	99	<i>Command and Motivation</i> <i>Perception</i>
	E	SFI principal survey ³	2010	Email questionnaire	498	50	<i>Perception</i>
	F	Researcher survey	2007	Email questionnaire	101	70	<i>Performance Management</i>
	G	Researcher survey	2009	Email questionnaire	58	57	<i>Performance Management</i>
Register data	A	Physiotherapist services and background information	2001-8	Danish National Health Insurance Register	9,556 ^a	-	<i>Relative Fees</i>
	B	Researcher publications	2000-9	Web of Science	101 ^b	-	<i>Performance Management</i>
	C	Social characteristics	2010	Ministry of the Interior and Health	98 ^c	-	<i>Challenges</i>
	D	Drinking water data (mean fluoride content)	2005-10	Geological Survey of Denmark and Greenland	98 ^d	-	<i>Challenges</i>
Other	A	Physiotherapy fees and user payment	2001-8	Written agreements (between regions and physiotherapist association)	-	-	<i>Relative Fees</i>

Note: The table is inspired by Serritzlew (2004).

1: Data provided by Lotte Bøgh Andersen and Lene Holm Pedersen, 2: Data provided by AKF, 3: Data provided by SFI.

a: Panel data over 8 years, b: Panel data over 8 years, c: Municipality level data, d: Municipality means of 92,345 boring samples.

Operationalization and measurement of variables

The variables in the study can be divided into two types: Manifest variables and latent variables. Manifest variables can be more or less objectively observed through the use of registers or by asking respondents very specific questions such as their gender, age, or employer. Other variables are theoretical constructs, which can be thought of as latent dimensions, meaning that they are reflected in observables such as statements or survey questions. Measuring latent variables can be challenging, and the approach used here is presented below. Here I will review the choices made for latent and manifest variables.

Latent variables

The dissertation encompasses a number of theoretically generated and unobservable concepts, e.g. motivation and perception. Measuring such latent variables is not uncontroversial, since the operationalization and methodology of choice can have significant impacts on the results (Schumacker & Lomax, 2010; Kline, 2011). I deal with these challenges in two ways. First, several constructs in the dissertation come from well-established theories where the operationalizations for the most part have been tested before. Especially the public service motivation literature offers a well-tested construct, but the items measuring intrinsic motivation and the perception of interventions have also been confirmed in earlier studies though not as much as public service motivation (see Appendix for examples of operationalizations of these constructs.) Thus, for these constructs the measurement validity (Adcock & Collier, 2001: 530) and especially the face validity and the construct validity (Andersen, 2010; McDonald, 2005: 939; Bryman, 2008: 152) are generally supported in the literature.

Second, the specific measurements made throughout the dissertation are validated by a number of techniques in order to ensure the reliability and overall validity of the measures and thereby to support the robustness of the results. Latent dimensions are uncovered through the use of both exploratory and confirmatory factor analysis. Most indexes are constructed as additive indexes with mean imputation for respondents with only one missing value.

The latent variables belong to two types of variables from the theoretical model: Perception of managerial interventions and relatively autonomous motivation. The perception variable was introduced theoretically by Frey (1997), and Andersen & Pallesen (2008) measured the perception through

the use of three survey items in a study of Danish researchers. This operationalization has inspired the operationalizations used in this project (see the Appendix). The project has adapted some items to the given context and added a few new items to make it applicable to command systems. Generally, the items for measuring the perception turn out to be both highly reliable and valid across occupations (researchers, teachers, and physiotherapists) and in relation to both command systems and incentives (see *Performance Management*, *Black Box*, *Command and Motivation*, and *Perception* for more details).

Regarding motivation, the project studies intrinsic motivation and public service motivation as two types of autonomous motivation. A number of studies on public service motivation have validated the multi-dimensional measurement instrument (e.g. Kim, 2009; Vandenabeele, 2008; Taylor, 2007), which was initially developed by Perry (1996), and this instrument has also been applied with success in a Danish context (e.g. Andersen et al., 2011). In this project the instrument has been used to measure public service motivation among dentists (*Challenges*), physiotherapists (*Black Box* and *Attraction/Socialization*), and teachers (*Command and Motivation*), and the results have been satisfactory.

In the project, intrinsic task motivation is seen as intrinsic motivation related to work behavior. The operationalization of this concept is partly inspired by self-determination theory (Ryan & Connell, 1989; Deci & Ryan, 1985) and further developed in the project. The items aim at measuring the intrinsic motivation from the positive side as driven by interest and enjoyment, and on the negative side as the absence of boredom. All items have shown high internal consistency across occupations such as teachers and physiotherapists. In the early versions (*Black Box*) the operationalization did, however, lead to a very left-skewed measure, because the items did not allow a separation between the intrinsically motivated and the *highly* intrinsically motivated. Thus, the index tended to overrate intrinsic motivation. To compensate for this biased measure, the study used Tobit regression, which can handle censored variables, and this method somewhat improved the analyses.

Manifest variables

The manifest variables in the study are the performance variables, other dependent variables, managerial interventions, and control variables. Performance is usually seen as the ultimate dependent variable of interest, and it is also the main ultimate dependent variable of this project. The performance variables in the project are objective measures drawn from very reliable reg-

isters. Though perceived performance measures are popular in public management studies (e.g. Kim, 2005), because performance is often multifaceted, complex, and unobservable in the public sector (Brewer, 2010), recent studies have shown that 'perceptions of performance are biased in predictable ways, that these biases do not reflect sophisticated assessments of organizational situations, and that the measures can produce spurious results' (Meier & O'Toole, 2011). Especially poorly performing employees tend to overestimate their own performance, and the consequences of using perceptual measures are therefore devastating for the statistical results of these variables as performance. An argument against objective performance measures is that they are often restricted and very specific, and that studies may very well end up examining precise but uninteresting performance effects (Brewer, 2008). This is a valid critique, and one that has been taken seriously in the project. The performance variables are therefore selected so they are externally verifiable and comparable, and in samples of organizations handling very similar tasks. Furthermore, the performance measures are selected so there are theoretically generated expectations of relationships to the independent variables under study.

The project contains two studies (*Performance Management* and *Relative Fees*), where objective performance measures are used as dependent variables. Both measures concern central aspects of performance, which are related to vital tasks and take up a significant amount of the professionals' attention. For example, the performance indicators for the researchers is the number of published articles, because this touches upon an important aspect of what researchers (especially in the natural sciences, which is what the article studies) do. Furthermore, the performance indicator is chosen, so it matches the independent variable. In relation to the researchers, we only study command systems that are aimed at the production of research, and not aspects of command aimed at for example teaching, fund raising, and communication. The performance measures also differ in a number of aspects. Most importantly one performance measure is an output quantity measure and the other is an outcome measure. The output quantity measure is the number of services delivered by physiotherapists in *Relative Fees*, and the outcome measure is the number of articles produced by researchers in *Performance Management*. Output is generally regarded as being closer to the managerial incentives, and therefore output measures can be easier to affect.

Apart from the studies using performance measures as dependent variables, the article *Challenges* uses a measure of the social challenges in a municipality, which is also a manifest variable. The article is not testing causal

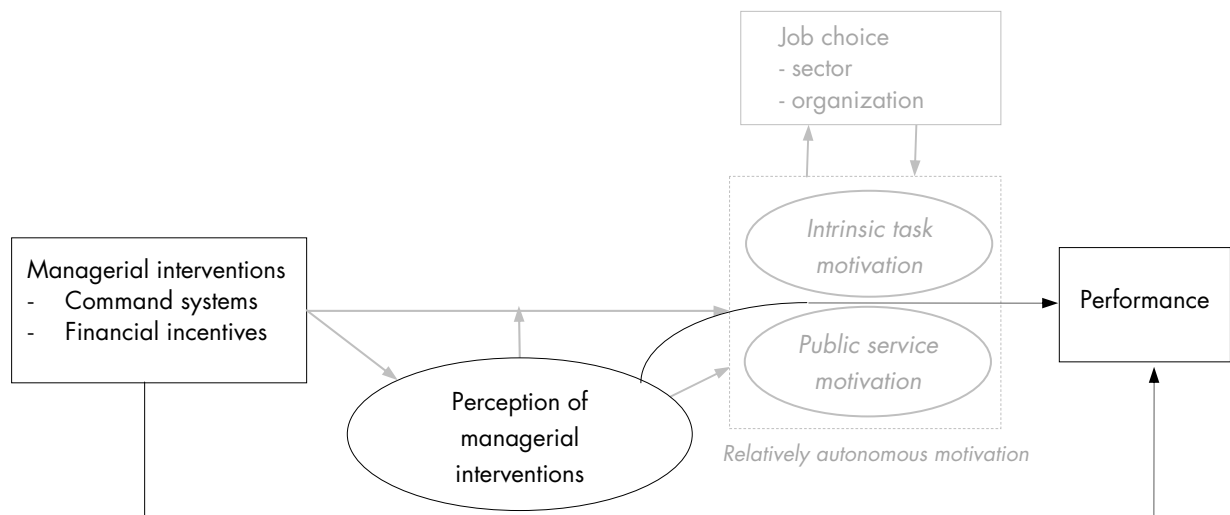
relationships and not causality, so though the variable is used as a dependent variable in the regression analysis, it is not treated as an independent variable in the analysis. The variable is a formative index, which is constructed by the Danish Ministry of the Interior, and it is calculated from a number of values on social challenges in the individual municipalities.

The managerial interventions under study are both financial incentives and command systems. The aim of the project has not been to compare interventions, but to study the effects of interventions. Each study in the project is designed to test the effects of a specific type of intervention in the best way possible, and the project draws on several different occupations to do so. The main reason for doing the project has from the beginning been to compensate for the lack of studies of regulation and command systems in the motivation crowding literature. The managerial interventions are directly studied in four articles (*Perception, Black Box, Performance Management, and Relative Fees*), and indirectly in one article (*Command and Motivation*, where the command system is invariant, but the perception of it varies). Two of the direct studies look at incentives, and two look at different command systems.

Chapter 4: Main results

This chapter sums up on the main results from the dissertation's articles and papers. The purpose is to present the results in a condensed form, and focus on the theoretical contributions across the individual articles. For the more detailed theoretical arguments, empirical findings, and discussions of the results and shortcomings I refer to the individual publications.

Figure 4.1. Studies on managerial interventions and performance in a motivation crowding perspective



Two studies in the dissertation investigate the effects of managerial interventions on performance, and the results generally support the argument that managerial interventions can matter a great deal for performance of public service employees, though they differ between the support given to the price/disciplining effect and the crowding effect. One study shows that the price effect can have considerable influence on performance (*Relative Fees*), whereas the other finds that performance is affected by the perception of the intervention, which means that the crowding effect is dominant (*Performance Management*).

Relative Fees uses a quasi-experimental setup to study the effects of financial incentives on the number of physiotherapy services provided to two groups of patients (ordinary and disabled patients), who are eligible for state-sponsored services. The Danish public sector pays private physiotherapy clinics for service delivery, and over the eight year period of study, the ra-

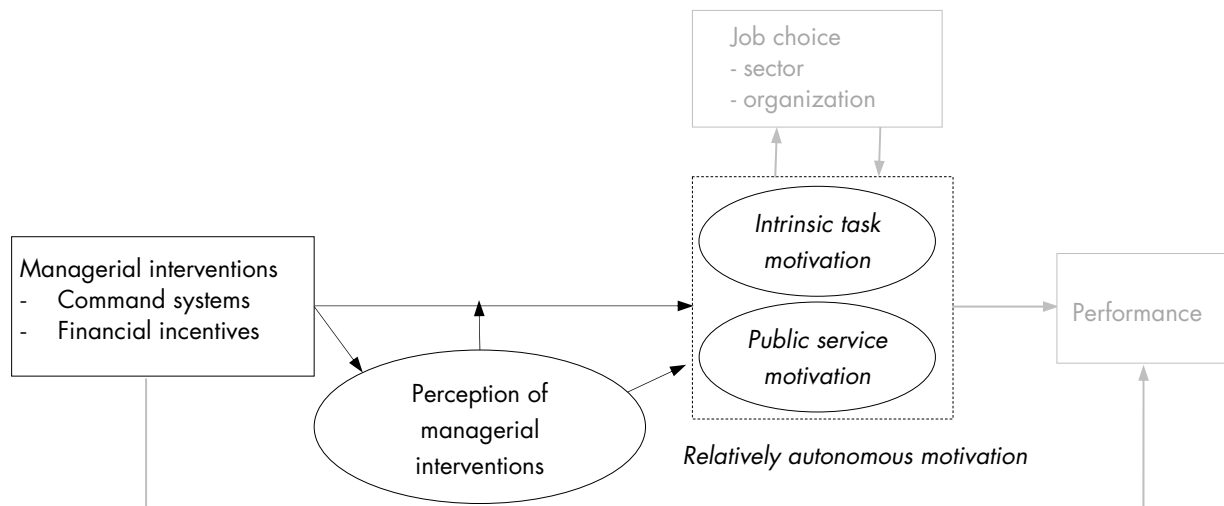
tio between the fees paid to the physiotherapists for providing services to the two patient groups varies due to exogenously given factors. In the beginning of the period the fees are identical, but then the fee for disabled patients is lowered for four years, before it is lifted back to the same level as the fee for ordinary patients again. The panel analysis, which is based on service provision for 9,556 physiotherapists, clearly shows that the fee ratio is important for the number of services provided for the two patient groups. Thus, the number of services per disabled patient was considerably and significantly lower when the relative fee for services for disabled patients was lower than the corresponding fee for services for ordinary patients. Substantially, the results support that financial incentives generally matter for performance, and in particular that relative fees can matter for the utilization of health care services. Though the study does not take the perception of the incentives into consideration, it supports the argument that the price effect can affect the performance of public service providers, and in case crowding out has been happening, the price effect has been strong enough to exceed this.

The effectiveness of command systems is under study in *Performance Management*. This article investigates the effect of command systems aimed at individual article production at five similar university departments over a ten year period. None of the departments had a command system in the first year, but from the second year they implemented command systems with varying degrees of hardness. Hard command is defined as enforceable directives including convincing threats of punishments of non-compliance, whereas soft command consists of non-enforceable directives without threats of punishments. The command systems focused exclusively on article production in peer-reviewed, international, indexed journals. The results show that the perception of the command systems is more important than the hardness of the command systems. This is in accordance with the motivation crowding theory, which expects performance to increase when employees perceive command systems as supportive – and oppositely to decrease when employees see the command system as a pure control device. However, the motivation crowding effect is often specified so the perception variable has a moderating effect on the command system, but we find no support for such an effect and only for a direct effect of perception. This indicates that it is the introduction of a command system in general and not the hardness of the command system that causes the crowding effects.

Together these results underline the importance of motivation crowding theory because they show the duality of imposing interventions in public service organizations. Interventions can work as intended, but the consequences may also be the opposite, at least for employees who perceive the inter-

ventions as controlling. This latter fact also complicates managerial decision-making, because the effects of interventions may be imbalanced across employees – some perform better, others worse.

Figure 4.2. Studies on managerial interventions and motivation in a motivation crowding perspective



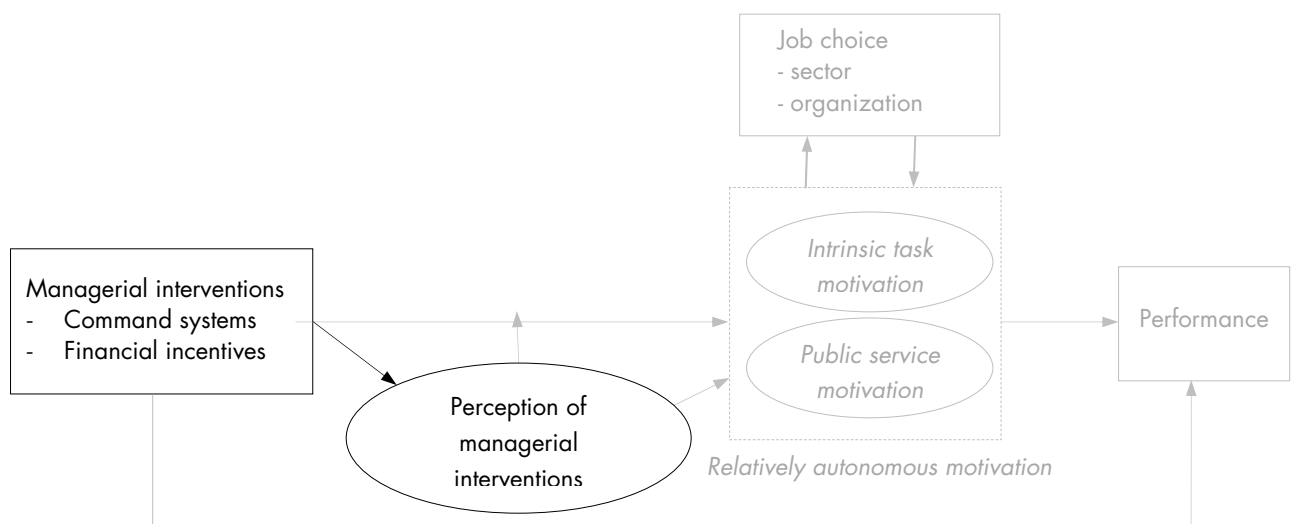
In relation to the effects of managerial interventions on motivation, the articles show very clear and consistent results – the perception of managerial interventions is closely related to the levels of motivation. Managerial interventions in the forms of command systems (*Command and Motivation*) and financial incentives (*Black Box*) were found to be associated with lower levels of both intrinsic motivation and several types of public service motivation.

The paper *Command and Motivation* studies the effects of a general command system (compulsory student plans) on the motivation of teachers. The teachers perceive the command systems in very different ways – some perceive it as supportive for their work, some perceive it as a control device, and others perceive it as somewhere in between these two poles. The article studies intrinsic task motivation, four dimensions of public service motivation, and a compound measure of public service motivation. The results show that the more controlling the teachers perceive the student plan command system to be, the lower all six types of motivation are (though there are also variations in effect sizes – greatest for intrinsic task motivation and smallest for compassion). In the paper *Black Box* physiotherapists' pay-for-performance agreements are under study. For some physiotherapists part of their wage depends on a performance agreement, but the actual amounts in these agreements are rather small. Nonetheless, the results show that the perception of pay-for-performance as controlling is negatively related to intrinsic

motivation and three types of public service motivation (only compassion seems to be unaffected) for those with pay-for-performance agreements, but that this is not the case for those without an agreement (except for intrinsic motivation, but the relation is weaker than for those with pay-for-performance). This indicates that the physiotherapists with pay-for-performance agreements have been affected by motivation crowding, and that the direction of this effect depends on their perception of the agreements.

The results from these two articles open the black box of motivation and study several types of relatively autonomous motivation simultaneously. The studies generally support the argument of motivation crowding theory, that managerial interventions will affect motivation negatively when they are perceived as controlling rather than supportive.

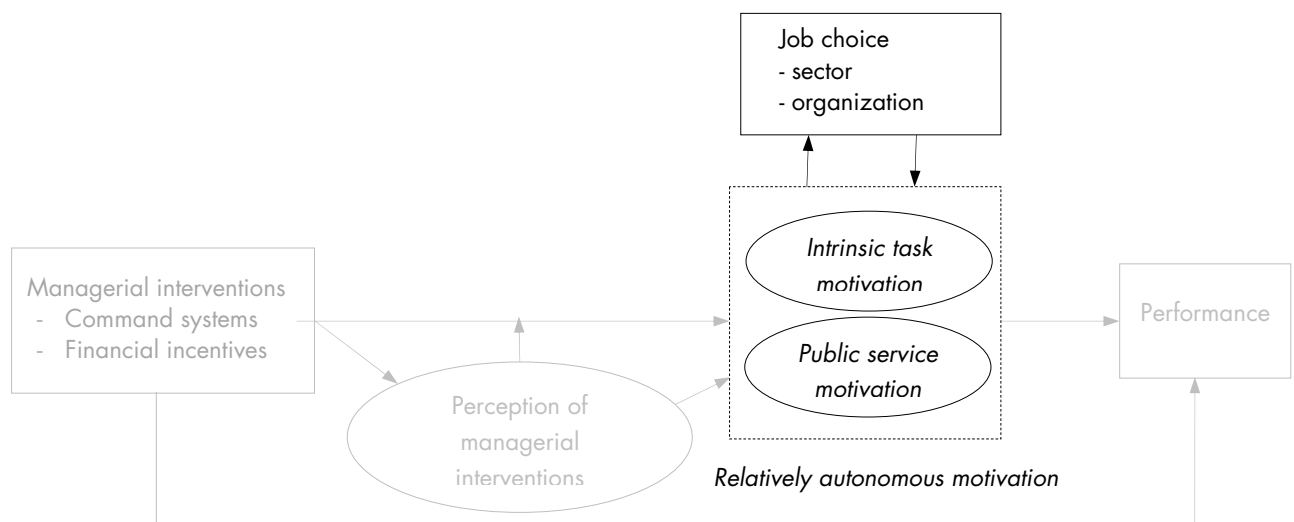
Figure 4.3. Studies on managerial implementation and perception of interventions



The third contribution of the dissertation concerns the managerial impact on the formation of employee perceptions of managerial interventions. The paper Perception studies how school principals' implementation of a student plan command system affects teachers' perception of the command system. It is a statutory demand that each teacher in Denmark makes a student plan for each pupil in each subject, but the responsibility for the teachers' preparation and usage of student plans lies with the school principals, and they have very different approaches to this (Pedersen et al., 2011). The variation in the school principals' implementation concerns their use of dialogue, suggestions, demands and/or control to ensure that the teachers use the student plans to individualize the teaching. If managers base their implementation on dialogue and/or suggestions, we characterize this as 'soft implementa-

tion', but if a school principal makes demands and/or monitors that student plans are actually being used by the teachers, we characterize this as 'hard implementation'. The results show that as expected by motivation crowding theory, hard implementation leads to more controlling perceptions, but only after control for the managers' general implementation of command systems. This result is interpreted as a context effect where the managers' general implementation causes teachers to be either control or autonomy oriented. When teachers are used to soft implementation, they become autonomy oriented, so when managers suddenly implement student plans in a hard way, the teachers perceive the command system as controlling, because it diminishes their needs satisfaction for autonomy, competence, and relatedness (following self-determination theory). Thus, command systems are expected to be particularly likely to cause crowding out effects when they are implemented hard relative to other command systems in the organization.

Figure 4.4. Studies on sorting and socialization of employees



Finally, two articles contribute to our knowledge about the relationship between job choice and motivation. The ASA framework and the PO fit theory argue that people will sort in and out of jobs depending on the congruence of their motivation and values compared to the environment, and the socialization argument says that people's motivation will adapt to their environment over time. Thus, organizational characteristics and public service motivation are expected to co-vary but for different reasons. In *Challenges* such variation is found between public sector organizations with varying challenges from the environment. Public dentist clinics for children are very similar, but their challenges vary depending on the social characteristics of their

surroundings, since the children's dental health matters for the type of service needed. In the most challenged municipalities dentists are forced to focus on the most challenged children, whereas dentists in the least challenged clinics can focus more on prevention and maintaining a high dental standard among all the children. The social challenges therefore vary with the dentists' level of public service on two dimensions. Compassion is found to be important in the challenged municipalities because low-resource and needy children fit with the affections of the dentists, whereas public interest provides a better fit in municipalities with fewer challenges, because the dentists here can focus on the general dental health rather than just attend to the most needy children. Though the analyses cannot tell much about the causality behind these covariations, the study shows that public service motivation not only varies across sectors, but also within the public sector.

Attraction/Socialization addresses the causal mechanisms underlying public service motivation in the public and private sector. The panel study follows 210 physiotherapy students into their first job and is thereby able to separate the attraction, selection, and socialization effects. The findings show that within this very similar group of public service professionals, public service motivation plays no role for attraction to the public sector as a future employer, and public service motivated physiotherapists are not more likely to actually enter the public sector. Thus, neither attraction nor selection can be confirmed in this study. However, the physiotherapists' public service motivation drops significantly after they enter their first job, and this drop is found in both the public and private sector. The drop is argued to be a reality shock, which occurs when the students experience that once employed they cannot help the patients as much as they intend to, or they may not receive the positive feedback and gratitude they had hoped for. However, the motivational drop is not equal across sectors, since the public service motivation of private employees drops twice as much as among public employees. We are not able to say whether this is due to positive socialization in the public sector, or because the shock effect is smaller, but the result clearly supports a smaller negative effect in the public sector.

Chapter 5: Discussion and perspectives

The effectiveness of managerial interventions in the public sector is often debated by both practitioners and scholars. A central aspect of the discussion relates to employee motivation and the importance of self-interest compared to other-regarding considerations. This dissertation has supported the fruitfulness of a motivation crowding perspective and the relevance of different types of motivation in the public service sector. Managerial interventions will sometimes drive public employees to higher performance because public employees like all other human beings are concerned with their own pain and pleasure. However, many public service providers also work because they find their work interesting and inspiring and because it offers them opportunities to help other people and contribute to society, and these other concerns can be distorted when managers intervene. Still, managerial interventions are often needed to ensure steering of the public sector, and particularly the political nature of the public sector will sometimes necessitate interventions. Furthermore, managerial interventions will not always be harmful to the employees' autonomous motivation, and in fact interventions can be doubly beneficial in the sense that they, aside from directing employee effort, can nourish autonomous types of motivation, when employees perceive these interventions as supportive. These points illustrate why managers are confronted with dilemmas between intervening with the risk of crowding employee autonomous motivation out, or standing back and risking bureaucratic drift. This dilemma will be discussed in more detail below.

The dissertation has shown the potential gains from applying a motivation crowding perspective in the public sector, and more specifically the dissertation has contributed to at least four general aspects related to motivation crowding theory: 1) effects of managerial interventions on the performance, 2) effects of managerial interventions on motivation 3) managers' effect on perception, and 4) the sorting and socialization of employees.

The dissertation has promoted the view that command systems and financial incentives build on the same underlying logic of affecting employee's extrinsic motivation and performance through disciplining and price effects, but that such interventions can also have crowding effects, which work through the employees' autonomous motivation. The crowding effects can be either positive or negative, depending on how employees perceive the

interventions as controlling or supportive. The dissertation has shown that both disciplining/price effects and crowding effects can be identified in public service settings. A very consistent result is that, when we study the effects of interventions directly on motivation, there are clear patterns of motivation crowding. Thus, intrinsic motivation and public service motivation were negatively related to the degree to which employees perceive the interventions as controlling (*Command and Motivation* and *Black Box*). This was irrespective of the type of intervention (command or incentive). Furthermore, managerial interventions were found to matter a great deal for performance, and both the price/disciplining effect and the crowding effect (*Performance Management, Relative Fees*) were found to matter for performance. These results accentuate that public management matters for both employees and for organizational performance, but it also shows that the perception of the interventions is an important aspect for managers to give attention to. The results (*Perception*) have shown that one way for managers to handle employee perceptions is to keep a consistent line. Thus, hard implementation of an intervention does not necessarily make employees perceive it as controlling, but when managers implement a specific intervention harder than they generally implement interventions, employees may perceive the specific intervention as more controlling.

Fruitfulness and limitations of the approaches in the dissertation

The studies in the dissertation build on the assumption that public service providers hold both autonomous and controlled types of motivation, and that interventions will affect both types. Thus, the dissertation centers on the effects interventions have on performance through motivation, and this view places motivation as the pivotal variables in the dissertation. Many observers agree that motivation is an important aspect of the intervention-performance relationship (Brewer, 2010; Perry et al., 2010; Perry et al., 2009; Andersen, 2009; Rainey, 2009; Gagné & Deci, 2005; Rainey & Steinbauer, 1999), but there are a number of other reasons why interventions can affect performance. One example is the literature on bounded rationality in public administration, which argues that managerial interventions can guide attention in an organization where information is abundant and process capacity limited (Lægreid & Roness 1999; Cyert & March, 1963; Simon, 1947). According to this perspective interventions channel information on some aspects of organizational performance at the cost of reducing information on other as-

pects. Thus, performance gains are seen as a result of attention more than of motivation. The framework promoted here shares with the view of the bounded rationality perspective on information as limited and actor specific, so the main difference relates to cognitive capacity, which the attention perspective argues is also limited. Thus, this perspective is mainly relevant in relation to the performance studies, and it cannot be rejected that at least some of the performance effects found here come from attention effects. Nonetheless, it has been demonstrated throughout the dissertation that motivation plays an important role, which can also be seen from the substantive effects of the perception of the interventions. Management interventions can both direct attention in the organization and have motivational consequences, but only the latter has been studied here. Another important conditionality on the effectiveness of managerial interventions is that they are credible in the sense that the principal cannot defect from his obligations (Serritzlew, 2006; Miller, 2000). In the studies in this dissertation, the managerial interventions are at least to some extent credible, but it is important to note that this variable of credibility has not come into play here. However, it is certainly a possibility that interventions with low credibility can also have crowding effects, which will lower their effectiveness even more. Hopefully future studies can shed more light on these relevant questions.

The dissertation studies public service provision in Denmark within four different service areas (physiotherapy, schools, dental services, and research). Denmark is a small welfare state and compared to many other countries has a rather large public service sector, so how generalizable are the results? I will give two reasons why the results in the dissertation are important for a wider audience. First, the dissertation and particularly the individual studies are designed to focus on specific questions generated on the basis of the international literatures described in the theoretical framework (chapter 2). Thus, the aim of the dissertation is to contribute to the international literatures on public management, motivation crowding, public service motivation etc. rather than to study Danish welfare provision as such. Second, though the Danish welfare state is comprehensive, the services under study here are also provided in comparable settings in many other Western countries, and for these services the results are very likely to be applicable elsewhere. I will therefore argue that generalization can be made to settings outside Denmark, but that they should be made with attention to at least some of the numerous variables related to the national context such as labor market structures, professional training programs, and unionization.

Generalization to other service areas and organizational settings must also be made with some caution. For methodological reasons, the studies are

all restricted to one occupation, and whereas this keeps a number of variables constant, it also limits external validity. The occupations under study share the feature that they all have relatively high levels of autonomous motivation, and this favors the motivation crowding perspective and the argument that motivation is complex. Motivation crowding effects may have much less relevance with other occupations with less training and more routine tasks, where autonomous motivation cannot be expected to be as high. Thus, it is likely that the results apply less to occupations such as cleaners, janitors, canteen personnel, and road workers than to occupations such as nurses, engineers, and bureaucrats. Furthermore, the results from *Performance Management* and *Relative Fees* are based on very specific measures of performance, and this may limit the generalizability of the results somewhat. This is a drawback of using objective performance measures, but as mentioned in the chapter on methodology, it is a very deliberate choice, because it also involves a number of advantages for especially construct validity and reliability (see chapter 3). Therefore, generalization should be made cautiously to especially occupations where performance is more ambiguous (Chun & Rainey, 2005) or multifaceted (Dixit, 2002). Generally concerns over validity and reliability issues differ a lot between the individual studies, and these questions and the question of generalizability are discussed in more detail in the articles and papers.

Theoretical implications and suggestions for future studies

The results contribute to the international literatures on motivation crowding and public administration and management in a number of ways. An important step taken here has been the study of command systems, which have mostly been debated on a theoretical basis (Frey, 1997) or studied with lab experiments (Dickinson & Villeval, 2008; Falk & Kosfeld, 2006). Since command systems are so central in the public sector, the results here are particularly relevant in a public management perspective. The disciplining effect of the command system under study here in relation to performance (*Performance Management*) was found to be much less relevant for the performance of researchers than the crowding effect. In light of this result it is therefore a natural step that future studies analyze performance effects of command systems in other settings to get a more general picture of disciplining effects and crowding effects. The literature on organizational behavior has generally found that reinforcements based on punishment are less effec-

tive than rewards (Rainey, 2009; Skinner, 1953), but it is not clear whether this is due to a lack of disciplining effects or stronger crowding out. The results from *Command and Motivation* supported the argument of crowding effects from command systems, but it is important that future studies study this question further, generate more knowledge about the consequences of command systems in the public sector and identify under which circumstances they might be effective. Furthermore, these studies could benefit from investigating other sectors and types of performance, since the command system under study is in the research sector, and researchers' production of articles could be affected by other factors than commands, such as professional norms, peer recognition, and career concerns. Even though these factors are kept constant in the study, they could potentially make it a hard case.

Furthermore, the monetary incentives in *Relative Fees* were found to be effective through the price effect, but it reveals little about the crowding effects. Earlier it has been shown that economic incentives can be overall effective, but that the effects depend on the perception of the incentive system (Andersen & Pallesen, 2008). This important result is nonetheless found on the organizational level, and our knowledge about the significance of the perception variable in relation to individual performance remains sparse. Here the price and discipline effects have been studied separately, but combined with the general results from organizational behavior that punishments are less effective than rewards, it would be highly relevant for studies to investigate simultaneous effects of commands and incentives in the public sector. Especially because studies from experimental economics have shown that rewards and punishments can interact in unpredicted ways, so that for example the existence of punishments can increase the effectiveness of rewards (Andreoni et al., 2003).

Practical and normative implications

Managerial interventions are an integral part of public organizations, and the motivation crowding perspective is fully commensurable with this fact. Managerial interventions are necessary, and they can be highly beneficial seen from both an organizational perspective and from an employee perspective. A strength of the motivation crowding perspective in a public sector setting is that it can capture the situation where managers from one side are met with demands from politicians and top-managers to implement command systems and incentive programs and from the other side by employees who want participation and autonomy to carry out their duties. Thus, motivation crowding theory illustrates the dilemmas public managers face. Public man-

agers will often experience that their interventions are required due to for example political demands or low performance, but they must face the risk of harming employee motivation by intervening. As it has been shown here this dilemma is genuine, because management interventions can work as intended, and they can even promote employees' autonomous motivation, but they can also backfire and harm employee motivation and thereby organizational performance. For a manager bad performance is a dangerous situation, because public managers are increasingly held accountable for the results of their organization (Bovens, 2005; Pollitt & Bouckaert, 2000; Barberis, 1998), and bad results weigh heavier than good ones, because politicians are inclined to claim credit for good results and assign blame to bureaucrats for bad ones (Hood, 2011). The implication is that poorly performing managers face higher risks of turnover (Boyne et al., 2010). Thus, public managers have a great self-interest in achieving high organizational performance, and paying attention to crowding effects can be important in this venture. The implication is that managers should always consider whether they need to manifest their managerial capacity, and how they manage, when they do so. Every intervention is associated with the risk of wrongdoing with negative consequences for recipients and society. The consequences can also be negative for the employees, because hard managerial behavior can lead to more controlling types of motivation among employees. Psychological studies have shown that controlled orientations affect a number of job related aspects such as job satisfaction, self-esteem, and mental well-being negatively (Gagné & Deci, 2005), and such effects may again affect the organizational work-climate and performance negatively.

On the other hand, managerial action is often needed to solve problems arising from collaboration and coordination needs. As pointed out by Miller (1992) 'individuals in hierarchies inevitably find themselves in situations in which their own self-interest is clearly in conflict with organizational efficiency', and managerial interventions can to some degree alleviate such problems. Incentives or command systems can indeed be necessary instruments to direct employee effort towards tedious or demanding tasks, which employees are not inclined to carry out by themselves. Though public service motivation and intrinsic motivation can to some degree compensate for lacking incentives, even motivated employees are not always a manager's dream come true. Motivated employees will not just work hard at any given problem, but at the problems towards which their motivation is directed, and this direction may diverge from the managerial and political interests. Public service motivated employees can be very dedicated to work for the needs of the clients, but what if this means that the employees for example pay less

attention to overall efficiency by over-consuming expensive equipment or prioritize patient-related tasks higher than administrative tasks? And if employees were set free to work according to their intrinsic motivation, they could very well end up solving the interesting tasks very nicely, but who should then solve the less interesting tasks? Thus, motivation can be a double-edged sword (Gailmard, 2010), because if employees are highly motivated, they typically have strong ideas and values about which tasks they find meaningful, and which goals they will work hard to achieve. Motivated employees may work in a completely different direction than the one wished by their managers or by the political system. In these cases command systems and incentive structures are certainly needed. But the results demonstrated here also highlight the fact that it is particularly in these situations that motivation crowding can be particularly relevant, because employees can feel controlled, when interventions restrict their autonomy.

Another implication is that managers who are normally controlling might benefit from potential crowding in if they implement a new command system using softer approaches based on dialog and participation. When the employees are not used to having their basic needs for autonomy, relatedness, and competence satisfied, they will perceive a new system that satisfies these needs as supportive. However, managers who are normally needs supportive can be tied to a consistent line of supportiveness, unless they are willing to bear the costs of crowding out. When employees are used to having their needs fulfilled, employees can respond particularly negatively if their manager suddenly enforces a particular intervention in a hard manner, because they experience diminished needs satisfaction. Thus, the catch may be that it can be costly to deviate from this managerial style. From a managerial perspective this can be problematic if the employees carry strong ideas about their work as described above, and these ideas are against the manager's own interests or those of his political superiors. In such cases the manager can be forced to use hard implementation and thereby he has to carry the heavy costs from crowding out of autonomous motivation.

Autonomously motivated employees are an asset in public service provision. No matter if they are intrinsically motivated by working on their tasks or public service motivated by working with service recipients and make a difference for them and society in general, autonomous types of motivation will often be important for maintaining high quality public services. This motivation is often a hidden potential in the public service area, which managers are should pay attention to, especially in these times of fiscal austerity. As far as public managers can work in ways that support autonomous motivation

rather than thwart it, there are gains to obtain for employees, recipients, and society as a whole.

References

- Adcock, R. & D. Collier (2001). Measurement Validity: A Shared Standard for Qualitative and Quantitative Research. *American Political Science Review* 69 (4): 1218-31.
- Agranoff, R. & M. McGuire (2001). Big Questions in Public Network Management Research. *Journal of Public Administration Research and Theory* 11 (3): 295-326.
- Alchian, A.A. & H. Demsetz (1972). Production, Information Costs, and Economic Organization. *The American Economic Review* 62 (5): 777-95.
- Alonso, P. & G.B. Lewis (2001). Public Service Motivation and Job Performance: Evidence from the Federal Sector. *The American Review of Public Administration* 31: 363-80.
- Andersen, L.B. (2009). What determines the behaviour and performance of health professionals? Public service motivation, professional norms and/or economic incentives. *International Review of Administrative Sciences* 75 (1): 79-97.
- Andersen, L.B. (2010). Forskningskriterier. In *Metoder i Statskundskab*, eds. Andersen, L. B., K.M. Hansen & R. Klemmensen, 97-116. Viborg: Hans Reitzels Forlag.
- Andersen, L.B. & M. Blegvad (2006). Does Ownership Matter for the Delivery of Professionalized Public Services? Cost-efficiency and Effectiveness in Private and Public Dental Care for Children in Denmark. *Public Administration* 84 (1): 147-64.
- Andersen, L.B. & T. Pallesen (2008). 'Not Just for the Money?' How Financial Incentives Affect the Number of Publications at Danish Research Institutions. *International Public Management Journal* 11 (1): 1096-7494.
- Andersen, L.B. & S. Serritzlew (2011). Does Public Service Motivation Affect the Behavior of Professionals? *International Journal of Public Administration* 35: 19-29.
- Andersen, L.B., T. Pallesen & L.H. Pedersen (2011). Does Ownership Matter? Public Service Motivation among Physiotherapists in the Private and Public Sectors in Denmark. *Review of Public Personnel Administration* 31: 10-27.
- Andersen, L.B., S. Serritzlew, M.L.F. Jakobsen & T. Pallesen (2010). *Økonomiske incitamenter i den offentlige sektor*. Aarhus: Systime.
- Andreoni, J., W. Harbaugh & L. Vesterlund (2003). The Carrot or the Stick: Rewards, Punishments, and Cooperation. *The American Economic Review* 93 (3): 893-902.
- Angrist, J.D. & J. S. Pischke (2009). *Mostly harmless Econometrics: An Empiricist's Companion*. Princeton: Princeton University Press.
- Barberis, P. (1998). The New Public Management And A New Accountability. *Public Administration* 76 (3): 451-70.
- Batson, C.D. (1987). Prosocial motivation: Is It Ever Truly Altruistic? *Advances in Experimental Social Psychology* 20: 65-122.

- Becker, G.S. (1968). Crime and punishment: an Economic Approach. *Journal of Political Economy* 76 (2): 169-217.
- Bertelli, A.M. (2006). Motivation Crowding and the Federal Civil Servant: Evidence from the U.S. Internal Revenue Service. *International Public Management Journal* 9: 3-23.
- Bertelli, A.M. & P. John (2010). How Performance Measures Expand Distributive Politics. *The Journal of Politics* 72: 545-58.
- Besley, T. & M. Ghatak (2005). Competition and Incentives with Motivated Agents. *American economic review* 95 (3): 616-36.
- Bohnet, I., B.S. Frey & S. Huck (2001). More Order with Less Law: On Contract Enforcement, Trust, and Crowding. *The American Political Science Review* 95 (1): 131-44.
- Boly, A. (2011). On the Incentive Effects of Monitoring: Evidence from the Lab and the Field. *Experimental Economics* 14: 241-53.
- Bovens, M. (2005). Accountability. In *The Oxford Handbook of Public Management*, eds. E. Ferlie, L. E. Lynn & C. Pollitt, 182-208, Oxford: Oxford University Press.
- Boyne, G. A., J. Oliver, P. John & N. Petrovsky (2010). Does Public Service Performance Affect Top Management Turnover? *Journal of Public Administration Research and Theory* 20 (2): 261-79.
- Brewer, G.A. (2010). Public Service Motivation and Performance. In *Public Management and Performance*, eds. R.M. Walker G.A. Boyne & G.A. Brewer, 110-26. Cambridge: Cambridge University Press.
- Brewer, G.A. & S.C. Selden (1998). Whistle Blowers in the Federal Civil Service: New Evidence of the Public Service Ethic. *Journal of Public Administration Research and Theory* 8 (3): 413-39.
- Brewer, G.A. & S.C. Selden (2000). Why Elephants Gallop: Assessing and Predicting Organizational Performance in Federal Agencies. *Journal of Public Administration Research and Theory* 10 (4): 685-711.
- Brewer, G.A. 2008. Employee and Organizational Performance. In *Motivation in public management: The call of public service*, ed. J.L. Perry & A. Hondeghem, 136-56. Oxford, UK: Oxford University Press.
- Bryman, A. (2008). *Social Research Methods* (3rd edition). Oxford: Oxford University Press.
- Buelens, M. & H. Van den Broeck (2007). An Analysis of Differences in Work Motivation between Public and Private Sector Organizations. *Public Administration Review* 67 (1): 65-74.
- Burgess, S. & M. Ratto (2003). The Role of Incentive in the Public Sector: Issues and Evidence. *Oxford Review of Economic Policy* 19 (2): 285-300.
- Burgess, S., C. Propper & D. Wilson (2002). *Does Performance Monitoring Work A Review of the Evidence from the UK Public Sector Excluding Health Care*. Bristol: University of Bristol.
- Camilleri, E. (2007). Antecedents Affecting Public Service Motivation. *Personnel Review* 36 (3): 356-77.

- Christensen, T. & P. Lægreid (2006). *Autonomy and Regulation. Coping with Agencies in the Modern State*. Cheltenham, UK: Edward Elgar Publishing.
- Chun, Y.H & H. G. Rainey (2005). Goal Ambiguity in U.S. Federal Agencies. *Journal of Public Administration Research and Theory* 15 (1): 1-15.
- Coase, R.H. (1937). The Nature of the Firm. *Economica* 4 (16): 386-405.
- Coburn, A.F., S.H. Long & M.S. Marquis (1999). Effects of Changing Medicaid Fees on Physician Participation and Enrollee Access. *Inquiry – the Journal of Health Care Organization Provision and Financing* 36 (3): 265-79.
- Cohen, J.W. & P.J. Cunningham (1995). Medicaid physician fee levels and children's access to care. *Health Affairs* 14 (1): 255-62.
- Considine, M. & J.M. Lewis (2003). Bureaucracy, Network, or Enterprise? Comparing Models of Governance in Australia, Britain, the Netherlands, and New Zealand. *Public Administration Review* 63 (2): 131-40.
- Coursey, D. & S. Pandey (2007). Public Service Motivation Measurement – Testing an Abridged Version of Perry's Proposed Scale. *Administration and Society* 39 (5): 547-68.
- Crewson, P.E. (1997). Public-service Motivation: Building Empirical Evidence of Incidence. *Journal of Public Administration Research and Theory* 7(4): 499-518.
- Cyert, R.M. & J.G. March (1963). *A Behavioral Theory of the Firm, 2nd edition* (2001). New Jersey: Prentice Hall.
- Deci, E.L. (1971). Effects of Externally Mediated Rewards on Intrinsic Motivation. *Journal of Personality and Social Psychology* 18: 105-15.
- Deci, E.L. & R.M. Ryan (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Deci, E.L. & R.M. Ryan (2000). The 'What' and 'Why' of Goal Pursuits: Human Needs and the Self-Determination of Behavior. *Psychological Inquiry* 11 (4): 227-68.
- Deci, E.L., R. Koestner & R.M. Ryan (1999). A Meta-Analytic Review of Experiments Examining the Effects of Extrinsic Rewards on Intrinsic Motivation. *Psychological Bulletin* 125: 627-68.
- Decker, S.L. (2009). Changes in Medicaid Physician Fees and Patterns of Ambulatory Care. *Inquiry – the Journal of Health Care Organization Provision and Financing* 46(3): 291-304.
- DeHart-Davis, L., J. Marlowe & S.K. Pandey (2006). Gender Dimensions of Public Service Motivation. *Public Administration Review* 66 (6): 873-87.
- Delfgaw, J. & R. Dur (2010). Managerial Talent, Motivation, and Self-selection into Public Management. *Journal of Public Economics* 94 (9-10): 654-60.
- Dickinson, D. & M.C. Villeval (2008). Does Monitoring Decrease Work Effort? The Complementarity between Agency and Crowding-out Theories. *Games and Economic* 63 (1): 56-76.
- Dixit, A. (2002). Incentives and Organizations in the Public Sector: An Interpretative Review. *The Journal of Human Resources* 37 (4): 696-727.
- Donaldson, C. & K. Gerard (1993). *Economics of Health Care Financing: The Visible Hand*. Houndmills and London: Macmillan.

- Douma, S. & H. Schreuder (2002). *Economic Approaches to Organizations*. Harlow, Essex: Prentice Hall
- Driscoll, W.S., H.S. Horowitz, R.J. Meyers, S.B. Heifetz, A. Kingman & E.R. Zimmerman (1986). Prevalence of dental caries and dental fluorosis in areas with negligible, optimal, and above-optimal fluoride concentrations in drinking water. *The Journal of the American Dental Association* 113 (1): 29-33.
- Dunleavy, P. & C. Hood (1994). From Old Public Administration to New Public Management. *Public Money & Management* 14 (3): 9-16.
- Falk A. & A. Ichino (2006). Clean Evidence on Peer Effects. *Journal of Labor Economics* 24 (1): 39-57.
- Falk, A. & M. Kosfeld (2006). The Hidden Costs of Control. *American Economic Review* 96 (5): 1611-30.
- Fama, E.F. & M.C. Jensen (1983). Separation of Ownership and Control. *Journal of Law and Economics* 26 (2): 301-25.
- Flodgren, G., M.P. Eccles, S. Shepperd, A. Scott, E. Parmelli & F.R. Beyer (2011). An Overview of Reviews Evaluating the Effectiveness of Financial Incentives in Changing Healthcare Professional Behaviours and Patient Outcomes. *Cochrane Database of Systematic Reviews* (7).
- Frey, B. & R. Jegen (2001). Motivation Crowding Theory. *Journal of Economic Surveys* 15 (5): 589-611.
- Frey, B. & M. Osterloh (2005). Yes, Managers Should Be Paid Like Bureaucrats. *Journal of Management Inquiry* 14 (1): 96-111.
- Francois, P. & M. Vlassopoulos (2008). Pro-social Motivation and the Delivery of Social Services. *Economic Studies* 54 (1): 22-54.
- Frey, B. (1993). Does Monitoring Increase Work Effort? The Rivalry with Trust and Loyalty. *Economic Inquiry* 31 (4): 663-70.
- Frey, B. (1994). How Intrinsic Motivation is Crowded Out and In. *Rationality and Society* 6: 334-52.
- Frey, B. (1997). *Not Just for the Money. An Economic Theory of Personal Motivation*. Cheltenham and Brookfield: Edward Elgar Publishing.
- Gagné, M. & E.L. Deci (2005). Self-determination Theory and Work Motivation. *Journal of Organizational Behavior* 26: 331-62.
- Gabris, G.T. & G. Simo (1995). Public Sector Motivation as an Independent Variable Affecting Career Decisions. *Public Personnel Management* 24: 33-49.
- Gagné, M., J. Forest, M.H. Gilbert, C. Aubé, E. Morin & A. Malorni (2010). The Motivation at Work Scale: Validation Evidence in Two Languages. *Educational and Psychological Measurement* 70 (4): 628-46.
- Gailmard, S. (2010). Politics, Principal-Agent Problems, and Public Service Motivation. *International Public Management Journal* 13(1): 35-45.
- Georgellis, Y., E. Iossa & V. Tabvuma (2011). Crowding Out Intrinsic Motivation in the Public Sector. *Journal of Public Administration Research and Theory* 21 (3): 473-93.

- Gneezy, U. & A. Rustichini (2000). A Fine is a Price. *The Journal of Legal Studies* 29 (1): 1-17.
- Gosden, T., F. Forlan, I. Kristiansen, M. Sutton, B. Leese, A. Giuffrida, M. Sergison & L. Pedersen (2001). Impact of Payment Method on Behaviour of Primary Care Physicians: A Systematic Review. *Journal of Health Services Research and Policy* 6 (1): 44-55.
- Grant, A.M. 2008. Does Intrinsic Motivation Fuel the Prosocial Fire? Motivational Synergy in Predicting Persistence, Performance, and Productivity. *Journal of Applied Psychology* 93 (1): 48-58.
- Gruber, J., J. Kim & D. Mayzlin (1999). Physician Fees and Procedure Intensity: the Case of Cesarean Delivery. *Journal of Health Economics* 18 (4): 473-90.
- Hackman, J.R. & G.R. Oldham (1976). Motivation through the Design of Work: Test of a Theory. *Organizational Behavior and Human Performance* 16: 250-79.
- Hackman, J.R. & G.R. Oldham (1980). *Job Redesign*. Reading, MA: Addison-Wesley.
- Hart, O. & B. Holmström (1987). The Theory of Contracts. In *Advances in Economic Theory*, ed. T. Bewley, 71-155. Cambridge: Cambridge University Press.
- Herzberg, F. (1968). One More Time: How Do You Motivate Employees? *Harvard Business Review* 46: 53-62.
- Herzberg, F., B. Mausner & B.B. Snyderman (1967). *The Motivation to Work*. New York: Wiley.
- Hill, C.J. & L.E. Lynn (2005). Is Hierarchical Governance in Decline? Evidence from Empirical Research. *Journal of Public Administration Research & Theory* 15 (2): 173-95.
- Holmaas, T.H., E. Kjerstad, H. Lurås & O.R. Straume (2010). Does Monetary Punishment Crowd Out Pro-Social Motivation? A Natural Experiment on Hospital Length of Stay. *Journal of Economic Behavior & Organization* 75: 261-67.
- Holmstrom, B. (1979). Moral Hazard and Observability. *The Bell Journal of Economics* 10 (1): 74-91.
- Holmström, B. (1983). Equilibrium Long-term Labor Contracts. *The Quarterly Journal of Economics* 98 (1): 23-54.
- Hood, C. (1991). A Management for All Seasons? *Public Administration*, 69: 3-19.
- Hood, C. (1995). The 'New Public Management' in the 1980's: Variations on a Theme. *Accounting, Organization, and Society* 20 (2): 93-109.
- Hood, C. (2011). *The Blame Game: Spin, Bureaucracy and Self-Preservation in Government*. Princeton: Princeton University Press.
- Hood, C. & G. Peters (2004). The Middle Aging of New Public Management: Into the Age of Paradox? *Journal of Public Administration Research and Theory* 14: 267-82.
- Houston, D. (2000). Public-Service Motivation: A Multivariate Test. *Journal of Public Administration Research and Theory* 10 (4): 713-27.
- Houser, D., E. Xiao, K. McCabe & V. Smith (2007). When Punishment Fails: Research on Sanctions, Intentions and Non-cooperation. *Games and Economic Behavior* 62: 509-32.

- Ingraham, P.W. (1993). Of Pigs in Pokes and Policy Diffusion: Another Look at Pay-for-Performance. *Public Administration Review* 53 (4): 348-56.
- James, O. (2000). Regulation Inside Government: Public Interest Justifications and Regulatory Failures. *Public Administration* 78 (2): 327-43.
- Jensen, C. (2009). *The Politics of Welfare Services*. Aarhus: Politica.
- Karl, K.A. & B. Peat (2004). A Match Made in Heaven or a Square Peg in a Round Hole? How Public Service Educators Can Help Students Assess Person-Environment Fit. *Journal of Public Affairs Education* 10: 265-78.
- Kellough, J.E. & H. Lu (1993). The Paradox of Merit Pay in the Public Sector: Persistence of a Problematic Procedure. *Review of Public Personnel Administration* 13: 45-64.
- Kettl, D.F. (2005). *The Global Public Management Revolution*. Washington DC: Brookings Institution Press.
- Kim, S. (2005). Individual-level Factors and Organizational Performance in Government Organizations. *Journal of Public Administration Research and Theory* 15: 245-62.
- Kim, S. (2006). Public Service Motivation and Organizational Citizenship Behavior. *International Journal of Manpower* 27 (8): 722-40.
- Kim, S. (2009). Testing the Structure of Public Service Motivation in Korea: A Research Note. *Journal of Public Administration Research and Theory* 19: 839-51.
- Kim, S. (2010). A Strategy for Building Public Service Motivation Research Internationally. *Public Administration Review* 70 (5): 701-9.
- Kim, S. (2011). Testing a Revised Measure of Public Service Motivation: Reflective versus Formative Specification. *Journal of Public Administration Research and Theory* 21: 521-46.
- Kim, S. & W. Vandenabeele (2010). A Strategy for Building Public Service Motivation Research Internationally. *Public Administration Review* 70: 701-9.
- Kim, S., W. Vandenabeele, L.B. Andersen, F.P. Cerase, R.K. Christensen, C. Desmarais, M. Koumenta, P. Leisink, B. Liu, J. Palidauskaite, L.H. Pedersen, J.L. Perry, A. Ritz, J. Taylor, P. De Vivo & B.E. Wright (forthcoming). The Development of an International Instrument to Measure Public Service Motivation: A Research Note. *Journal of Public Administration Research and Theory*.
- King, G., R.O. Keohane & S. Verba (1994). *Designing Social Inquiry*. Princeton: Princeton University Press.
- Kline, R.B. (2011). *Principles and Practice of Structural Equation Modeling*, Third Edition. New York, London: The Guilford Press.
- Krasnik, A., P.P. Groenewegen, P.A. Pedersen, P.V. Scholten, G. Mooney, A. Gottschau, H.A. Flierman & M.T. Damsgaard (1990). Changing Remuneration Systems: Effects on Activity in General Practice. *British Medical Journal* 300: 1698-1701.
- Kristiansen, E. et al. (2010). Caries hos børn og unge, fluorid i drikkevandet, forældreindtægt og køn. *Tandlægebladet* 114 (6): 470-78.

- Kristof-Brown, A.L. (1996). Person-Organization Fit: An Integrative Review of Its Conceptualizations, Measurement, and Implications. *Personnel Psychology* 49: 1-49.
- Kristof-Brown, A.L., R.D. Zimmerman & E.C. Johnson (2005). Consequences of Individual's Fit at Work: a Meta-analysis of Person-Job, Person-Organization, Person-Group, and Person-Supervisor Fit. *Personnel Psychology* 58: 281-342.
- Lægneid, P. & P. G. Roness (1999): Administrative Reform as Organized Attention. In *Organizing Political Institutions*, eds. M. Egebjerg & P. Lægneid. Oslo: Scandinavian University Press.
- Laffont, J.J & D. Martimort (2001). *The Theory of Incentives: The Principal-Agent Model*. Princeton: Princeton University Press.
- Langbein, L. (2010). Economics, Public Service Motivation, and Pay for Performance: Complements or Substitutes? *International Public Management Journal* 13 (1): 9-23.
- Le Grand, J. (2003). *Motivation, Agency, and Public Policy*. Oxford: Oxford University Press
- Le Grand, J. (2010). Knights and Knaves Return: Public Service Motivation and the Delivery of Public Services. *International Public Management Journal* 13 (1): 56-71.
- Lee, S. & A.B. Whitford (2008). Exit, Voice, Loyalty, and Pay: Evidence from the Public Workforce. *Journal of Public Administration Research and Theory* 18 (4): 647-71.
- Leisink, P. & B. Steijn (2008). Recruitment, Attraction and Selection. In *Motivation in Public Management. The Call for Public Service*, eds. J. Perry and A. Hondegem, 118-35. New York: Oxford University Press.
- Lewis, G. & S. Frank (2002). Who Wants to Work for the Government? *Public Administration Review* 62: 395-404.
- Long, S.H., R.F. Settle and B.C. Stuart (1986). Reimbursement and Access to Physicians' Services under Medicaid. *Journal of Health Economics* 5 (3): 235-51.
- March, J.G. & J.P. Olsen (1989). *Rediscovering Institutions*. New York: The Free Press.
- McDonald, M.P. (2005). Validity, Data Sources. *Encyclopedia of Social Measurement* 3: 939-48.
- Meier, K.J. & O'Toole, L. (2011). *Public Management and Monomethod Bias: Avoiding Spurious Results in Survey Research*, paper presented at the 33rd Annual Fall Research Conference, Nov. 3-5 2011, Washington DC.
- Miller, G. (1992). *Managerial Dilemmas. The Political Economy of Hierarchy*. Cambridge: Cambridge University Press.
- Miller, G. (2000). Above Politics: Credible Commitment and Efficiency in the Design of Public Agencies *Journal of Public Administration Research and Theory* 10 (2): 289-327.
- Miller, G. (2005). The Political Evolution of Principal-Agent Models. *Annual Review of Political Science* 8: 203-25.

- Miller, G.K. & A. Whitford (2002). Trust and Incentives in Principal-Agent Negotiations. The 'Insurance/Incentive Trade-Off'. *Journal of Theoretical Politics* 14 (2): 231-67.
- Miller, G.K. & A. Whitford (2007). The Principal's Moral Hazard: Constraints on the Use of Incentives in Hierarchy. *Journal of Public Administration Research and Theory* 17: 213-33.
- Mitnick, B. (1980). *The Political Economy of Regulation, Creating, Designing, and Removing Regulatory Forms*. New York: Columbia University Press.
- Moe, T. (1984). The New Economics of Organization. *American Journal of Political Science* 28 (4): 739-77.
- Moynihan, D. (2008). *The Dynamics of Performance Management: Constructing Information and Reform*. Washington DC: Georgetown University Press.
- Moynihan, D. (2010). A Workforce of Cynics? The Effects of Contemporary Reforms on Public Service Motivation. *International Public Management Journal* 13: 24-34.
- Moynihan, D.P. & S.K. Pandey (2007). The Role of Organizations in Fostering Public Service Motivation. *Public Administration Review* 67 (1): 40-53.
- Naff, K.C. & J. Crum (1999). Working for America: Does Public Service Motivation Make a Difference? *Review of Public Personnel Administration* 19: 5-16.
- Nielsen, S.S., C.V. Jakobsen & L.B. Andersen (2011). Skår i (arbejds-) glæden? Intrinsisk motivation og elevplaner i folkeskolen. *Tidsskriftet politik* 14 (2): 28-38.
- OECD (2005). *Performance-Related Pay Policies for Government Employees*. Paris: OECD.
- Park, S.M. & H.G. Rainey (2008). Leadership and Public Service Motivation in U.S. Federal Agencies. *International Public Management Journal* 11 (1): 109-42.
- Pearce, J.L. & J.L. Perry (1983). Federal Merit Pay: A Longitudinal Analysis. *Public Administration Review* 43 (4): 315-25.
- Perry, J.L. (1996). Measuring Public Service Motivation: an Assessment of Construct Reliability and Validity. *Journal of Public Administration Research and Theory* 6: 5-22.
- Perry, J.L. & A. Hondeghem (2008). Directions for Future Theory and Research, pp. 294-310 in J.L. Perry & A. Hondeghem, eds., *Motivation in Public Management. The Call of Public Service*. Oxford: Oxford University Press.
- Perry, J.L. & A. Hondeghem (2008). *Motivation in Public Management. The Call of Public Service*. New York: Oxford University Press.
- Perry, J.L. & L.R. Wise (1990). The Motivational Bases of Public Service. *Public Administration Review* 50 (3): 367-73.
- Perry, J.L. (1996). Measuring public service motivation: an assessment of construct reliability and validity. *Journal of Public Administration Research and Theory* 6: 5-22.
- Perry, J.L. (1997). Antecedents of Public Service Motivation. *Journal of Public Administration Research and Theory* 7 (2): 181-97.

- Perry, J.L. T. Engbers & S. Yun Jun (2009). Back to the Future? Performance-Related Pay, Empirical Research, and the Perils of Persistence. *Public Administration Review* 68 (1): 39-51.
- Perry, J.L., A. Hondeghem & L.R. Wise (2010). Revisiting the Motivational Bases of Public Service: Twenty Years of Research and an Agenda for the Future. *Public Administration Review* 70 (5): 681-90.
- Perry, J.L., B.A. Petrakis & T.K. Miller (1989). Federal Merit Pay Round II: An Analysis of the Performance Management and Recognition System. *Public Administration Review* 49 (1): 29-37.
- Perry, J.L., J.L. Brudney, D. Coursey & L. Littlepage (2008). What Drives Morally Committed Citizens? A Study of the Antecedents of Public Service Motivation. *Public Administration Review* 68 (3): 445-58.
- Perry, J.L., T. Engbers & S. Yun Jun (2009). Back to the Future? Performance-Related Pay, Empirical Research, and the Perils of Persistence. *Public Administration Review* 68 (1): 39-51.
- Pinder, C.C. (2008). *Work Motivation in Organizational Behavior*, 2nd ed. New York: Psychology Press.
- Podsakoff, P.M., W.D. Todor & R. Skov (1982). Effects of Leader Contingent and Noncontingent Reward and Punishment Behaviors on Subordinate Performance and Satisfaction. *Academy of Management Journal* 25 (4): 810-21.
- Pollitt, C. & G. Bouckaert (2000). *Public Management Reform. A Comparative Perspective*. Oxford: Oxford University Press.
- Prendergast, C. (1999). The Provision of Incentives in Firms. *Journal of Economic Literature* 37: 7-63.
- Prendergast, C. (2007). The Motivation and Bias of Bureaucrats. *The American Economic Review* 97 (1): 180-96.
- Rainey, H.G. & P. Steinbauer (1999). Galloping Elephants: Developing Elements of a Theory of Effective Government Organizations. *Journal of Public Administration Research and Theory* 9 (1): 1-32.
- Rainey, H.G. & P. Steinbauer (1999). Galloping Elephants: Developing Elements of a Theory of Effective Government Organizations. *Journal of Public Administration Research and Theory* 9 (1): 1-32.
- Rainey, H.G. (1982). Reward Preferences among Public and Private Managers: In Search of the Service Ethic. *The American Review of Public Administration* 16: 288-302.
- Rainey, H.G. (2009). *Understanding and Managing Public Organizations*, 4th ed. San Francisco: Jossey-Bass.
- Ritz, A. (2009). Public service motivation and organizational performance in Swiss federal government. *International Review of Administrative Sciences* 75 (1): 53-78.
- Ritz, A. (2011). Attraction to Public Policy Making – a Qualitative Inquiry into Improvements in PSM Measurement. *Public Administration* 89: 1128-47.

- Ryan, R.M. & E.L. Deci (2000). Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions. *Contemporary Educational Psychology* 25 (1): 54-67.
- Ryan, R.M. & E.L. Deci (2002). Overview of Self-Determination Theory: An Organismic Dialectical Perspective. In E.L. Deci & R.M. Ryan, *Handbook of Self-Determination Research*, 3-33. Rochester: Rochester University Press.
- Ryan, R.M. & J.P. Connel (1989). Perceived Locus of Causality and Internalization: Examining Reasons for Acting in Two Domains. *Journal of Personality and Social Psychology* 57 (5): 749-61.
- Scheuer, S. (1999). *Motivation: Aktører i hverdagslivet*. København: Handelshøjskolen Forlag.
- Schneider, B. (1987). The People Make the Place. *Personnel Psychology* 40: 437-53.
- Schumacker, R.E. & R.G. Lomax (2010). *A Beginner's Guide to Structural Equation Modeling, Third Edition*. New York: Routledge.
- Scott, P.G. & S.K. Pandey (2005). Red Tape and Public Service Motivation: Findings from a National Survey of Managers in State Health and Human Services Agencies. *Review of Public Personnel Administration* 25 (2): 155-80.
- Serritzlew, S. (2004). *Offentlig budgetlægning i et institutionelt perspektiv*. Aarhus: Poltica.
- Serritzlew, S. (2006). Linking Budgets to Activity: A Test of the Effect of Output-Purchase Budgeting. *Public Budgeting and Finance* 26 (2): 101-20.
- Shapiro, C. & J.E. Stiglitz (1984). Equilibrium Unemployment as a Worker Disciplining Device. *The American Economic Review* 74 (3): 433-44.
- Simon, H.A. (1947). *Administrative Behavior: A Study of Decision-Making Processes in Administrative Organizations*. 4th edition (1997). New York: Free Press.
- Skinner, B.F. (1953). *Science and Human Behavior*. New York: Free Press.
- Sloan, F., J. Mitchell & J. Cromwell (1978). Physician Participation in State Medicaid Programs. *Journal of Human Resources* 13: 211-45.
- Steen, T. (2008). Not a Government Monopoly: The Private, Nonprofit, and Voluntary Sectors. In *Motivation in Public Management. The Call of Public Service*, eds. J. L. Perry & A. Hondeghem, 203-22. New York: Oxford University Press.
- Stiglitz, J. (1987). The Design of Labor Contracts: The Economics of Incentives and Risk Sharing. In *Incentives, Cooperation, and Risk Sharing*, ed. H.R. Nalbantian, 47-68. Totowa, NJ: Rowman & Littlefield.
- Taylor, J. & R. Taylor (2011). Working Hard for More Money or Working Hard to Make a Difference? Efficiency Wages, Public Service Motivation and Effort. *Review of Public Personnel Administration* 31 (1): 67-86.
- Taylor, J. (2007). The Impact of Public Service Motives on Work Outcomes in Australia: A Comparative Multi-Dimensional Analysis. *Public Administration* 85 (4): 931-59.
- Taylor-Gooby, P., S. Sylvester, M. Calnan & G. Manley (2000). Knights, Knaves and Gnashers: Professional Values and Private Dentistry. *Journal of Social Policy* 29 (3): 375-95.

- Titmuss, R.M. (1970). *The Gift Relationship: From Human Blood to Social Policy*. London: LSE Books.
- Travis, K.M. (1999). Physician Payment and Prenatal Care Access for Heterogeneous Patients. *Economic Inquiry* 37 (1): 86-102.
- Vandenabeele, W. (2007). Towards a Theory of PSM: an Institutional Approach. *Public Management Review* 10 (4): 545-56.
- Vandenabeele, W. (2008). Development of a Public Service Motivation Measurement Scale: Corroborating and Extending Perry's Measurement Instrument. *International Public Management Journal* 11 (1): 143-67.
- Vandenabeele, W. (2008). Government Calling: Public Service Motivation as an Element in Selecting Government as an Employer of Choice. *Public Administration* 86: 1089-1105.
- Walker, R.M., G.A. Boyne & G.A. Brewer (2010). Introduction, pp. 1-33 in R.M. Walker, G.A. Boyne & G.A. Brewer, *Public Management and Performance*. Cambridge: Cambridge University Press.
- Weibel, A., K. Rost & M. Osterloh (2010). Pay for Performance in the Public Sector – Benefits and (Hidden) Costs. *Journal of Public Administration Research and Theory* 20 (2): 387-412.
- Williamson, O.E. (1975). *Markets and Hierarchies: Analysis and Antitrust Implications*. New York: Free Press.
- Williamson, O.E. (1981). The Economics of Organization: The Transaction Cost Approach. *The American Journal of Sociology* 87 (3): 548-77.
- Winter, S. & V.L. Nielsen (2008). *Implementering af politik*. København: Systime.
- Wright, B.E. & S.K. Pandey (2008). Public Service Motivation and the Assumption of Person-Organization Fit: Testing the Mediating Effect of Value Congruence. *Administration & Society* 40: 502-21.
- Zoghbi-Manrique-de-Lara, P. (2011). Predicting Nonlinear Effects of Monitoring and Punishment on Employee Deviance: The Role of Procedural Justice. *European Management Journal* 29: 272-82.

Table A1: Items used for measuring latent dimensions

These are examples of items, which have been used in the dissertation to measure reflective indexes by the use of exploratory and confirmatory factor analysis. The items have generally fitted the expected factor structures. See the individual articles for further details on the measurement of latent dimensions.

Public service motivation

Compassion

For me considering the welfare of others is one of the most important values

For me, considering the welfare of others is one of the most important values

It is difficult for me to contain my feelings when I see people in distress.

Jeg bliver følelsesmæssigt berørt, når jeg ser mennesker i nød.

I am often reminded by daily events about how dependent we are on one another

I feel sympathetic to the plight of the underprivileged

Commitment to the public interest

I (voluntary and) unselfishly contribute to my community

Jeg føler, at jeg bidrager til samfundet.

Meaningful public service is very important to me

Det er meget vigtigt for mig, at de offentlige ydelser er i orden.

I would prefer seeing public officials do what is best for the whole community even if it harmed my interests

Jeg så helst, at offentligt ansatte gør det, der er bedst for hele samfundet, selvom det skulle gå ud over mine egne interesser.

I consider public service my civic duty

Det er min borgerpligt at gøre noget, der tjener samfundets bedste.

Attraction to policy making

Jeg forbinder generelt politik med noget positivt.

I generally associate politics with something positive

The give and take of public policy making doesn't appeal to me (reverse)

Jeg bryder mig ikke om politiske studehandler.

I do not care much about politicians (reverse)

Jeg har ikke særligt høje tanker om politikere.

Self-sacrifice

Making a difference in society means more to me than personal achievements

Det er vigtigere for mig at gøre en forskel i forhold til samfundet end at opnå personlig vinding.

I feel people should give back to society more than they get from it

Jeg mener, at man skal bidrage med mere til samfundet, end man modtager.

I am willing to risk personal loss to help society

Jeg er villig til at risikere at skulle tilsidesætte mine personlige behov for samfundets skyld.

I am prepared to make sacrifices for the good of society

Jeg er klar til at lide afsavn for samfundets skyld.

I believe in putting duty before self

Jeg sætter samfundsmæssige forpligtigelser over hensynet til mig selv.

Intrinsic motivation

I very much enjoy my daily work

Jeg nyder i høj grad mit daglige arbejde.

I like performing most of my work processes.

Jeg kan godt lide at udføre de fleste af mine arbejdsprocesser.

My work is very exciting.

Mit arbejde er meget spændende.

A rather large part of my tasks at work are boring. (reverse)

En ret stor del af mine arbejdsopgaver er kedelige.

Perception of interventions (incentives)

It is a control device, if management uses wage supplements to reward effort/performance.

(reverse)

Det er en kontrolforanstaltning fra ledelsens side, hvis de bruger løntillæg til at belønne indsats/resultater.

The use of performance-oriented supplements is a sign of distrust by the management. (reverse)

Brug af resultatorienterede tillæg er et tegn på mistillid fra ledelsens side.

Performance-oriented supplements are pats on the back for the individual employee.

Resultatorienterede tillæg er et klap på skulderen for den enkelte medarbejder.

English summary

The use of management interventions in the public sector is often debated in society and among scholars. Some see management interventions such as financial incentives and rule-based command systems as necessary to ensure that employees are motivated to exert effort, while others argue that employees are often driven by their interest in the work and the help they can provide to others and society, and that interventions can destroy these types of motivation with negative consequences for performance. Studies of the effectiveness of management interventions in the public service sector have found mixed results, and based on motivation crowding theory the argument here is that a more nuanced view on employee motivation can provide better explanations. Particularly, the dissertation argues that employee motivation and performance will be very dependent on how employees perceive the interventions as either supportive or controlling, because interventions perceived to be controlling will crowd out autonomous types of motivation (such as intrinsic motivation and public service motivation). The dissertation studies the question: *How do managerial interventions affect public service providers' motivation and performance?*

The aim of the dissertation is to contribute to our understanding of motivation crowding theory in a public service setting. This is done through studies of how management interventions affect the motivation and performance of public service providers, and which role the perception of the interventions plays for this connection. The questions are investigated using data from four different occupations in the Danish public service sector and data is used to measure aspects of motivation, perceptions, performance, and job choices. The data sources come from public and private registers and from a number of surveys, and the studies use mainly larger N setups and quantitative methods.

The dissertation contributes to four aspects of motivation crowding theory. First the analyses demonstrate that management interventions (command systems and financial incentives) in the public service sector can be effective, but that the effects can also be highly dependent on how the interventions are perceived as either controlling or supportive. Using panel studies it is demonstrated how the individual performance of public service workers can depend on both management interventions and perception. These studies thereby lend overall support to the motivation crowding argument in a public service setting. The second aspect under study is the role of motivation, and the dissertation argues that both intrinsic motivation and

public service motivation can be affected by management interventions through crowding effects, and that the direction of the effect therefore depends on how the interventions are perceived. Studies of both a command system and financial incentives support the argument for especially intrinsic motivation, but also for several dimensions of public service motivation. Though the expected mediating role of autonomous motivation is not directly studied in the dissertation, these studies support that this is likely to be the case. The third contribution comes from a study of how managers affect employee perceptions of interventions. The study shows that the context matters when managers implement a command system in either hard or soft ways. When managers implement a system harder than other command systems, employees perceive it as controlling, but when the implementation is relatively softer, employees perceive it as supportive. The study implies that managers should be aware of the consequences of their general implementation style when they implement new ones. Fourth, the dissertation has studied how autonomous motivation can more generally be affected by the organizational context through sorting and socialization mechanisms. These studies show that motivation can vary significantly with the context both between sectors and between public organizations facing varying challenges from the environment. Specifically, labor market entrants can experience reality shocks to their motivation when they move from education to work settings, but apparently the public sector can somehow dampen these negative effects.

The general contribution of the dissertation is to show the fruitfulness of a nuanced view on public service workers' motivation, and the relevance of the perception of management interventions for both motivation and performance. Thus, managers should generally pay attention to how they support their employees rather than control them to avoid crowding out effects. Since interventions will often be necessary in politically governed organizations, managers should at least be aware of how they implement interventions.

In addition to this report the dissertation consists of seven articles and papers (six in English and one in Danish) published in or prepared for peer-review journals (see Chapter 1 for an overview).

Dansk resume

Anvendelsen af ledelsesinterventioner i den offentlige sektor er ofte oppe at vende i samfundsdebatten og blandt forskere. Mens nogen ser ledelsesinterventioner som økonomiske incitament og regelbaserede systemer som nødvendige for at sikre at medarbejderne er motiverede til at yde en indsats, argumenterer andre for, at de offentligt ansattes indsats drives af helt andre faktorer som eksempelvis interessen i arbejdet og følelsen af at hjælpe andre og bidrage til samfundet, og at ledelsesinterventionerne kan ødelægge disse andre typer motivation og dermed virke negativt på performance. Studier af ledelsesinterventionernes effektivitet i den offentlige sektor har vist blandede resultater, og med udgangspunkt i motivation crowding teorien argumenteres her for styrken ved et mere nuanceret syn på medarbejdermotivation i forhold til at forklare virkningerne af ledelsesindgreb. Særligt argumenteres i afhandlingen for, at medarbejdermotivation og performance afhænger af, hvordan medarbejderne opfatter ledelsesinterventionerne som enten understøttende eller kontrollerende, fordi kontrollerende interventioner vil skabe crowding out af relativt autonome typer af motivation (som eksempelvis intrinsisk motivation og public service motivation). Afhandlingen undersøger spørgsmålet: *Hvordan påvirker ledelsesinterventioner offentlig servicemedarbejderes motivation og performance?*

Det er målet med afhandlingen at bidrage til forståelsen af motivation crowding i den offentlige service sektor. Dette gøres gennem studier af, hvordan ledelsesinterventioner påvirker offentlige servicemedarbejderes motivation og performance, og hvilken rolle opfattelsen af interventionerne spiller i denne sammenhæng. Spørgsmålene undersøges ved at bruge data om fire faggrupper i den danske offentlige servicesektor, og data bruges til at måle aspekter af motivation, opfattelse, performance og jobforhold. Data-kilderne kommer fra offentlige og private registre samt fra en række spørgeskemaundersøgelser, og undersøgelserne er primært større-N studier baseret på kvantitative metoder.

Afhandlingen bidrager til fire aspekter af motivation crowding teori. For det første viser analyserne, at ledelsesinterventioner (økonomiske incitament og regelsystemer) i den offentlige servicesektor kan være effektive, men at effekten kan være stærkt afhængig af, hvordan interventionerne opfattes af den enkelte medarbejder som enten understøttende eller kontrollerende. Ved brug af panelstudier over tid vises det, hvordan individuel offentlig servicemedarbejderes performance afhænger af både ledelsesinterventionerne og opfattelsen af dem. Studierne giver dermed støtte til den overordnede

påstand i motivation crowding litteraturen. For det andet studeres motivationens rolle, og i afhandlingen argumenteres for, at både intrinsisk motivation og public service motivation kan påvirkes af crowding-effekter, og at opfattelsen af interventionerne dermed spiller en afgørende rolle for, hvordan motivationen påvirkes i enten positiv eller negativ retning. Studier af både regelsystemer og økonomiske incitamentet støtter dette argument særligt for intrinsisk motivation, men også for flere typer af public service motivation. Selvom motivationens forventede medierende rolle ikke undersøges direkte, giver disse studier god grund til at forvente denne betydning for motivation. Afhandlingens tredje bidrag kommer fra et studie af lederes betydning for medarbejdernes opfattelse af en intervention. Studiet viser, at konteksten kan have stor betydning, når ledere implementerer et regelsystem på enten en hård eller blød måde. Når lederne implementerer systemet hårdere end øvrige regelsystemer, opfatter medarbejderne det som kontrollerende, mens de opfatter det som understøttende, når det implementeres blødere end de øvrige regelsystemer i organisationen. Implikationen af dette studie er, at ledere bør være opmærksomme på konsekvenserne af deres generelle implementering af ledelsesinterventioner, når de implementerer nye interventioner. For det fjerde har afhandlingen studeret, hvordan autonome typer af motivation mere generelt hænger sammen med den organisatoriske kontekst gennem sorterings- og socialiseringsmekanismer. Studierne viser, at motivation kan variere både mellem den offentlige og private sektor og mellem offentlige organisationer med varierende grader af udfordringer. Særligt kan nyansatte opleve et realitetschok i forhold til deres motivation, når de går fra studie til arbejde, men den offentlige sektor kan i nogen grad dæmpe sådanne negative effekter.

Afhandlingens generelle bidrag er at vise frugtbarheden ved at anvende et nuanceret syn på medarbejdermotivation og relevansen ved at se på medarbejdernes opfattelse af ledelsesinterventioner i forhold til både motivation og performance. Resultaterne viser, at ledere generelt bør være opmærksomme på, hvordan de understøtter deres medarbejders motivation og undgår at kontrollere dem for ikke at skabe crowding out. Eftersom ledelsesinterventioner ofte vil være krævede i politisk styrede organisationer, bør ledere i det mindste være opmærksomme på, hvordan de implementerer interventioner.

I tillæg til denne sammenfatning, som konkluderer på tværs af afhandlingens resultater, består afhandlingen af syv artikler og papers, som enten er optaget i eller udarbejdet til optagelse i peer-reviewede tidsskrifter.