

Performance Information on the Front Line:
A Behavioral Approach

Niels Bjørn Grund Petersen

Performance Information on the Front Line:
A Behavioral Approach

PhD Dissertation

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Preface

This summary report provides a summary of the Ph.D. dissertation titled “Performance Information on the Front Line: A Behavioral Approach.” In addition to the summary report, the dissertation consists of five articles of which two are coauthored. An overview of the articles is displayed below.

Table 1: Overview of Articles in the Dissertation

Articles	Short titles
A. Petersen, Niels B. G., Morten Jakobsen, and Trine Laumann. 2019. Acceptance or Disapproval: Performance Information in the Eyes of the Public Frontline Employees. Published in <i>Journal of Public Administration Research and Theory</i> .	Acceptance or Disapproval
B. Petersen, Niels B. G. n.d. Whoever Has Will Be Given More: The Effect of Performance Information on Frontline Employees’ Support of Managerial Policy Initiatives. Invited for revise and resubmit in <i>Journal of Public Administration Research and Theory</i> .	Performance and Policy Support
C. Jakobsen, Morten and Niels B. G. Petersen. n.d. Defending Your Public Kin? Public Sector Identification, Political Ideology, and Goal Reprioritization in Street-Level Bureaucrats’ Performance Evaluation. In review.	Defending Your Public Kin
D. Petersen, Niels B. G. n.d. Laying a Ghost to Rest? The Role of Employee Involvement in the Selection of Performance Goals. In review.	Employee Involvement
E. Petersen, Niels B. G. n.d. How Organizational Sources of Performance Information Matter to Perceptions and Learning on the Front Line: Evidence from a Survey Experiment. Invited for revise and resubmit in <i>International Public Management Journal</i> .	Sources of Data

The summary report also provides a main research question and motivation for the dissertation as well as a coherent theoretical framework and a methodological approach, which seek to cut across the individual articles. Importantly, the summery report assesses the overall contribution of the dissertation and provides venues for future research. Detailed descriptions of the theory, methods, and empirical findings can be found in the individual articles. Søren Serritzlew, Jens Blom-Hansen, and Mads Leth Jakobsen have supervised the dissertation.

Chapter 1.

Introduction

It has been nearly forty years since Michael Lipsky (1980) published his seminal book *Street-Level Bureaucracy: Dilemmas of the Individual in Public Services*. In the book, Lipsky analyzes street-level bureaucrats' implementation of public policy by looking at their work conditions and decision-making. The term street-level bureaucrats refers to "workers who interact directly with citizens in the course of their jobs, and who have substantial discretion in the execution of their work" (Lipsky, 1980, p. 3). Lipsky showed that limited resources and high demands of services induced the street-level bureaucrats to use different coping mechanisms to relieve work pressure. With his book, he offered an immense contribution to the public administration literature, and his work sparked a new field of scholarly interest, which focused on understanding street-level bureaucrats' behavior and decision-making in public organizations. This literature is still prominent today (Hupe & Hill, 2007; Kosar, 2011; May & Winter, 2009; Tummers, Bekkers, Vink, & Musheno, 2015).

However, since Lipsky (1980), the public sector has undergone significant changes that have altered the work conditions of the street-level bureaucrats. One of the most noteworthy changes is the introduction of New Public Management (NPM), which brought about a number of public management reforms that focused on increasing the performance of the public sector (Hood, 1991; Moynihan, 2008). In particular, the implementation of performance management was expected to lead to increased effectiveness in public organizations (Kettl, 1997; Moynihan, 2005). Performance management can be defined as a cyclical system "that generates performance information through strategic planning and performance measurement routines and that connects this information to decision venues, where, ideally, the information influences a range of possible decisions" (Moynihan, 2008, p. 5). Policymakers expected that the provision of performance information, accompanied with increased managerial autonomy, would facilitate a more effective distribution of resources, improve learning in public organizations, and motivate employees and frontline managers through performance incentives.

Today, public organizations have implemented performance management systems to the extent that some scholars have claimed that performance management has become a ubiquitous movement (van Dooren, 2008, p. 11) and that we live in the "era of governance by performance management" (Moynihan, 2008, p. 3). Despite the popularity of performance management, there is

little evidence suggesting that performance management has actually delivered on its promises (Gerrish, 2016). Nonetheless, politicians, managers, citizens, and street-level bureaucrats have gained access to a large amount of performance information about public organizations, which has simultaneously spurred a scholarly interest in understanding how people interpret and perceive performance information. Until now, the literature has primarily been focused on understanding how politicians, managers, and citizens evaluate and respond to performance information (Baekgaard, Christensen, Dahmann, Mathiasen, & Petersen, 2017; Baekgaard & Serritzlew, 2016; Holm, 2017; James & Van Ryzin, 2017; Meier, Favero, & Zhu, 2015; Nielsen & Moynihan, 2017; Salge, 2011).

However, there has been a lack of scholarly attention to how street-level bureaucrats evaluate and respond to performance information. This is rather surprising for at least three reasons. First, performance management and the dissemination of performance information have become a regular part of street-level bureaucrats' work environment (Behn, 2014; Destler, 2017; Smith, Mossialos, Papanicolas, & Leatherman, 2010; Soss, Fording, & Schram, 2011). Street-level bureaucrats, such as teachers, police officers, and caseworkers, are regularly confronted with performance information in the form of benchmarks or rankings displaying how well their organization has performed on different indicators compared with previous performances, preselected targets, or the performance of similar public or private organizations. Second, street-level bureaucrats are in a completely different position compared with politicians and citizens. They have different interests and values, they evaluate performance information about their own performance or that of their organization, and they evaluate data in different contexts. Third, the street-level bureaucrats have a high degree of discretion and regularly make decisions of importance for the citizens (Lipsky, 1980). If performance information has to improve the quality of decision-making in public organizations, learning needs to take place on the front line of public services (van Dooren, Bouckaert, & Halligan, 2015). Thus, an important purpose for providing public organizations and street-level bureaucrats with performance information is that the information may improve decision-making and facilitate learning by generating aspiration levels, detecting performance deficits, finding opportunities for improvement, and identifying what works (Behn, 2003, 2014; Hatry, 2006; March, 1994; Nielsen, 2014). I return to and expand on these three reasons to study performance evaluation on the front line later in the introduction.

However, before performance data can influence decision-making and facilitate learning, the information has to be interpreted (Baekgaard & Serritzlew, 2016; Christensen, 2018b). This is not a simple process as performance information is neither objective nor definitive. Rather, it is ambiguous and

leaves room for different interpretations and perspectives. According to Moynihan (2006), the ambiguity of performance information creates “incentives for particular actors to advance arguments that reflect their institutional role and context, enhancing the potential for disagreement” (Moynihan, 2006, p. 155). This means that different actors may interpret the same data differently. Indeed, in Behn’s words: “[t]he data speak only through an interpreter” (Behn, 2003, p. 592). Hence, from psychology we know that the interpretation process of information is far from evident but influenced by psychological biases, institutional interests, and the context (Kunda, 1987, 1990; Simon, 1997; Tetlock, 1983). These factors may also affect how street-level bureaucrats evaluate and respond to data. Furthermore, because street-level bureaucrats are in a different position than citizens or politicians, we should be careful of simply assuming that we can automatically generalize findings from previous studies to a street-level context. Thus, as mentioned, an important element related to street-level bureaucrats’ performance evaluations is that they often evaluate information about their own performance or information about their organization’s performance. Unlike citizens and politicians, street-level bureaucrats have a different personal stake in whether performance is evaluated as a success or as a failure (March, 1994). Thus, we know from research that individuals are psychologically designed to maintain and defend their self-image or protect their group identity (Sherman & Cohen, 2006; Sherman, Nelson, & Steele, 2000; Steele, 1988). This means that street-level bureaucrats may be psychologically prone to engage in defensive biases when interpreting performance information about themselves or their organization. If street-level bureaucrats evaluate performance information in a biased manner by misinterpreting, distorting, or ignoring data, it is less likely that the provision of performance information has a positive impact on the street-level bureaucrats’ decision-making or use of data for learning purposes.

To understand how performance information affects street-level bureaucrats’ behavior and organizational performance more generally, we therefore first need to take a step back and examine how street-level bureaucrats evaluate and respond to performance information. The aim of this dissertation is to take this step. The dissertation therefore seeks to study how street-level bureaucrats evaluate performance information. More specifically, the research question is: *How do the content of performance information and contextual factors influence public street-level bureaucrats’ evaluations and responses to performance information?*

To answer this question, the dissertation builds on Simon’s (1997) assumption that individuals are rationally bounded rather than “omniscient calculators” (Lupia, McCubbins, & Popkin, 2000, p. 8). This means that street-level bureaucrats’ interpretations of performance information is not a given,

but a result of psychological processes and the contextual setting in the interpretation phase. Therefore, the dissertation draws on and combines public administration theory with psychological insights into individuals' processing of information. Thus, public administration and management theory provide an understanding of street-level bureaucracy, performance management in public organizations, and contextual factors that may affect street-level bureaucrats' evaluations and responses to performance information. These insights are coupled with a psychological theory about people's processing of information. Here, I apply a theory on motivated reasoning, which suggests that individuals tend to evaluate new information or evidence in a manner that confirms or reinforces their preexisting beliefs, behavior, or identity (Baekgaard et al., 2017; Baekgaard & Serritzlew, 2016; Druckman, 2012; Kahan, 2013; Kunda, 1990; Taber & Lodge, 2006). By combining public administration with psychological insights, the dissertation answers the call from scholars to apply behavioral insights when studying mechanisms on the micro level in public administration (Grimmelikhuijsen, Jilke, Olsen, & Tummers, 2017; Nørgaard, 2018).

1.1. Why the Street-Level Perspective Matters

As mentioned above, a growing literature has focused on how politicians (Baekgaard et al., 2017; Nielsen & Baekgaard, 2015; Nielsen & Moynihan, 2017), managers (Holm, 2017; Meier et al., 2015; Moynihan, 2008; Salge, 2011) and citizens (Baekgaard & Serritzlew, 2016; Christensen, 2018a; Hvidman, 2019; James & Van Ryzin, 2017) evaluate performance information. Although this body of research has contributed with important behavioral insights, the lack of research on street-level bureaucrats is surprising. In the following, I therefore expand my argument to why a street-level perspective matters, and as mentioned above, the lack of attention to street-level bureaucrats' evaluations of data is unfortunate for at least three reasons.

First, with the vast implementation of performance management systems in public organizations, the street-level bureaucrats have gained access to large amounts of performance information. For instance, teachers have access to data on their students' academic performances, well-being, and graduation rate, while police officers have access to data on measures such as crime rate, number of arrests, and service response time. This means that performance information has become a regular part of street-level bureaucrats' daily work conditions. Indeed, street-level bureaucrats are increasingly expected to incorporate performance data in their decision-making (Behn, 2014; Destler, 2017; Smith et al., 2010). To give some examples, table 2 displays an overview

of a few of the publicly available pieces of performance information in Denmark.

Table 2: Examples of Performance Information in Denmark

Sector	Performance indicators	Government produced performance reports in Denmark
Schools, high schools, universities	<ul style="list-style-type: none"> ○ Academic test scores ○ Student well-being ○ Truancy ○ Graduation rate 	<ul style="list-style-type: none"> ○ Ministry of Education publishes yearly reports with several performance goals
Hospitals	<ul style="list-style-type: none"> ○ Patient satisfaction ○ Length of patients' stay ○ Readmission rates ○ Waiting list 	<ul style="list-style-type: none"> ○ Yearly performance reports produced by the Ministry of Health
Employment agencies	<ul style="list-style-type: none"> ○ Number of citizens on benefits ○ Case duration ○ Cooperation with companies ○ Level of self-support following activation and training programs 	<ul style="list-style-type: none"> ○ The Danish Agency for Labour Market and Recruitment produces monthly performance reports to employment agencies

Note: Jobindsats.dk, Sundheds- og Ældreministeriet, Danske Regioner, and Kommunernes Landsforening (2018), uvm.dk/statistik.

The large amount of data in public organizations and the expectation that the street-level bureaucrats use this information, make it relevant to study whether the street-level bureaucrats engage in a meaningful evaluation process. If data is evaluated in a self-serving manner, it seems unlikely that the data will lead to improved decisions or facilitate learning on the front line (March, 1994).

Second, street-level bureaucrats are in a fundamentally different position compared with citizens and politicians. This means that their interests and identity differ from other groups, which may have implications for their interpretations of data. Moynihan states that the “[i]nformation selection and use occur in the context of different beliefs, preferences, and cognitive processes and will reflect organizational power and politics” (Moynihan, 2006, p. 156). Consequently, different actors will use performance information to advocate and promote their own interests (Moynihan, 2008). The interpretation of performance information can therefore be considered as a struggle between different actors when defining what constitutes good performance, legitimate and useful measures, and what actions performance information warrants. Along with politicians, managers, and citizens, street-level bureaucrats partic-

ipate in this ongoing struggle. Importantly, the position of street-level bureaucrats entail that they evaluate information about their own performance or that of their organization. As mentioned above, we know from psychology that people have a strong psychological interest in evaluating their own performance or that of an important affinity group in a self-serving or self-preserving manner (Kahan, 2017; Sherman & Cohen, 2006). So far in the literature, there has been little theorizing about how street-level bureaucrats differ from citizens or politicians and how these differences may affect their evaluations of data. Furthermore, the position of street-level bureaucrats as organizational members means that they also evaluate information in different organizational contexts. We may imagine that these contextual settings are important for how they approach the data. For instance, scholars have argued that the involvement of employees in setting performance goals leads to a stronger support for these goals (Boyne, Gould-Williams, Law, & Walker, 2004; Destler, 2017; Jakobsen, Baekgaard, Moynihan, & van Loon, 2017; Pasha, 2018). Yet, to examine these claims, we need to study street-level bureaucrats and theorize about how the position and the contextual factors matter.

Finally, Lipsky argues that street-level bureaucrats' high degree of discretion and frequent interactions with citizens make them the de facto policymakers (Lipsky, 1980). It is ultimately the street-level bureaucrats' decisions that determine "who gets what when and how" (Lipsky, 1980, 84, quoting Laswell). In addition, street-level bureaucrats make up the bulk of public employees in public organizations that deliver public services to the citizens. If performance information is to have a positive impact and improve public organizations, we need to understand how street-level bureaucrats perceive and respond to data as their behavior (and changes in behavior) is crucial for organizational performance (Simon, 1997). Therefore, we need to study street-level bureaucrats' evaluations and responses to data as this provides us with a first step for understanding the role of performance information on the front line of public service delivery, and hence, perhaps it also provides us with an explanation for why performance management has not been the success that many expected (Gerrish, 2016; Moynihan, 2005).

To summarize, it is unfortunate that the literature has not examined street-level bureaucrats' evaluations and responses to performance information. The ambition of this dissertation is to take the first step to fill this gap in the literature and with that step spark a scholarly interest in street-level bureaucrats' role in performance management systems.

1.2. Structure of the Dissertation

Because of the large amounts of data in public organizations and the unique position and discretion of the street-level bureaucrats, it is important to study how the content of performance information affects their evaluations and responses to performance information. Therefore, as shown in figure 1 below, articles A (Acceptance or Disapproval), B (Performance and Policy Support), and C (Defending Your Public Kin) examine this question. Concretely, article A examines how poor, average, or good performance scores affect street-level bureaucrats' acceptance of performance indicators' validity, legitimacy, and usefulness as well as their causal responsibility attribution to different actors and circumstances. The article focuses on the perceptions of indicators as these are an important element in determining how performance information is used in organizations (Bouckaert, 1993; van Dooren et al., 2015). Furthermore, responsibility attribution and the acknowledgement of one's own responsibility in performance deficits are central when it comes to initiating actions directed at improving the performance (Behn, 2014). Indeed, attributing responsibility or blame is important to understand organizational members' behavior (Gerstenberg, 2013; Hood, 2011). The article tests the argument that defensive psychological biases affect the street-level bureaucrats' perceptions of data and responsibility attribution because they identify with their organization. In this way, article A contributes to answering the research question by showing how different performance scores affect the street-level bureaucrats' perceptions of data and attribution of responsibility. However, performance information does not only affect street-level bureaucrats' evaluations of information and responsibility attribution, it may also signal the state of the organization and whether changes are warranted (Nielsen & Jacobsen, 2018). Therefore, article B examines how the content of performance information influences street-level bureaucrats' responses to managerial policy initiatives, and specifically, it examines whether poor or good performance scores, compared with average scores, increase their support for policy initiatives. In addition, the article shows how the street-level bureaucrats' experienced work pressure may be central when it comes to understanding their support for policy initiatives following different pieces of performance information.

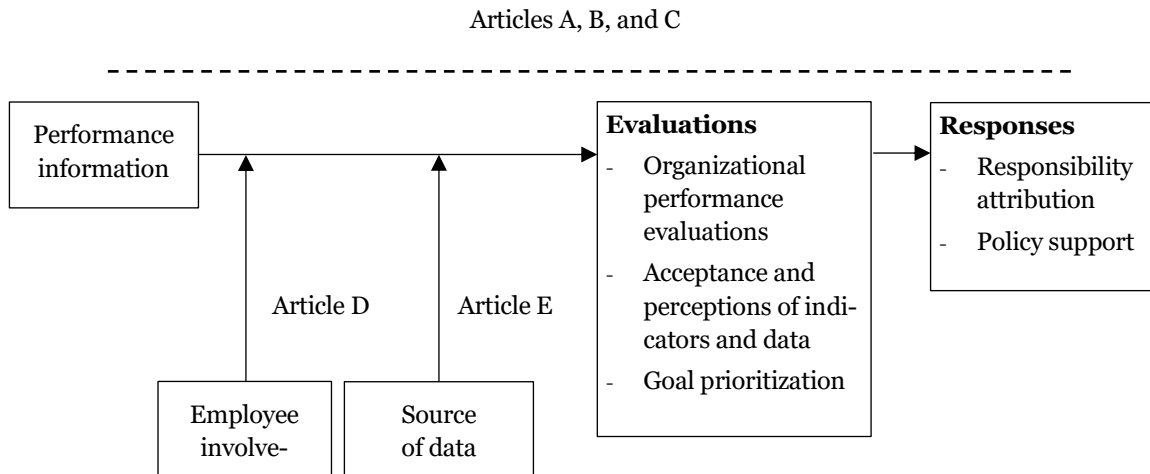
While the first two articles examine how street-level bureaucrats evaluate and respond to performance information about their own organization, article C investigates how they evaluate performance information about public and private organizations. The article extends the argument in article A by theorizing that public street-level bureaucrats not only identify with their own organization but also with public organizations within their field more generally.

Moreover, article C contributes by examining how street-level bureaucrats' individual characteristics in the form of their length of job tenure and political ideology affect their evaluations of performance information. In this way, the article highlights some key differences between public street-level bureaucrats' and citizens' evaluations of data on public and private organizations. Finally, article C also examines how the content of performance information affects street-level bureaucrats' evaluations by showing that they change how much weight they attribute to different performance dimensions in order to justify biased performance evaluations.

However, as mentioned above, performance information is not evaluated in a vacuum. Instead, it takes place in different organizational contexts and environments that may be important for how street-level bureaucrats evaluate the information. In particular, as displayed in figure 1 below, employee involvement and the source of data are important contextual factors. First, employee involvement is important because either the street-level bureaucrats can be involved in the selection of performance goals in their organization or the management can make a decision on which goals the employees should pursue. Employee involvement has been highlighted as an important contextual factor by several scholars who argue that involvement can be a means to increase the employees' support for performance goals (Boyne et al., 2004; Jakobsen et al., 2017). Therefore, article D (Employee Involvement) examines whether the involvement of employee representatives in the selection of performance goals can positively influence street-level bureaucrats' support for the goals. However, despite strong theoretical expectations in the literature (Boyne et al., 2004; Wildavsky, 1972; Yukl, 2006), the article finds no support for a positive effect of involvement.

Second, another important contextual factor is the source of performance information. Thus, performance information always has a source. The source is important, because different sources may invoke different feelings of being controlled or held accountable, which, in turn, may affect street-level bureaucrats' perceptions of performance information and willingness to use it for learning activities. Yet, in the literature, there is no research examining how organizational sources matter to street-level bureaucrats' evaluations of data. Therefore, in article E (Sources of Data), I argue that the source of data affects street-level bureaucrats' fear of blame and feeling of autonomy. The article differentiates between vertical and horizontal sources of data. Vertical sources are sources, which are in a hierarchical relation to the street-level bureaucrats, whereas horizontal sources are in a non-hierarchical relation to them. The article shows that the source of data indeed shapes their perceptions of data and willingness to use the information for different learning activities.

Figure 1: Research Focus of Articles



As detailed above, the first three articles examine how the content of performance information influences the street-level bureaucrats' evaluations and responses to performance information, while the last two articles focus on the influence of contextual factors. As the figure also shows, I distinguish between evaluations and responses. I consider evaluations as the immediate perception and interpretation of data, while responses are the result of the processing of information.

1.3. Road Map

The summery report is structured as follows: Chapter 2 presents the theoretical framework by introducing performance information, psychological theory about motivated reasoning, and the role of contextual factors. Furthermore, it also outlines some general expectations. Chapter 3 presents the research design and data used in the dissertation. Here, I first identify the major methodological challenges when examining the effect of the content of data and the context of the street-level bureaucrats' evaluations and responses. The main issues are omitted variable bias and reverse causality, and to handle these issues, I apply survey experiments. In addition, the chapter also discusses some of the methodological limitations of survey experiments and how they have been addressed. Chapter 4 presents the main findings of the five articles. Finally, in chapter 5, I discuss the findings, the alternative theoretical explanations, and the methodological limitations. Importantly, chapter 5 also assesses the overall contribution of the dissertation and provides directions for future research. Chapter 5 ends where it all started by relating the findings to some of Lipsky's (1980) classical concepts.

Chapter 2.

Theoretical Framework

This chapter presents the dissertation's theoretical framework. The dissertation's theoretical contribution is to connect Lipsky's (1980) insights about street-level bureaucracy with psychological theory on information processing in order to develop theoretical expectations about how street-level bureaucrats evaluate performance information. To do this, I first introduce the performance management doctrine and discuss what characterizes performance information in the public sector. Second, I develop my arguments about how the content of performance information influences the street-level bureaucrats' evaluations and responses to the data by drawing on the psychological theory of motivated reasoning. Third, I develop my arguments about how contextual factors affect street-level bureaucrats' evaluation of data by theorizing about the role of employee involvement and the source of data.

2.1. Performance Information

In the late 1980s and early 1990s, the performance management doctrine gained momentum in public organizations throughout the Western world (Gerrish, 2016; Gruening, 2001; Heinrich, 2007; Pollitt & Bouckaert, 2017). One reason for the popularity of the doctrine was that it promised to deliver higher performing organizations, stronger accountability, and more trust in the government (Moynihan, 2008). The performance management doctrine was thus built on the assumption that the public sector was fundamentally inefficient and that higher performance was possible through an implementation of a set of ideas. Among these ideas were the marketization and decentralization of public services in order to create more competition among public organizations. Importantly, the organizations needed to measure their performance and hence change their focus from inputs, rules, and procedures to outputs and outcomes (Heinrich, 2007; Hood, 1991; Moynihan, 2008). The focus on performance results is also the reason why performance management is often referred to as "managing for objectives" (van Dooren et al., 2015), "managing for results," or "result-based management" (Swiss, 2005). As mentioned in the introduction, performance management can be defined as a cyclical system "that generates performance information through strategic planning and performance measurement routines and that connects this information to decision venues, where, ideally, the information influences a range of possible decisions" (Moynihan, 2008, p. 5). Performance management is therefore not

only a matter of measuring performance, it is also a matter of using performance information (Hatry, 2006).

However, what is performance information, and what characterizes performance information in public organizations? In the literature, there is some debate about what actually constitutes performance information (Nielsen, 2013). For instance, James has a broad definition including “inputs, processes, outputs, and outcomes” (James, 2011, p. 400). I use Boyne’s (2002) and Nielsen’s (2013) conceptualization of performance information and restrict it to information about output, outcomes, and measures of efficiency and responsiveness. I include efficiency, i.e., the “cost per unit of output” (Boyne, 2002, p. 17), as it is often an underlying goal in public organizations that the production of services is delivered in the most efficient manner. This is not to say that input and process measures are not relevant. For instance, in an environment characterized by competition for clients, the ability to attract clients can be an indicator of good performance. However, performance concerns the output or outcomes of public organizations. Therefore, I do not consider input and process measures as performance information.

An important feature of performance information in public organizations is that public organizations often have multiple conflictual performance goals (Chun & Rainey, 2005; Lee, Rainey, & Chun, 2009; Rainey & Jung, 2015). For example, hospitals may have a goal of minimizing the length of patients’ average stay in the hospital, but they also have a goal of a low readmission rate. The multiplicity of performance goals and the regular conflict between goals coupled with street-level bureaucrats’ high degree of discretion means that their perceptions of goals are key to understand their implementation of them (May & Winter, 2009). Another characteristic of performance information in public organizations is that there is a scarcity of good performance indicators because the goals of public organizations are inherently difficult to measure. For example, the Danish school law states that schools must work toward improving the students’ academic skills, their democratic competences, and their ability to immerse and take initiative (Retsinformation, 2017). However, how do you measure these goals? Even with good indicators, organizational performance often depends on environmental factors, such as the clients’ demographic and socioeconomic background (Jung, 2019). For instance, students’ academic achievements in exams are not particularly good measures of how the school performs as academic achievement is determined by a number of factors outside the influence of the school (Caro, McDonald, & Douglas Willms, 2009; Considine & Zappalà, 2001). In the educational sector, there have been attempts to handle this particular challenge by creating value-added indicators, which seek to take all relevant non-school factors that contribute to the students’ academic achievements into account (Meyer, 1997).

The measure should be considerably more valid compared with measures of the students' achievements, which simply rely on exam scores.

Finally, a general feature of performance information is that it is often benchmarked with different aspiration levels (Askim, Johnsen, & Christophersen, 2008; Nielsen, 2014). When performance data is benchmarked with the performance of similar organizations, it is referred to as social comparisons, while performance compared with previous years is referred to as historical comparisons (Olsen, 2017). These comparisons are key for a meaningful evaluation of organizational performance (Cyert & March, 1963; Greve, 1998, 2003; Simon, 1939). According to Simon, “[t]he only sound basis for decisions about numbers is numerical factual information about past experiences or the experiences of others—nothing more nor less than comparative statistics” (Simon, 1939, p. 106). Therefore, simply providing organizations with performance results is very uninformative unless the performance results are accompanied with information about social or historical comparisons. Interestingly, research has indicated that people’s performance evaluations are substantially more influenced by social comparisons compared with historical comparisons (Olsen, 2017).

How then, can performance information be used in a purposeful manner in public organizations? Generally, performance information can serve different functions for different stakeholders (Hatry, 2006; Johnsen, 2005). For instance, Behn lines up eight different ways in which performance information can be used in public organizations. Concretely, he argues that performance information can be used to “evaluate, control, budget, motivate, promote, celebrate, learn, and improve” (Behn, 2003, p. 586). Hatry (2006) presents eleven different uses of performance information, including allocation of resources, political accountability, motivation of employees, in-depth examination of performance successes or failures, and analysis of options and priorities. According to van Dooren et al. (2015), these different kinds of performance information purposes can be divided into three broad clusters: 1) to learn, 2) to steer and control, and 3) to give account. The scholars emphasize that “[o]nce a measurement system is used for the harder purposes such as account giving, it can no longer be used for softer approaches such as learning” (van Dooren et al., 2015, p. 135). According to them, this is mainly because learning requires people to take risks and experiment with new methods or working procedures. When information is used for accountability purposes, there is little incentive for organizational members to take risks. In addition, when the stakes are high and the performance results have financial consequences, organizational members are more prone to game the system (Jakobsen et al., 2017; Soss et al., 2011). Indeed, many scholars have criticized the implementation of performance management in public organizations for

causing unintended behaviors, such as goal substitution, gaming, and manipulation of numbers (Heinrich & Marschke, 2010; Muller, 2018).

Overall, it is challenging to measure public organizations' performances. Still, performance information is expected to serve different purposes that increase public performance. However, as mentioned in the introduction, before the information can be used for improved decision-making, it needs to be processed and evaluated (Baekgaard & Serritzlew, 2016). This point is emphasized by March (1994) who argues that the interpretation process of data is necessary for learning in the organizations. In the next section, I use a psychological theory to identify potential issues in street-level bureaucrats' processing of performance information.

2.2. Psychological Biases and the Content of Performance Information

Performance information must be evaluated before it can be used. Therefore, to develop my expectations concerning the influence of the content of performance information on street-level bureaucrats' evaluations and responses to data, I apply psychological insights about how individuals process information. Here, I use the theory of motivated reasoning. The central claim in this theory is that people are inclined to interpret new information or evidence in a manner that is aligned with their preferred conclusions. In the following, I present the theory of motivated reasoning and a type of motivated reasoning called identity-protective cognition. Identity-protective cognition is an important driver of defensive biases, and it is triggered when people are confronted with information that threatens their own self-image or that of an important affinity group.

2.2.1. Motivated Reasoning

According to the theory of motivated reasoning, all human reasoning is motivated by different goals when interpreting new information (Taber & Lodge, 2006). Goals can be defined as any "wish, desire, or preference that concerns the outcome of a given reasoning task" (Kunda, 1990, p. 480). In general, the goals can be characterized as accuracy goals or directional goals. When individuals are driven by accuracy goals, they are motivated to evaluate information in a nuanced and objective manner and seek to reach the most accurate conclusions possible (Taber & Lodge, 2006). Consequently, the reasoning process is characterized by a careful and thorough evaluation process where people invest cognitive resources in reaching the correct conclusion (Kunda,

1990). Oppositely, when people are driven by directional goals, they are motivated to evaluate information in a way that is likely to arrive at a particular desired conclusion (Kunda, 1990). The reasoning process is therefore dominated by close-mindedness, limited information search, and creative combinations of knowledge, which allow individuals to “construct new beliefs that could logically support the desired conclusion” (Kunda, 1990, p. 483). This information processing strategy consequently leads to biased evaluations that support people’s preexisting beliefs. It is important to note that biased interpretations of information are not by definition problematic. In many cases, biased interpretations are necessary to ensure cohesiveness among a diverse set of individuals (e.g., within a party, an organization, or a group). Indeed, in an evolutionary perspective, cognitive biases and shortcuts were developed because they were more useful in different circumstances than a thorough processing of information (Haselton, Nettle, & Andrews, 2015).

Although people in most situations are inclined to interpret information biasedly, there are limitations to what conclusions people can reach from data – even when they have strong preferences for reaching a certain conclusion. Thus, evidence pointing strongly toward one single conclusion may be so overwhelming that people have to accept it (Festinger, 1957). Biased interpretations of new information therefore only prevail to the extent that the information at hand allows it. If the information is completely unambiguous, it is more difficult for people to rationalize and justify a biased interpretation. Being able to logically support the interpretation is important for people because they unconsciously seek to “maintain an illusion of objectivity” (Kunda, 1990, p. 483). Interestingly, this means that people with a high level of cognitive ability tend to be more biased than people with a low level of cognitive ability because they are better at interpreting information in a manner that supports their preferred conclusion (Kahan, 2013). I return to the potential limitations of a biased interpretation of information when I discuss directions for future research in chapter 5.

In the literature, motivated reasoning has primarily been used to study partisan bias related to people’s political attitudes (Bisgaard, 2015; Bolsen, Druckman, & Cook, 2014; Hart & Nisbet, 2012; Leeper & Slothuus, 2014; Nir, 2011; Slothuus & de Vreese, 2010). Recent research has shown that politicians (Baekgaard et al., 2017; Christensen, Dahlmann, Mathiasen, Moynihan, & Petersen, 2018) and citizens (Baekgaard & Serritzlew, 2016; James & Van Ryzin, 2017) interpret performance information in a manner that is aligned with their prior beliefs. This is even the case when they have to directly misinterpret the data (Baekgaard & Serritzlew, 2016). Surprisingly, Baekgaard et al. (2017) found that adding more evidence pointing toward one conclusion led to more biased interpretations of data (for research on affective tipping points,

see Redlawsk, Civettini, & Emmerson [2010]). The scholars only identified this negative effect on politicians as a replication study on citizens showed that the citizens did not become more biased when adding additional evidence. The study is particularly interesting because it indicates that politicians and citizens respond differently to similarly pieces of performance information. In line with these findings, Christensen (2018b) shows that politicians rely more on their prior beliefs when they are requested to justify their interpretations of performance information, whereas justification requirements reduce politically motivated reasoning among citizens. These studies highlight the importance of examining motivated reasoning among different groups rather than simply assuming that all individuals' processing of information follows the same pattern. In the following, I present the theory on identity-protective cognition. Due to their position and identification with their organization, I believe that identity-protective cognition is the most relevant directional goal in the street-level bureaucrats' interpretations of performance information.

2.2.2. Identity-Protective Cognition

It is important to keep in mind that there are different directional goals, which may lead to a biased processing of information. However, one broad, but influential directional goal, which triggers biased interpretations is people's interest in protecting their status "of, or one's own standing in, an important affinity group" (Kahan et al., 2015, p. 363). Scholars refer to this reasoning process as identity-protective cognition (Kahan, Braman, Gastil, Slovic, & Mertz, 2013). When people engage in identity-protective cognition, they "selectively credit and dismiss evidence in patterns that reflect the beliefs that predominate in their group" (Kahan, 2017, p. 1). This means that people may inflate the importance of information, which maintains or improves their self-perception or group identity and attenuates the importance of information that threatens their self-perception or group identity. Thus, threatening information invokes defensive biases, which help people to preserve their integrity (Sherman & Cohen, 2006). Identity-protective cognition is therefore highly relevant in a performance evaluation process among street-level bureaucrats because they evaluate information about their individual performance or that of their organization.

Concretely, organizational performance is important to street-level bureaucrats for at least two reasons. First, organizational performance information concerns (although in a highly aggregated version) the performance of the individual employee. Second, and more importantly, the employees may identify with their organization and perceive it as an important affinity group.

This is consistent with Simon's (1997) argument about employees' loyalty toward their organization. Simon argues that when individuals are organized in groups, they tend to identify with that group. According to Simon (1997), this identification could be problematic because the employees would tend to favor their own organization or department, which would prevent them from making good decisions. Thus, an important argument in this dissertation is that street-level bureaucrats identify with their organization and that organizational performance information therefore triggers identity-protective cognition, which leads to biased evaluations and responses. If this argument finds support, it challenges a purposeful performance information use because defensive biases make it less likely that people "will learn from the potentially important information" (Sherman & Cohen, 2006, p. 186).

Beside their own organization, street-level bureaucrats may also have other important affinity groups. We may imagine that public street-level bureaucrats identify with public organizations within their field. This should particularly be the case when they are provided with information about public and private organizations as this information speaks to their public group membership (van Knippenberg, 2000). Due to socialization effects (Cable & Parsons, 2001; van Maanen & Schein, Edgar, 1979), we may further expect that this favoritism of public organizations increases with the length of the public street-level bureaucrats' job tenure.

2.2.3. Expectations: The Content of Data

How then, should we expect that the content of performance information influences street-level bureaucrats' evaluations and responses to data? First, as I have argued above, the content of performance information may trigger identity-protective cognition among the street-level bureaucrats, which, in turn, affects their information processing, and lead to biased interpretations. To examine whether that is the case, four outcomes are relevant to study.

The first outcome concerns the perception of the performance indicator displaying a given performance score and the importance attributed to the performance dimension that the indicator represents. Here, I expect that the street-level bureaucrats change their perceptions of the indicator and the performance dimension in order to reduce the threat of the performance score and to justify their preferred interpretation. This expectation is in line with the goal reprioritization process suggested by Christensen et al. (2018). In short, the goal reprioritization process implies that when confronted with multiple pieces of performance information, people change the weight assigned to each performance dimension in such a way that it justifies their preferred evaluation. In article A (Acceptance or Disapproval), I examine whether

the street-level bureaucrats change their perception of the performance indicators, and in article C (Defending Your Public Kin?), I examine the process of goal reprioritization.

Second, we should expect that the street-level bureaucrats' responsibility attribution of a given indicator is important to whether a performance score constitutes a threat. If they do not consider themselves or their affinity group as causally responsible, the information is not threatening. Therefore, I expect that street-level bureaucrats attribute less responsibility to their own performance when the performance scores are poor and more responsibility to their own performance when the performance scores are good. In addition, the psychological discomfort associated with identity threatening information may also result in an increased responsibility attribution to other actors or circumstances. I examine the effect of the content of performance information on street-level bureaucrats' responsibility attribution in article A (Acceptance or Disapproval).

Third, the content of performance information does not only trigger identity-protective cognition, it also signals the state of the organization and hence the need for changes in the organization (Kotter, 1995). Indeed, research indicates that low and high performance scores increase street-level bureaucrats' acceptance of managerial authority (Nielsen & Jacobsen, 2018). Therefore, I also expect that compared with an average performance score, negative and positive performances increase street-level bureaucrats' support for managerial policy initiatives. I examine this expectation in article B (Performance and Policy Support).

Fourth, a central expectation is that street-level bureaucrats overall tend to make biased performance evaluations by favoring in-group members over out-group members. Therefore, I expect that when public street-level bureaucrats are confronted with the data on public and private organizations, they make biased performance evaluations in favor of their preferred organization. This expectation is examined in article C (Defending Your Public Kin).

To summarize, the dissertation makes a comprehensive investigation of how the content of performance information affects street-level bureaucrats' evaluations and responses to data by examining four important outcomes in the form of perceptions of performance indicators and performance dimensions, responsibility attribution, policy support, and performance evaluations.

2.3. Contextual Factors

Several contextual factors in public organizations may potentially have an impact on street-level bureaucrats' evaluations and responses to performance information. However, as I have argued, the contextual factors in the form of

employee involvement and the source of performance data are particularly important and therefore the focus of this dissertation. First, examining the effect of employee involvement is important because scholars have argued that the involvement of employees in selecting performance goals may be an effective means to improve the employees' perceptions of performance information (Boyne et al., 2004; Jakobsen et al., 2017; Jennings & Haist, 2004; Moynihan & Lavertu, 2012; Wildavsky, 1972). Yet, despite these claims, there has been little examination of the effects of employee involvement, and the research in the field has mainly relied on observation data. This is an issue as employee involvement is a highly endogenous concept. Second, examining the effect of the source of performance information is important because performance always has a source, and different sources may invoke different feelings of accountability. We know from the literature that the feeling of being monitored and held accountable may have negative effects on how people approach and use information (de Wolf & Janssens, 2007; Holm, 2018a; van Dooren et al., 2015). Moreover, scholars have argued that environments, which emphasize accountability rather than learning, are more likely to make employees "cover up unfavorable outcomes" (van Dooren et al., 2015, p. 135). Thus, the source of data may send important signals as to whether the data are intended for accountability or learning purposes. In addition, studies have indicated that this contextual factor is important to how citizens evaluate performance information (James & Petersen, 2018; James & Van Ryzin, 2015). However, there is no research examining the influence of different sources of data on street-level bureaucrats' evaluations and responses to performance information. In the following, I first present the theory concerning why employee involvement through employee representatives may improve the street-level bureaucrats' support for performance goals. Hereafter, I present my argument for why different organizational sources of performance information should affect street-level bureaucrats' perceptions and willingness to use performance information.

2.3.1. Involvement of Employees

The idea that the involvement of employees in decision-making has different positive effects on the employees' perceptions of the decisions made in the organization goes back to Kurt Lewin in the 1930s (Vroom & Jago, 1988). Since then, different models of employee involvement have been developed in the literature by scholars such as Tannenbaum and Schmidt (1958) and Yukl (2006). In the management and public administration literature, scholars have commonly argued that employee involvement "in deciding on the indicators and data collection" (Jakobsen et al., 2017, p. 137) positively affects the

employees' perceptions of the performance goals. This claim builds on two general mechanisms. First, involvement may have an instrumental value. By involving employees or employee representatives in deciding which indicators or goals that should be used in the organization, the quality or instrumental value of the goals increases, which, in turn, improves the street-level bureaucrats' support for the performance goals. Furthermore, the involvement may also align the goals with professional values (Jennings & Haist, 2004). Second, the process of involvement may have positive effects because the employees are more likely to identify with the performance goals they have been involved in selecting. This argument is consistent with the self-determination theory where participation and influence induce feelings of autonomy and competence, making it more likely that the performance goals are perceived as supportive rather than instruments of control (Gagné & Deci, 2005). In article D (Employee Involvement), the focus is on testing the latter argument, i.e., whether employee involvement leads to higher levels of goal support. Specifically, building on the literature, I expect that the involvement of employee representatives (joint decision) in the selection of a performance goal compared with a situation where the management solemnly makes a decision (autocratic decision) increases goal support.

2.3.2. Sources of Performance Information

Another potentially important contextual factor that may influence how street-level bureaucrats evaluate and respond to performance information is the source or provider of performance information. Recent research suggests that the provider of data is important to how people perceive the information. For instance, citizens are more likely to trust performance information on governments' performances when the information is delivered by international (James & Petersen, 2018) or independent sources (James & Van Ryzin, 2015) rather than the government itself. In public organizations, different sources may also affect how street-level bureaucrats perceive the performance information. On the one hand, Holm argues that when public managers expect to be held accountable by a political principal, they tend to take a more defensive position because they fear that the political accountability relations "revolve around political scrutiny for the negative results" (Holm, 2018a, p. 33). This suggests that accountability structures, i.e., hierarchy and fear of sanctions, may have unintended consequences for how public employees approach data. On the other hand, the absence of a hierarchy may reduce the fear of being sanctioned for negative results. Consequently, performance information from horizontal sources should not invoke a defensive stance. This is in line with Van Dooren et al.'s (2015) argument that performance information cannot be

used simultaneously for learning and accountability. In addition, Moynihan and Landuyt (2009) also stress that if employees are to examine and interpret performance data openly in learning forums, the organizational members discussing the data should be “on an equal footing” (Moynihan & Landuyt, 2009, p. 1100). Learning forums can be defined as “routines that encourage actors to closely examine information, consider its significance, and decide how it will affect future action” (Moynihan, 2008, p. 19). Consequently, we may expect that when the source of performance information is in a hierarchical (vertical) relation to the street-level bureaucrats, they are more likely to take a defensive stance when evaluating the information compared with a situation where the source is in a non-hierarchical (horizontal) relation to them.

2.3.3. Expectations: The Contextual Factors

To test the expectations concerning the effects of contextual factors, I am mainly interested in examining two outcomes. First, in article D (Employee Involvement), I am interested in examining whether the involvement of employees through employee representatives increases the street-level bureaucrats’ support for performance goals. I measure the support for performance goals through different outcomes, including policy support, perception of performance goals as supportive, and acceptance of performance goals. Overall, based on the literature, the expectation is that involvement increases the street-level bureaucrats’ support for performance goals. Second, in article E (Sources of Data), I am interested in examining how the source of performance information influences their perceptions of performance information and their willingness to use the information for different activities associated with learning. Here, I expect that when performance information is provided by a vertical source, street-level bureaucrats are more likely to take a defensive position by evaluating the information as less relevant and useful than if the performance information is provided by a horizontal source. Furthermore, I expect that they will also be less willing to use the performance information to seek advice and guidance from different actors on how to improve the performance measures.

Chapter 3.

Research Design and Data

In this chapter, I first present the general methodological challenges when it comes to examining the content of performance information and contextual factors on street-level bureaucrats' evaluations and responses to data. To handle these challenges, I use survey experiments, and I discuss the advantages and disadvantages of this approach. Second, I present the data and the test cases used to examine the dissertation's expectations. I primarily use data from two large surveys on Danish high school teachers and caseworkers. Although teachers and caseworkers have very different job descriptions, both groups constitute classic examples of street-level bureaucrats due to their considerable discretion and contact with citizens. Finally, I discuss some of the limitations and advantages of my design choices in the dissertation.

3.1. Research Design

When examining the influence of the content of performance information and contextual factors on street-level bureaucrats' evaluations and responses to data, endogeneity issues constitute a major challenge. Specifically, omitted variable bias and reverse causality threaten the dissertation's internal validity and therefore my ability to draw valid conclusions (Angrist & Pischke, 2009, 2015).

First, concerning omitted variable bias, we may imagine several factors that are correlated with how organizations perform (and hence the content of performance information) and how street-level bureaucrats evaluate and respond to data. For instance, organizational variables, such as the organizational culture or management strategies, may influence both organizational performance and how street-level bureaucrats approach the data. Organizations with a strong learning culture, where performance information is used for learning purposes rather than giving accounts, may be more likely to perform well. Importantly, street-level bureaucrats working in these organizations may also be less likely to engage in defensive biases because performance information is not considered a threat to their identity, but a means to learning and improvements (van Dooren et al., 2015). Oppositely, in organizations where performance information is closely tied to sanctions or rewards, street-level bureaucrats may be more likely to engage in defensive biases and seek to avoid blame for poor results (Jakobsen et al., 2017). In addition, we may also imagine that their personal characteristics, such as their cognitive skills, affect

both the organizational performance and their performance evaluations. Studies have indicated that individuals with a high cognitive capacity and a better ability to interpret performance information are more likely to interpret the information in a manner that supports their preferred conclusion (Baekgaard & Serritzlew, 2019; Kahan, 2013).

Second, it is likely that an observational approach suffers from reverse causality. Thus, we may imagine that the street-level bureaucrats who evaluate performance information objectively rather than biased are more likely to use the information to identify performance deficits or make improved decisions based on the information, which in turn increases organizational performance. If that is the case, our dependent variables (evaluations and responses to performance information) influence our independent variable (content of data), resulting in biased estimates. Additionally, the way street-level bureaucrats evaluate data may also influence the contexts in which they evaluate the data. It seems likely that public managers would be more willing to involve employees in interpreting and evaluating performance information in their organization if they have confidence in the street-level bureaucrats' ability to evaluate the information in a meaningful manner.

Overall, an observational approach is problematic as there is a substantial risk of biased estimates due to omitted variable bias and reverse causality. Yet, this is not surprising as one of the main purposes of providing data to organizations is the expectation that the information will change the organizational members' priorities, strategies, routines, or working methods if the performance scores are unsatisfactory (Holm, 2018b; March, 1994; van Dooren et al., 2015). Therefore, as an observational approach is likely to suffer from serious endogeneity issues, I need to identify a research design that allows me to handle this challenge.

To overcome endogeneity, I use survey experiments. Survey experiments have several advantages. First, they allow for an experimental manipulation of the content of performance information or the contextual factors. This experimental manipulation means that the content of performance information or the context can be randomly assigned to treatment and control groups. The randomization ensures that these groups are not systematically different, which eliminates the risk of omitted variable bias (Baekgaard et al., 2015). Second, the experimental design allows for a manipulation of the independent variables of interest prior to the measurement of the dependent variable, which handles the issue of reverse causality. In sum, the survey experiment ensures a high internal validity, which allows me to draw causal conclusions about the influence of the content of performance information and contextual factors on the street-level bureaucrats' evaluations and responses to data.

However, the survey-experimental design also has some disadvantages. Most critically, survey experiments suffer from a low ecological validity. Thus, in a survey experiment, the setting can be somewhat artificial and therefore differ from real life situations in which street-level bureaucrats are normally interpreting information. To improve the ecological validity and increase the realism of the survey experiments, I have therefore conducted pilot interviews prior to the experiments. Here, I have tested whether the experiments and the situations described in the experimental vignettes made sense and seemed realistic to the street-level bureaucrats. Importantly, the pilot interviews have been helpful in testing whether they were familiar with the wording used in the experiments. Furthermore, in article A (Acceptance or Disapproval), I have used real time performance information to increase realism. However, in the same article, I have also conducted a robustness test using fictitious performance information. This robustness test showed no substantial difference in the effects between real and fictitious performance data, which suggests that it is not important to use real data when examining the influence of performance information on street-level bureaucrats' evaluations and responses.

Another limitation of survey experiments is that the intensity of the treatment condition is often rather limited. On the one hand, this is an issue because it can be difficult to interpret null-results. On the other hand, if one successfully identifies an effect with a low-intensity treatment, it provides strong support that there is an actual effect. Moreover, with a low-intensity treatment, the effect size can be considered as a lower bound, which is most likely larger in a real-world setting.

Overall, the survey-experimental design handles endogeneity, but generally, it has a low ecological validity. However, given my interest in drawing causal conclusions and the major threat of endogeneity, I prioritize a research design that ensures a high internal validity.

3.2. Data

To test my expectations, I most importantly need data on real street-level bureaucrats. First, as argued in the theoretical section, we cannot assume that findings identified on citizens or politicians are generalizable to street-level bureaucrats because their position and work context differ from other groups. Second, I need data on street-level bureaucrats who work in organizations that produce performance information. Yet, as performance management has become a ubiquitous movement in the public sector and the vast majority of public organizations measure and collect performance data (van Dooren & van de Walle, 2008), several cases in the public sector seem relevant. Third, I also

need to identify an area within the public sector where I can examine my expectations on a large group of street-level bureaucrats. This is necessary to produce statistical analyses with sufficient power to detect even small effect sizes.

Two cases, which fulfill my criteria, are the Danish high schools and the Danish employment agencies. Hence, both high school teachers and case-workers are classic examples of street-level bureaucrats due to their regular contact with the citizens (students and welfare recipients respectively) and their considerable amount of discretion in decision-making. Furthermore, the educational sector and the employment sector collect and publish large amounts of performance information. Thus, the Ministry of Education publishes yearly data reports showing how well Danish public and private high schools perform on several different indicators, including the students' academic performance, graduation rate, and continuation to higher education. Similarly, the Ministry of Employment publishes monthly performance reports on each of the 94 employment agencies in Denmark. Here, each employment agency's performance on different performance indicators is ranked and benchmarked with similar employment agencies, the national average, and the top employment agencies in the country. The Danish high schools and employment agencies are not directly rewarded or sanctioned based on their performances. Yet, in Denmark, the high schools are financed through a voucher system. This means that the high schools' finances are determined based on the number of students they are able to attract and maintain. In this way, performance rankings may heavily affect the high schools' financial situation by indirectly influencing their ability to attract new students. Moreover, by making the performance of high schools and the employment agencies publicly available, the government creates performance incentives through naming and shaming (Elstad, 2009; Pedersen & Hansen, 2011). Thus, the performance reports and rankings of Danish high schools and employment agencies attract a lot of attention from big Danish media outlets where the rankings are displayed and discussed (e.g., see articles from major news outlets, including DR, Berlingske Tidende and Politiken respectively: Hecklen & Kielgast, 2018; Kristiansen, 2011; Rosenbaek, 2018). Finally, the two cases fulfill a third criterion. In 2017, there were 121 public high schools with about 10,500 full-time employees (Danske Gymnasier, 2017) and 94 Danish employment agencies with an estimated 9,100 full-time employees (Quartz & BDO, 2014). The large amount of organizations and employees means that I can ensure sufficient statistical power.

The contact information on the high school teachers was collected through the high schools' websites.¹ Following the collection of contact information, 6,975 teachers from 121 high schools were randomly selected to participate in the survey. The survey was distributed on March 28, 2016 and ran for four weeks until April 25, 2016. About 1,988 teachers responded to the survey, which resulted in a response rate of 28.5%. Contrary to the high school teachers, the contact information on the caseworkers in the Danish employment agencies is not publicly available. Therefore, I first contacted² the managers of the employment agencies, asking them to provide contact information on their caseworkers (excluding administrative personnel). Forty-four managers provided the required contact information, while six preferred to redistribute the survey directly to their employees via an open link. The survey was distributed on November 22, 2017 and ran for four weeks until December 20, 2017. In all, 1,574 caseworkers responded to the survey. It is, however, difficult to calculate an exact response rate as I only know the pool of respondents from the list of emails provided by the forty-four agency managers. Here, however, the response rate was 45%.

While all Danish public high schools are represented in the high school survey, only 53% of the employment agencies are represented. To examine whether the participating employment agencies are different from the non-participating employment agencies, I have conducted an analysis comparing the two groups on several key indicators displayed in table 3 below. The table shows that the participating and non-participating employment agencies are very similar with only some minor differences. Thus, there are slightly more unemployed people in the non-participating municipalities where the employment agencies are located.

¹ The data was collected in collaboration with Morten Jakobsen who employed two student assistants to collect the data from the high schools' websites.

² I employed a student assistant to help contact the managers at the employment agencies.

Table 3: Differences between Participating and Non-Participating Employment Agencies

	Group 1 Participation	Group 2 Non-participation	Difference
Size of municipality (in thousands)	70,941	47,749	22,448
Unemployment in municipality per 1,000	30.72	32.96	2.23*
Socioeconomic index	.97	1.01	.04
Number of reported burglaries per 1,000 in municipality	37.64	35.18	2.47
Full-time employed in management and administration per 1,000 in municipality	15.18	15.19	.01
Share of immigrants	8.69%	9.30%	.65%
Share of non-western immigrants	5.09%	5.61%	.52%
Share of long-term unemployed ¹	23.21%	23.56%	.45%
Average case duration in agency (in weeks) ²	102.42	103.28	1.26
Share of right-winged votes in municipality ³	43.66%	41.67%	1.99%
Share of left-winged votes in municipality ³	49.45%	50.81%	1.36%
Left-winged mayor	.46	.31	.14

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. ¹Out of all unemployed. ²Uninsured unemployment benefits. ³Local parties excluded. Left-winged parties include the Social Democrats, the Socialist People's Party, the Danish Social-Liberal Party, and the Red-Green Alliance. Right-winged parties include the Liberals, the Conservatives, Liberal Alliance, and the Danish People's Party. Administrative data can be retrieved at www.noegletal.dk, www.dst.dk, and www.jobindsats.dk.

Below, in table 4, I display the data sources used in the different articles as well as the main independent and dependent variables that I examine. As the table shows, in articles A, C, and E, I use data from the sample of high school teachers, while I use the sample on caseworkers in articles B and D.

Table 4: Overview of Data Used in the Dissertation's Articles

	Short title	Sample	Data	Independent variable	Dependent variable
A	Acceptance or Disapproval	High school teachers	Experimental	Content of performance data (poor, average, and good)	Acceptance of indicators and responsibility attribution
B	Performance and Policy Support	Caseworkers	Experimental and observational data	Content of performance data (poor, average, and good)	Policy support and recalling performance information
C	Defending Your Public Kin	High school teachers	Experimental and observational data	Public sector identification, length of job tenure, and political ideology	Performance evaluations and goal reprioritization
D	Employee Involvement	Caseworkers	Experimental	Joint decisions and autocratic decisions	Goal support (acceptance and perception of indicator)
E	Sources of Data	High school teachers	Experimental	Horizontal and vertical sources of data	Motivation and willingness to use data

3.3. Studying the Content of Performance Information

Articles A, B, and C examine how the content of performance information influences the street-level bureaucrats' evaluations and responses to data. The following section shortly introduces the survey-experimental designs used in these articles. For a detailed description of the survey experiments, I refer to the individual articles.

First, in article A (Acceptance or Disapproval), the high school teachers were provided with real performance data about their high school's performance on a value-added indicator. The value-added indicator is calculated by the Danish Ministry of Education and measures the high schools' impact on their students' academic achievements when factoring in variables such as the students' socioeconomic background and academic achievements in primary school (Styrelsen for IT og Læring, 2016). The teachers received performance information showing whether their high school was in the lowest, middle, or highest third on the value-added indicator. As explained earlier, organizational performance is a highly endogenous variable. Therefore, it was randomized whether the teachers were informed about their performance score (treatment group) or whether they received no such information (control group).

The experimental logic of this design is displayed below in table 5. Different scholars have previously used a similar approach to examine politicians' and citizens' spending preferences (George, Desmidt, Nielsen, & Baekgaard, 2017; Nielsen & Baekgaard, 2015) as well as the politicians' responsibility attribution (Nielsen & Moynihan, 2017). The design allows for a comparison of how the teachers within the different performance categories evaluate the validity, legitimacy, and usefulness of performance indicators and attribute responsibility following the exposure or non-exposure to their high school's performance score.

Table 5: The Experimental Groups

	Low performing schools	Average performing schools	High performing schools
Control group	No information	No information	No information
Treatment group	Information about a <i>low</i> performance score	Information about an <i>average</i> performance score	Information about a <i>high</i> performance score

Note: Reprint from article A (Acceptance or Disapproval).

However, this design has an important limitation. The design does not manipulate the high school's performance score; it only manipulates whether or not the teachers receive information about their high school's performance score. This means that the design does not allow for an experimental analysis of whether the high school teachers in low performing schools evaluate and respond to performance information in the same way as the high school teachers in high performing schools. To handle this limitation, a robustness test was conducted in a separate survey in which the teachers were provided with fictitious performance scores that were randomly distributed to teachers across low, average, and high performing high schools. This robustness test showed that the teachers responded in the same way to data when performance scores were randomly attributed. Importantly, as mentioned before, the robustness test also showed that the teachers responded to fictitious performance data in the same way as they responded to real performance data. This is an important result because it lends support to the validity of the finding in article B (Performance and Policy Support) in which I provided the caseworkers with fictitious performance data. Here, it is worth mentioning that when I have been conducting survey experiments including fictitious performance information or different scenarios, it has been important to me for ethical reasons to ensure that the respondents were well aware that the information was not real. To do this, I have taken two concrete steps. First, when the information has

been fictitious, the teachers or caseworkers have been asked to “imagine” a situation prior to receiving the information or scenario. Second, I have debriefed the teachers and caseworkers in the end of the survey, emphasizing that the information or the scenario was fictitious and not related to their organization.

In article B (Performance and Policy Support), I provide caseworkers with performance information about how their organization has performed on a case duration indicator. In the experiment, the caseworkers were asked to imagine that their employment agency was in the lowest, middle, or highest third among the employment agencies on the case duration indicator. Following this piece of information, I presented the caseworkers with a managerial policy initiative that was specifically directed at improving the employment agency’s performance on the indicator. The design allows for an examination of how the content of performance information influences the caseworkers’ support for managerial policy initiatives.

In article C (Defending Your Public Kin), I use a different survey-experimental design as I provide the high school teachers with performance tables showing how two high schools have performed on different performance dimensions (graduation rate, student satisfaction, and continuation to higher education). Here, I manipulate whether the teachers receive a cue about the high schools’ public or private sector affiliation. In the control group, the teachers are not informed about the high schools’ sector affiliation. Instead, the high schools are referred to as “High school A” and “High school B.” In the treatment group, the teachers are informed that one high school is public and the other high school is private. The design allows for an investigation of how teachers evaluate the content of performance information depending on whether or not they identify with the organization they evaluate.

3.4. Studying the Context of Performance Evaluations

In articles D and E, I also use survey experiments to test my expectations. In article D (Employee Involvement), I manipulate whether the caseworkers are informed that the employee representatives were involved in selecting a performance goal (joint decision) or whether the management solemnly made the decision (autocratic decision). Previous studies have found mixed effects of employee involvement. Therefore, I limit the number of groups to two in order to maximize the statistical power and be able to detect small effects. I focus on employee representatives understood as employees who exert influence on behalf of their colleagues in certain situations (Levine & Tyson, 1990; Rogers &

Streeck, 1995). The main reason for this approach is that most public organizations involve employees by using employee representatives working in employee committees (Jensen, 2004; KREVI, 2010; Mortensen, 2018). This is necessary as the involvement of all employees in public organizations would simply entail “insuperable difficulties” (Wildavsky, 1972, p. 511).

In article E (Sources of Data), I manipulate whether the high school teachers receive performance information from horizontal or vertical sources. Concretely, when the source is in a horizontal relation to the teacher, it is either the teachers’ professional team or the information is self-sourced. When the source is in a vertical relation to the teacher, it is the management at the high school. In the experiment, I also include a control group where the source of the performance information is unknown. In articles 4 and 5, I use fictitious scenarios to examine my hypotheses. The main advantage of this approach is that it allows me to manipulate the independent variables (employee involvement and the source of data). However, a disadvantage is that the expected effect sizes are potentially small due to a low-intensity treatment. We should expect that the treatment condition in the form of a cue in a survey experiment yields smaller effects than a real life situation. In that sense, the test may be considered as conservative.

3.5. Studying the Effects of Individual Employee Characteristics

I have argued that the use of observational data runs the risk of producing biased estimates when examining the influence of the content of performance information and contextual factors. However, a claim in the dissertation is that street-level bureaucrats differ from other groups, such as politicians and citizens. To examine some of the unique characteristics of street-level bureaucrats, I need to measure variables that cannot (or should not) be manipulated in survey experiments. Thus, in article C (Defending Your Public Kin), I measure the length of job tenure and political ideology to examine whether these two factors moderate the street-level bureaucrats’ performance evaluations. As argued in the theory section, I expect that public street-level bureaucrats’ identification with public organizations increases over time, leading to a stronger favoritism of public organizations. In addition, research has demonstrated that citizens’ and politicians’ interpretation of performance information depends on their political attitudes (Baekgaard et al., 2017; Baekgaard & Serritzlew, 2016; James, Jilke, & Van Ryzin, 2017). Therefore, I also examine the moderating effect of street-level bureaucrats’ political ideology on their performance evaluations. By doing this, I can analytically compare whether they are influenced by their political ideology in the same manner as citizens

and politicians are. Moreover, in article B (Performance and Policy Support), I examine heterogeneous effects based on the caseworkers' experienced work pressure. Specifically, I test whether the employees that experience a high work pressure respond differently to the data (Day, Crown, & Ivany, 2017; Dubois, Bentein, Mansour, Gilbert, & Bédard, 2013).

As the individual characteristics in the form of length of job tenure, political ideology, and experienced work pressure may be correlated with different unobservable variables on the individual or organizational level, including them in a moderation analysis increases the risk of endogeneity. To handle potentially omitted variable bias on the organizational level in my statistical analyses, I use fixed effect regression models with cluster robust standard errors on the organizational level. Furthermore, I include a number of individual level control variables.

Chapter 4.

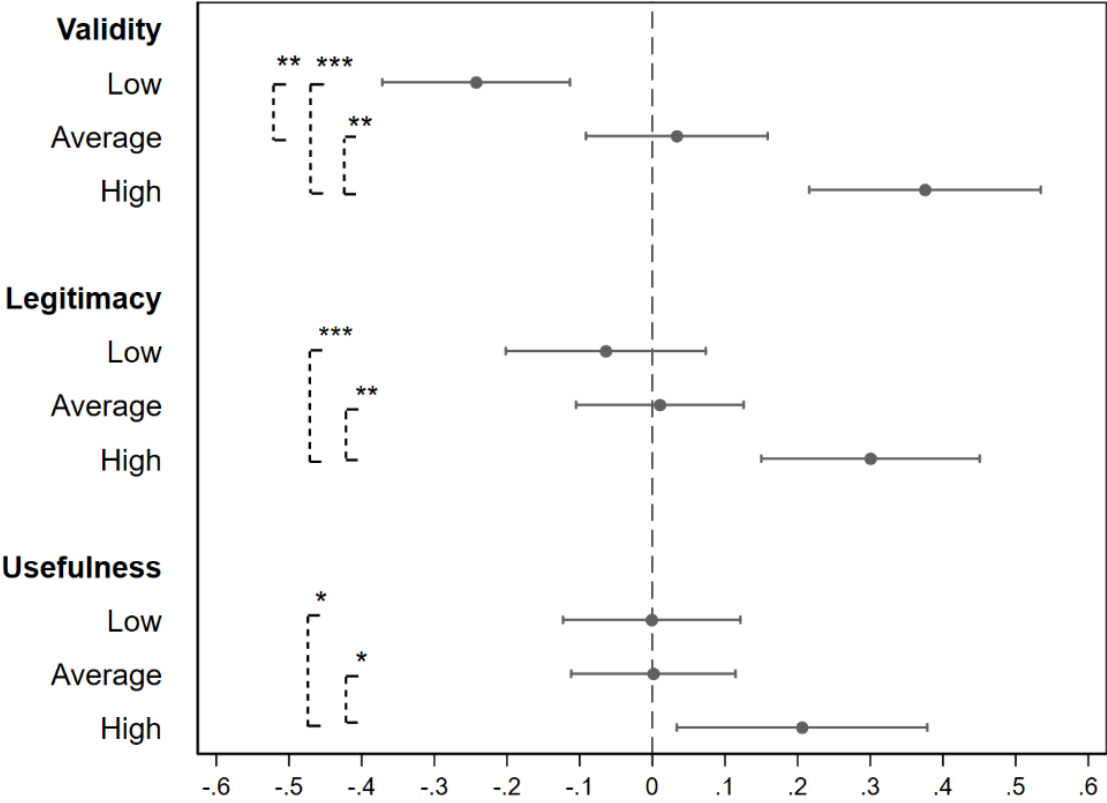
Results

This chapter presents the dissertation's main empirical findings. As shown in figure 1 in the introduction, articles A (Acceptance or Disapproval), B (Performance and Policy Support), and C (Defending Your Public Kin) examine the influence of the content of performance information, while articles D (Employee Involvement) and E (Sources of Data) examine the effect of employee involvement and the source of data. The chapter follows the expectations developed in the theoretical section. Thus, I first present the findings, which show how the content of data and public/private cues affect street-level bureaucrats' perceptions of performance indicators and importance attributed to performance dimensions. Second, I present an analysis on how the content of data affects their attribution of responsibility. Third, I show how the content of data influences their support for managerial policy initiatives and the heterogeneous effects of experienced work pressure. Fourth, I show how public/private cues affect the street-level bureaucrats' overall performance evaluations as well as how their individual characteristics moderate this relationship, and finally, I present the effects of the contextual factors in the form employee involvement through employee representatives and the sources of data.

4.1. Perceptions of Indicators and Performance Dimensions

The first expectation in this dissertation is that the content of performance information influences street-level bureaucrats' evaluations and responses to performance information because they engage in identity-protective cognition. Thus, the street-level bureaucrats change their perceptions of the performance indicators in order to diminish potentially identity-threatening information and protect their self-image or that of an important affinity group. I test this expectation in article A (Acceptance or Disapproval). To do this, the high school teachers in the treatment group were informed about how their high school performed on the value-added indicator, while the teachers in the control group received no information about their school's performance. The results of this test is displayed in figure 2 below. The figure illustrates the high school teachers' evaluations of the value-added indicator's validity, legitimacy, and usefulness, depending on how their high school has performed on the indicator and whether the teachers have been informed about this performance.

Figure 2: Perception of Value-Added Indicator Contingent on Performance Scores



Note: The dotted brackets in the left-hand side show significant differences between the treatment effects ($+p < 0.10$, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$). Confidence intervals for the individual effects are at 95%. The reference category in the figure is the control group that did not receive any performance information. Reprint from article A (Acceptance or Disapproval).

Concerning the teachers’ acceptance of the indicator’s validity, figure 2 shows that when the teachers are informed that their school’s performance is in the lowest third, they perceive the indicator as significantly less valid compared with teachers who do not receive this information. There is no effect when the teachers are informed that their high school performs averagely. However, there is a significant positive effect when the teachers are informed that their high school is in the best third. Looking at the teachers’ perceptions of the value-added indicator’s legitimacy, we only observe a positive effect when they are informed that their high school is in the best third. This is also the case regarding their perceptions of the value-added indicator’s usefulness. One explanation for why we do not observe any negative effects of low performance scores on the teachers’ perceptions of the indicator’s legitimacy and usefulness may be due to floor effects (the initial values of legitimacy is 2.21 on a score from 1 to 5). Another explanation is that is the teachers only need to change their perceptions of an indicator’s validity to reduce the threat that the low

performance score constitutes to their identity. Nevertheless, figure 2 delivers evidence that the content of performance information influences the teachers' perceptions of performance indicators' validity, legitimacy, and usefulness.

Article C (Defending Your Public Kin) also finds support for a goal reprioritization process. The article shows that the teachers change the importance attributed to at least one performance dimension to justify a biased interpretation of performance information. Specifically, they evaluate performance dimensions as less important when a private high school performs better on the dimension compared with a public high school. This finding delivers the first evidence of the goal reprioritization process suggested by Christensen et al. (2018).

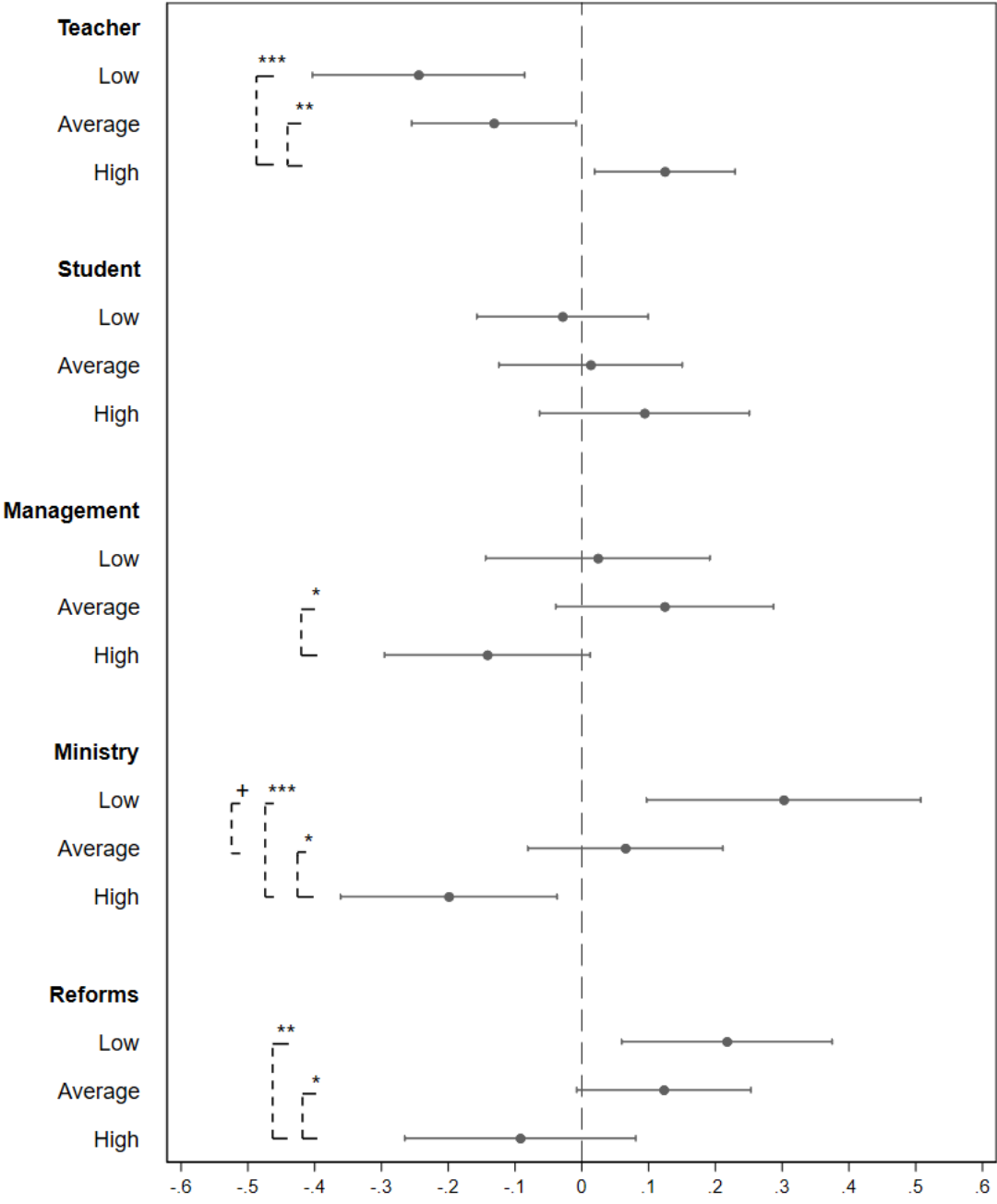
In sum, the dissertation shows that the content of performance information changes the teachers' perceptions of indicators and that they change the importance attributed to performance dimensions to justify their preferred conclusions.

4.2. Responsibility Attribution

A second expectation of the dissertation is that the content of performance information changes street-level bureaucrats' attribution of responsibility. I examine this claim in article A (Acceptance or Disapproval), and the results of the study are illustrated in figure 3 below. Similarly to figure 2, figure 3 displays the high school teachers' responsibility attribution when they received information about their high school's performance score on the value-added indicator (treatment group) compared with the teachers who did not receive such information (control group).

The figure reveals several interesting findings. First, it shows that the teachers attribute less responsibility to their own group when they are informed that their high school is in the lowest third on the value-added indicator, and as expected, they attribute more responsibility to teachers when they are informed that their high school is placed in the best third. Interestingly, the teachers also attribute less responsibility to teachers when they are informed that their school's performance is average. The latter finding indicates that average performance information is also threatening to the teachers' identity. Surprisingly, however, the performance score does not affect the teachers' responsibility attribution to neither the students nor the management.

Figure 3: Responsibility Attribution of Value-Added Indicator Contingent on Performance Scores



Note: The dotted brackets in the left-hand side show significant differences between the treatment effects ($+p < 0.10$, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$). Confidence intervals for the individual effects are at 95%. The reference category in the figure is the control group that did not receive any performance information. Reprint from article A (Acceptance or Disapproval).

Furthermore, we observe the expected effects in figure 3 when looking at the teachers' attribution of responsibility to the Ministry of Education and reforms. Hence, the teachers attribute more responsibility to the ministry and

reforms when informed that their school is in the lowest third. Additionally, they attribute less responsibility to the ministry when informed that their school is in the best third. There is, however, no significant effect of performance information on reforms when they are informed that their schools is in the best third (although the point estimate points in the expected direction).

In sum, the content of performance information influences the teachers' responsibility attribution. When performance is good, they are willing to take on more responsibility and attribute less responsibility to other actors or circumstances. However, when performance is poor, they attribute more responsibility to other actors and circumstances and less to teachers.

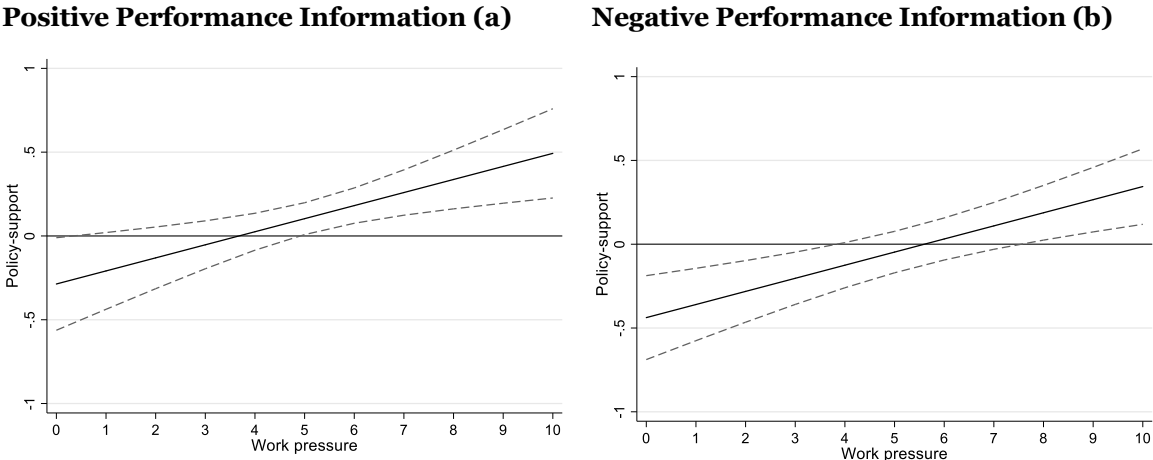
4.3. Support for Managerial Policy Initiatives

The third expectation in the dissertation is that the content of performance information influences street-level bureaucrats' support for managerial policy initiatives. This expectation is examined in article B (Performance and Policy Support). The results of this study show that when caseworkers are provided with positive performance scores compared with average performance scores, they become significantly more likely to support policy initiatives from the management. However, contrary to the expectations, negative performance scores compared with average scores do not change the caseworkers' support for managerial policy initiatives. This finding is surprising, given the findings of Nielsen and Jacobsen (2018), which show that positive and negative performance scores increase primary school teachers' acceptance of managerial authority. Although we should expect a correlation between the street-level bureaucrats' acceptance of managerial authority and support for managerial policy initiatives, the two concepts are not necessarily linked. For example, we may imagine a situation where an employee recognizes a manager's authority to make decisions in the organization without the employee agreeing with the decision and therefore not supporting it.

Besides the main findings, article B also shows that when caseworkers are provided with poor performance scores, they are more likely to forget the information at the end of the survey. This suggests that performance information, as shown in articles A (Acceptance or Disapproval) and C (Defending Your Public Kin), triggers identity-protective cognition, which leads the caseworkers to ignore or forget the information that threatens their identity. In addition, the analysis illustrated in figure 4 below indicates substantial heterogeneous effects depending on the caseworkers' experienced work pressure. Concretely, the figure shows that when caseworkers experience a high work pressure, they are more likely to respond to negative and positive performance

scores by supporting the managerial policy initiatives compared with a situation where they receive average scores. Contrary to this, when caseworkers experience a low work pressure, they are less likely to support the policy initiative. One potential explanation is that the caseworkers who experience a high work pressure are more receptive to policy initiatives because they personally need a change to cope with the work pressure. Interestingly, we may speculate that Nielsen and Jacobsen’s (2018) sample of teachers generally experienced a high work pressure at the time of their study as the Danish school system had undergone a major school reform a year prior to their study.

Figure 4: The Effect of Performance Information on Policy Support Contingent on Work Pressure



Note: Reprint from article B (Performance and Policy Support).

To sum up, the dissertation finds that the content of performance information affects caseworkers’ responses to policy initiatives from their management. When performance scores are positive, the caseworkers are more likely to support managerial policy initiatives. However, as figure 4 illustrates, there are large heterogeneous effects depending on the caseworkers’ experienced work pressure.

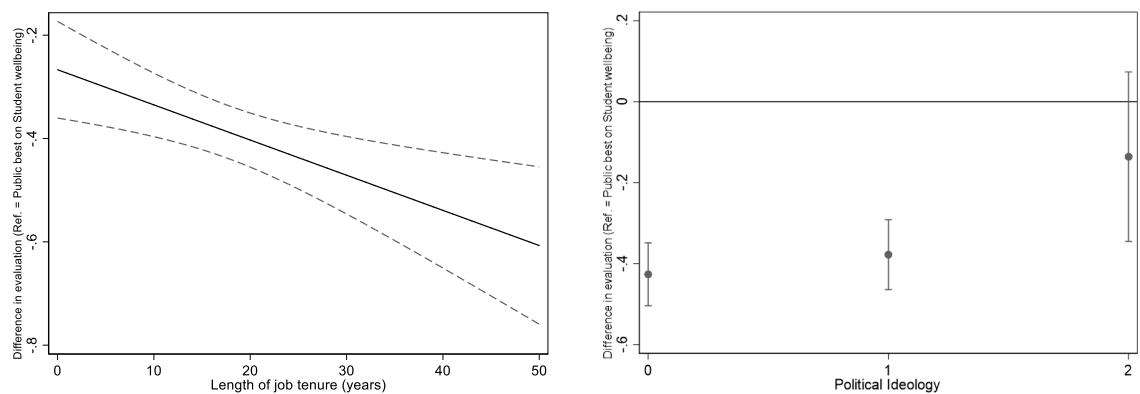
4.4. Group Identification and Performance Evaluations

As argued in the theory section, street-level bureaucrats may not only identify with their own organization but also more generally with public organizations within their field. If that is the case, the confrontation with performance data from public and private organizations may trigger identity-protective cognition and lead to biased evaluations, which favor public organizations over private ones. Article C (Defending Your Public Kin) examines this expectation.

Overall, the article finds strong evidence that public high school teachers' performance evaluations are biased in favor of public high schools. This is an interesting finding as previous studies have shown that citizens generally tend to be biased in favor of private organizations (Goodsell, 2004; Hvidman, 2019; Hvidman & Andersen, 2016; Marvel, 2016).

Another important finding in article C is illustrated in figure 5. The figure shows that the teachers' bias in favor of public organizations increases with the length of job tenure. The figure also shows that the favoritism of public organizations (or the bias against private ones) is largest among left-winged teachers. However, unlike previous findings on citizens (Baekgaard & Serritzlew, 2016) and politicians (Baekgaard et al., 2017; Christensen et al., 2018), right-winged teachers do not favor private schools in their performance evaluations. This suggests that the teachers' public sector identification trumps their political ideology.

Figure 5: The Marginal Effect of Public/Private Performance on Evaluations Contingent on Length of Job Tenure and Political Ideology



Note: N = 1,181. Left-winged, 0 = 0–3; Neutral, 1 = 4–6; Right-winged, 2 = 7–10. Reprint from article C (Defending Your Public Kin).

In conclusion, the study provides some interesting findings as it shows that street-level bureaucrats, unlike regular citizens and politicians, favor public organizations. Furthermore, the study shows that the length of job tenure increases the pro-public favoritism. Finally, political ideology seems to affect the street-level bureaucrats' performance evaluations quite differently compared with findings in previous studies on citizens and politicians (Hvidman, 2019). This highlights that we should be careful of generalizing studies of citizens with street-level bureaucrats without taking the street-level bureaucrats' position and context into account. Consequently, even though all humans are subject to psychological biases, the biases seem to work differently for different groups of individuals.

4.5. Employee Involvement and Support for Performance Goals

In general, I expect that the context is important to street-level bureaucrats' evaluations and responses to performance information. In article D (Employee Involvement), I examine how employee involvement through employee representatives influences street-level bureaucrats' support for performance goals. Specifically, the article examines the effect of involvement on three outcomes, which seek to measure goal support in the form of 1) policy support for performance goals, 2) acceptance of performance goals, and 3) perception of performance goals as supportive or controlling. Overall, the study shows that there is no effect of employee involvement through employee representatives when selecting performance goals. Given the clear theoretical expectations in the public administration and management literature, this null result is rather surprising. One explanation for the null effect may be that the survey experiment uses a low-intensity treatment. However, the null effect of involvement is consistent with previous psychological research (Latham & Yukl, 1976; Locke & Latham, 2006; Schweiger & Leana, 1986). This is interesting because it suggests a need for reconsidering the effects of involvement in public organizations.

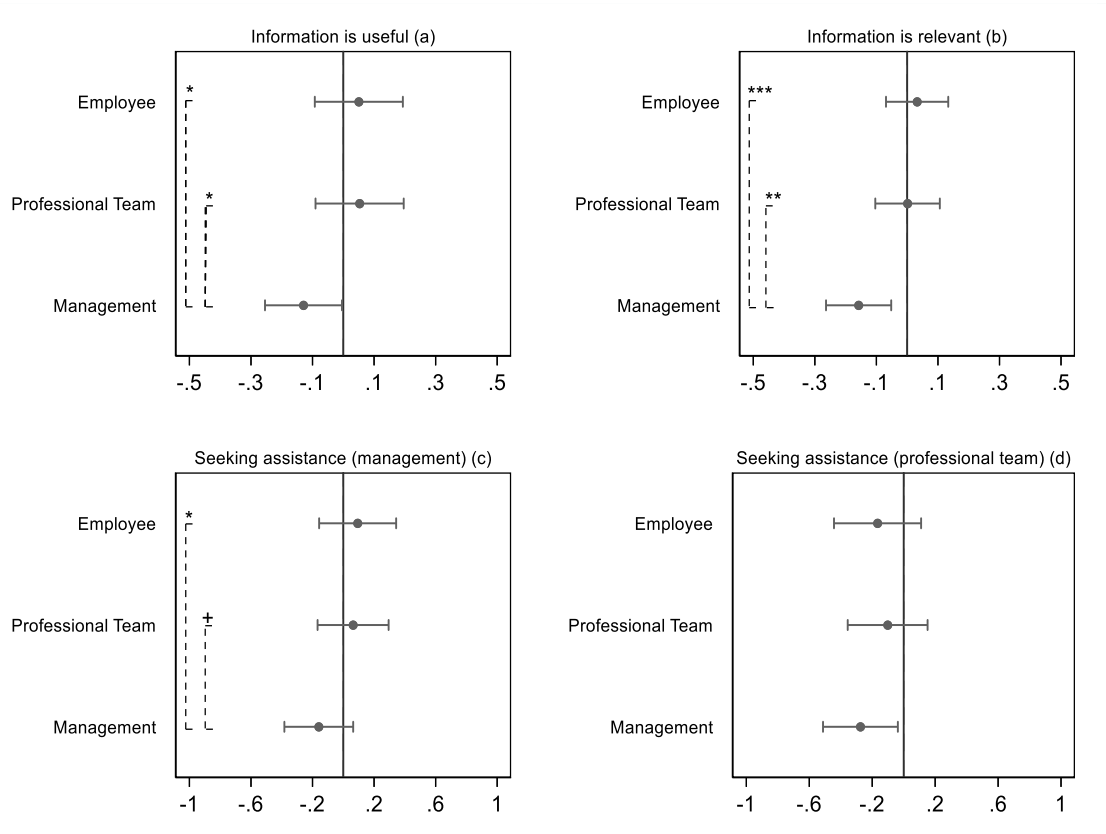
It is, however, important to emphasize that although this study does not identify an effect of employee involvement on support for performance goals, there may still be positive effects of employee involvement through employee representatives. For example, involvement can have instrumental effects by improving the quality of performance goals in the organization. This improvement may in turn increase the employees' support for performance goals. Importantly, the literature on distributed leadership suggests that the distribution of leadership positively influences the organizational development (Harris, Leithwood, Day, Sammons, & Hopkins, 2007; Jonasson, Kjeldsen, & Ovesen, 2018).

4.6. Sources of Performance Information

Another important contextual factor that may affect street-level bureaucrats' evaluations and responses to performance information is the source of performance data. In article E (Sources of Data), I examine how teachers evaluate and respond to performance information based on the source of data. The results from this study are illustrated in figure 6. The figure shows that when performance information is provided by the management, the teachers perceive the information as less relevant and useful compared with a situation

where they are not informed of the source of the performance information (control group).

Figure 6: The Effect of Source of Data on Perception and Willingness to use Performance Information



Note: The dotted brackets in the left-hand side show significant differences between the treatment effects ($+p < 0.10$, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$). Confidence intervals for the individual effects are at 95%. The reference category in the figure is the control group where the source was unspecified. Reprint from article E (Sources of Data).

Furthermore, figure 6 shows that when performance information is provided by the management, the teachers also perceive the data as less relevant and useful compared with a situation where it is provided by the teachers' professional team or self-sourced by the teacher. In addition, there is some evidence indicating that the source of performance information also affects the teachers' willingness to use the data. Hence, when the teachers are provided with information from the management, they are less willing to use the data to seek assistance and advice from their professional team compared with a situation where the source of the information is the professional team or the teachers themselves. In sum, the results suggest that the source of performance information is important to the teachers' perceptions of data and willingness to use it for learning activities.

Chapter 5.

Concluding Discussion and Assessment of the Dissertation's Contribution

5.1. Answering the Research Question

In recent years, a growing scholarly interest has focused on understanding citizens' and politicians' interpretations of performance information (Baekgaard et al., 2017; Baekgaard & Serritzlew, 2019; George et al., 2017; James & Petersen, 2018; James & Van Ryzin, 2017; Nielsen & Moynihan, 2017). This research has contributed to important insights into how psychological biases hinder a purposeful performance information evaluation and use. Unfortunately, until now, street-level bureaucrats' interpretations and reactions to performance have received little attention. This is surprising because performance information has become ubiquitous in public organizations, which means that street-level bureaucrats are regularly confronted with data (Behn, 2014; Destler, 2017; Smith et al., 2010). In addition, the street-level bureaucrats are increasingly expected to integrate performance information in their decision-making (Destler, 2017; Nielsen & Jacobsen, 2018).

The ambition of this dissertation has therefore been to answer the following research question: How do the content of performance information and contextual factors influence street-level bureaucrats' evaluations and responses to performance information? To examine this question, the dissertation has applied and combined theories from psychology and public administration, and it offers a first step toward building an understanding of how the content of data and contextual factors shape street-level bureaucrats' evaluations and responses to performance information.

Overall, using different experimental survey designs, the dissertation contributes to the existing literature by delivering important evidence, which shows that the content of performance information shapes the street-level bureaucrats' evaluations and responses to data. Concretely, the dissertation demonstrates that the content of performance information influences them by affecting their perceptions of the performance indicators, the importance of performance dimensions, responsibility attributed to different actors and circumstances, and their support for managerial policy initiatives. Street-level bureaucrats' perceptions of indicators as valid, legitimate, and useful increase when they perform well and decrease when their performance is poor. They even change their evaluations of the importance of performance dimensions

in order to justify their preferred conclusions when evaluating public and private organizations' performance results. They also change their attribution of responsibility depending on performance scores, given that they are more willing to take responsibility for good performance scores and attribute more responsibility to other actors and circumstances when performance scores are poor. In addition, the dissertation also shows that street-level bureaucrats make biased performance evaluations in favor of public organizations. These results establish that they are subject to psychological biases, which are highly influential in their evaluations and responses to data about their own organization or other public organizations within their field.

Besides triggering psychological defensive biases, the content of performance information also signals whether the organization needs to change and whether the management is competent. The dissertation contributes to the literature by showing that these performance cues influence whether or not street-level bureaucrats support managerial policy initiatives. Specifically, the street-level bureaucrats who receive good performance scores are more likely to support managerial policy initiatives compared with the ones who receive average or poor performance scores about their organization. This indicates that performance data may facilitate or hinder the implementation of organizational changes in public organizations.

Another contribution concerns the findings of the effects of contextual factors. Here, the dissertation casts doubt on the expectation among public administration scholars that employee involvement increases the employees' support for performance goals (Jakobsen et al., 2017). The dissertation shows that the involvement of employees through employee representatives does not increase the support for performance goals. Although this finding is surprising, given the expectations in the public administration literature, the null result is in line with studies in psychology (Locke, Schweiger, & Latham, 1986; Schweiger & Leana, 1986). Indeed, even Simon (1997) was skeptical about employee involvement and argued in his seminal book *Administrative Behavior: A Study of Decision-Making Processes in Administrative Organizations* that there were "little evidence that many employees wish to participate in decisions that are not directly related to their own work experience and knowledge" (Simon 1997, p. 206). Selecting performance goals may be one task the street-level bureaucrats consider a managerial decision.

The dissertation also provides novel evidence, which shows that the contextual setting matters for street-level bureaucrats' evaluations of data. First, the dissertation finds evidence that the source of data influences their perceptions of data as relevant and useful as well as their willingness to use the data for different learning activities. Specifically, when the source of data is the

management, the street-level bureaucrats' perceptions of performance information and their willingness to use it are negatively affected. I argue that this is due to the hierarchical relation between the management and the employee, which creates a fear of blame and sanctions for poor performance results. Moreover, an environment emphasized by accountability may reduce the street-level bureaucrats' feelings of autonomy. Interestingly, the finding suggests that organizations can organize performance management in ways that foster a more meaningful performance information use. One such way may be learning forums (Moynihan, 2005) where the organizational members ideally should be on an equal footing to avoid defensive interpretations.

Finally, the dissertation delivers a contribution by showing that street-level bureaucrats' individual characteristics are important to how they evaluate and respond to data. The dissertation also shows that their political ideology affects their interpretations of public and private organizations' performances in a different manner compared with what previous studies have shown on citizens and politicians (Baekgaard et al., 2017; Hvidman, 2019). Thus, unlike citizens and politicians, the most right-winged public street-level bureaucrats are not biased in favor of private organizations when making performance evaluations. Hence, the dissertation contributes to the literature by showing that we need to consider the street-level bureaucrats' individual characteristics, context, and position when examining their evaluations and responses to data. This means that we should be careful of automatically assuming that psychological biases work in the same way on different groups of people.

5.2. Psychological Biases or Rational Calculations?

In the dissertation, I have used the psychological theory of motivated reasoning. The theory fundamentally expects that people, in order to reduce cognitive dissonance, interpret evidence biased in ways that support their prior beliefs (Kunda, 1987, 1990). However, it is worth discussing whether a rational evaluation process can explain the identified findings. In the following, I therefore discuss Bayesian updating as an alternative theoretical explanation. Bayesian updating thus represents a more rational perspective on individuals' responses to new information (Fischle, 2003; Ripberger et al., 2017).

The Bayesian model suggests that when people receive new evidence, they continuously update or adjust their prior beliefs (Barabas, 2004; Bullock, 2009). The extent to which people change their prior beliefs depends on the strength of these beliefs and the significance and/or credibility of the new evidence (Gerber & Green, 1999). From this perspective, one may argue that

teachers have strong prior perceptions about how their high school performs on specific performance dimensions, such as the students' academic achievements. When the teachers are informed that their school is ranked in the lowest third on the value-added indicator, this piece of information may be greatly at odds with their existing beliefs (many teachers actually wrongly thought that their school was in the best third on the value-added indicator). According to the Bayesian model, we should then expect the teachers to adjust their beliefs about their school's performance on the indicator based on the new evidence, the credibility of this evidence, and the strength of their prior beliefs. Moreover, we should also expect the teachers to evaluate the validity of the evidence in light of their prior beliefs.

What is then the consequence of receiving information that is at odds with one's prior beliefs? Say that the teachers' prior beliefs about their high school's performance on the value-added indicator is that their school is in the best third. After receiving new information showing that their school is in the lowest third, the teachers adjust their prior beliefs to some extent and now find a compromise, e.g., they now believe that their school is in the middle third. Given that the teachers now believe that their school is in the middle third, the indicator showing them that they are placed in the lowest third should be perceived as less valid than if the indicator had confirmed their prior beliefs. Consequently, we should observe that the teachers who are informed that their school is in the lowest third (but strongly believe that they were placed better) perceive the indicator as less valid compared with the teachers who are not provided with the same information. In this way, the Bayesian perspective provides a rational explanation to the change in the teachers' perceptions of the value-added indicator.

Indeed, the same approach can be used to explain why the teachers attribute more responsibility to the Ministry of Education (or other circumstances) when they are informed that their high school is placed in the lowest third. Thus, we may imagine that the teachers believe that they have performed exceptionally well and that this performance should lead to a good score on the value-added indicator. When the teachers are then informed that their high school is actually placed in the lowest third, this piece of information is at odds with their prior beliefs. Given these beliefs (that they performed well), other actors or circumstances must logically be attributed a greater responsibility to explain why they are placed in the lowest third and not in the highest third on the indicator.

Overall, one could make the argument that Bayesian updating provides a valid alternative explanation. If that is the case, the teachers' "bias" is not a bias but a rational calculation factoring in their preexisting knowledge and experience. However, while the Bayesian model may succeed in explaining some

of the dissertation's results, the model fails to explain why the street-level bureaucrats change the importance of performance dimensions as shown in article C (Defending Your Public Kin). Thus, it is not a rational decision for the teachers to change their overall perceptions of a performance dimension based on how two schools have performed. Furthermore, Bayesian updating does not explain why the teachers make biased evaluations when evaluating fictitious performance information about fictitious high schools, as is the case in the robustness test in article A (Acceptance or Disapproval) and the experiment in article C (Defending Your Public Kin). Thus, the teachers should not have any prior beliefs toward the performance of a fictitious school. On the other hand, motivated reasoning can easily explain these irrational evaluations because the biased evaluations can be explained as attempts to protect their self-image or important affinity groups. Therefore, given the limitations of the Bayesian model's ability to explain several of the dissertation's findings, I consider motivated reasoning to be the most likely theoretical mechanism. Even so, I cannot rule out that Bayesian updating does explain some of the results.

5.3. Limitations and Directions for Future Research

As argued above, the dissertation provides several important contributions to the literature. However, it is not without limitations. In the following, I will therefore discuss some of its methodological and theoretical limitations and make suggestions for how future research can handle these.

A first limitation concerns the choice of applying survey experiments to address the dissertation's research question. While survey experiments ensure a high internal validity, they have a low ecological validity. In the method section, I have mentioned some of the steps taken to address this limitation. Yet, future research should seek to address this limitation further by choosing research designs that emphasize a high ecological validity. One way to address the limitation would thus be to conduct ethnographic studies in public organizations and examine at first hand how street-level bureaucrats' evaluations of data are influenced by the content of data and contextual factors, e.g., in learning forums (Moynihan, 2005, 2008).

A second limitation of the research design is that it only allows for an examination of short-term effects. Future studies can address this limitation by conducting follow-up surveys. This would allow them to examine whether performance scores affect the street-level bureaucrats' perceptions of performance indicators, goal prioritization, and responsibility attribution in the long term.

A third limitation concerns the small effect sizes in some of the identified treatment effects. While the effect size (Cohen's d) in the test of H1 in article C (Defending Your Public Kin) is 0.76,³ which can be considered as a large effect (Agresti & Finlay, 2009), the effect size in article B (Performance and Policy Support) is only 0.14.⁴ Similarly, the effect sizes in article E (Sources of Data) are also rather low (e.g., the effect size is 0.18⁵ when the management is the source of data compared to no source on the teachers' perceptions of performance information as relevant). On the one hand, the relatively low effect sizes in some of the experiments raise a concern about whether the identified effects are substantially interesting. On the other hand, we should be cautious about putting a great emphasis on the effect size of survey experiments without carefully considering the intensity of the treatment conditions. For instance, in article E (Sources of Data), the treatment condition is a cue about the source of performance information. This is a rather low-intensity treatment. We may imagine that the identified effect sizes constitute a lower bound and that the effect size can be increased substantially by manipulating the intensity of the treatment condition. In addition, when the treatment condition consists of vignettes describing a fictitious scenario, we should also expect that the treatment effects are smaller than the potential effects of a real world setting. Therefore, when conducting survey experiments, it is more relevant to focus on whether or not the treatment effects are significant rather than whether or not they are substantively interesting. However, future research can deploy field experiments to identify more relevant effect size estimates.

A fourth limitation is that the dissertation has examined the research question on two classic examples of street-level bureaucrats in the form of high school teachers and caseworkers. Yet, there are other groups of street-level bureaucrats, such as police officers, pedagogues, nurses, and doctors. Although we may speculate that many of the identified effects are generalizable to these groups, the dissertation demonstrates considerable heterogeneous effects based on the length of job tenure, ideology, and experienced work

³ The effect size is calculated based on table 3, model 1 in article 3 (Defending Your Public Kin). Here is an example of how the effect size is calculated: I first calculate the likelihood of evaluating a public high school as the best performing school when the public high school performs better on student well-being. This likelihood is 0.73. Oppositely, the likelihood of prioritizing a private high school as the best performing high school when the private high school performs better on student well-being is 0.35. With a pooled standard deviation of 0.50, the effects size is $(0.73 - 0.35) / 0.50 = 0.76$.

⁴ The effect size is calculated based on table 3 in article 2 (Performance and Policy Support).

⁵ The effect size is calculated based on table A1 in article 5 (Sources of Data).

pressure. We may imagine that street-level bureaucrats across different sectors differ on these variables, which, in turn, would lead to different average effects. Furthermore, based on article E (Sources of Data), we may also imagine that street-level bureaucrats working in environments that emphasize accountability are more likely to evaluate data defensively. Overall, this means that we should be careful about generalizing the results to different groups of street-level bureaucrats.

A fifth limitation is that the dissertation has not examined the boundaries of a biased evaluation of data. In the survey experiment in article C (Defending Your Public Kin), the performance tables provided to the teachers contained ambiguous pieces of performance information that allowed the teachers to change their evaluation of which high school performed the best if they were willing to adjust the weight attributed to the different performance dimensions. However, it would be interesting for future research to examine whether teachers engage in defensive biases when they are provided with unambiguous performance information, which clearly points toward one conclusion. Thus, research has indicated that people have an affective tipping point (Redlawsk et al., 2010). When the evidence pointing toward a single conclusion becomes too overwhelming, people will accept even uncomfortable truths (Festinger, 1957). Future research should seek to identify these boundaries for biased performance evaluations among street-level bureaucrats.

Finally, the focus of this dissertation has been to provide comprehensive evidence by unravelling street-level bureaucrats' evaluations and responses to performance information. Yet, while the dissertation has contributed with important insights into the street-level bureaucrats' evaluations and responses, we still lack an understanding of how these evaluations and responses affect their decision-making. Examining this question has been outside the scope of this dissertation. However, it would be an obvious next step for future research to link evaluations and responses to performance information with behavioral outcomes related to organizational learning. For example, it could be interesting for future research to investigate whether the perceptions of the indicators' validity influence the street-level bureaucrats' willingness to engage in learning activities that involve using the indicators. It seems plausible to expect that indicators, which are perceived as valid, legitimate, and useful, are more likely to be analyzed and used for decision-making in organizations compared to indicators that the street-level bureaucrats' disapprove of. In sum, we need studies that examine whether there is a connection between perceptions of performance information and performance information use.

5.4. Practical Implications

Another important question to address is the practical implications of the dissertation's findings. In this section, I propose five implications that are important to public organizations.

First, the dissertation has demonstrated that psychological biases distort a meaningful evaluation of performance information. Thus, the street-level bureaucrats change their perceptions of indicators, their beliefs about who is responsible for the results, and the importance of performance dimensions in order to defend their identity. If performance information is being ignored or devalued when performance scores are unsatisfactory, it seems unlikely that they will use the performance information for genuine learning activities. It is important to emphasize that although performance scores may be poor, the organizations may still want to improve on the performance indicators (Holm, 2018b). This is particularly the case when the indicators are tied to financial incentives or scrutinized by the public (Soss et al., 2011). Thus, for example, we may imagine that the teachers do not trust the value-added indicator, but they still acknowledge that a good score on the indicator is important to ensure legitimacy from stakeholders or funding, which is tied to the school's ability to attract new students. In this way, a good performance score can be necessary for the public organization to ensure autonomy, resources, and essentially an effective operation. Yet, if street-level bureaucrats do not consider the performance indicators as valid or useful, performance dialogues may primarily focus on how routines or methods can be changed to improve specific performance scores rather than the underlying performance dimension that the performance indicator seeks to measure. Teachers may thus consider how they can improve their performance on the value-added indicator rather than how they can improve the students' academic skills. While such performance dialogues can improve the students' test scores, it may not actually improve their academic competences. In the worst-case scenario, poor performance scores may therefore induce street-level bureaucrats to engage in gaming performance indicators (Bevan & Hood, 2006; Heinrich & Marschke, 2010)

Second, the findings are important to understand street-level bureaucrats' goal prioritizations. The dissertation demonstrates that the teachers consider performance dimensions as more important when the public organizations performs well on the dimension. Consequently, over time, we may speculate that the provision of performance information shapes which performance dimensions the street-level bureaucrats prioritize. This could imply that the performance gaps between public and private organizations' performance scores on different dimensions increase as public and private employees will emphasize the importance of the dimensions that they themselves already excel on.

Third, the dissertation shows that street-level bureaucrats are more likely to support managerial policy initiatives following good performance scores. Based on this finding, we should expect that high-performing organizations have competitive advantages as managers in the organizations can more easily gain support for organizational changes compared with managers in low-performing organizations. This is an issue as poor performing organizations are often in the greatest need of changing organizational routines or decision-making procedures.

Fourth, the dissertation finds that caseworkers do not become more likely to support performance goals when they are informed that employee representatives are involved in the process of selecting performance goals. While the involvement of the employees' representatives may serve instrumental purposes, the dissertation's results indicate that organizations should consider carefully whether employee involvement through employee representatives is worth the costs (e.g., time, resources, and reduced managerial autonomy). Consequently, the managers should examine whether the employees are interested in being involved in the decision-making process when selecting performance goals or whether they prefer that the management simply decides on the organizational performance goals.

Finally, the dissertation has shown that the context in which street-level bureaucrats are presented to data influence their perceptions of the information and their willingness to use it for learning activities. This is an important finding as it suggests that public organizations in their implementation of performance management and performance dialogue routines can influence how the street-level bureaucrats perceive and use the information. If public managers want them to learn from data, they should implement routines where information is disseminated in an environment where everyone is on an equal footing rather than an environment characterized by accountability and fear of sanctions. This implication is consistent with Van Dooren et al.'s (2015) argument that performance information cannot simultaneously be used for learning and accountability.

5.5. Back to Lipsky: Biased to Cope?

This dissertation's starting point was the seminal work of Lipsky (1980). However, since Lipsky wrote his book nearly forty years ago, public organizations have changed considerably by adopting extensive performance management systems. As an ending note, it seems appropriate to relate the dissertation's findings to Lipsky's (1980) classical concepts of cross-pressure and coping mechanisms and discuss to what extent Lipsky's innovative work can be used to understand and nuance the dissertation's results.

Thus, according to Lipsky, street-level bureaucrats experience a constant cross-pressure. On the one hand, they have limited time, information, and cognitive resources (Lipsky, 1980, p. 29) to provide the clients with the best possible service delivery. On the other hand, the clients have an insatiable demand of quality services. To handle or overcome this cross-pressure, the street-level bureaucrats develop coping mechanisms. Coping mechanisms allow them to make decisions more efficiently because they rely on heuristics, stereotypes, and rules of thumb. Yet, although the coping mechanisms can be necessary to ensure effective public organizations, they also lead to suboptimal decision-making.

Research indicates that the introduction of performance management and the public availability and scrutiny of public organizations' performance results have intensified the street-level bureaucrats' experience of cross-pressure (Soss et al., 2011). Thus, the media and the politicians criticize public organizations that do not deliver good performances. Citizens can compare public organizations such as schools, daycare institutions, and hospitals on different performance indicators and choose the organizations that deliver the best performance. Moreover, frontline managers can hold street-level bureaucrats accountable for unsatisfactory performance results. Overall, the performance information in public organizations may have increased the performance pressure on the street-level bureaucrats; and in particular on the ones in low performing organizations.

One way to overcome this additional pressure for the street-level bureaucrats is to bolster their self-perceptions and group-perceptions by engaging in defensive biases. Just as coping mechanisms are necessary for ensuring effective public organizations, psychological biases may be necessary to uphold psychologically stable street-level bureaucrats. Studies have suggested that negative feedback reduces people's intrinsic motivation for performing a certain activity (Deci & Cascio, 1972), while positive feedback increases intrinsic motivation (Harackiewicz, 1979). If that is the case, the psychological defensive biases, which hinder a purposeful performance information use, may simultaneously be the bulwark that safeguards the street-level bureaucrats' motivation and job satisfaction and thus the performance of public organizations (Perry & Wise, 1990; Rainey & Steinbauer, 1999). If street-level bureaucrats interpret performance information unbiasedly and take on the causal responsibility for poor performance scores, they may end up rapidly losing their intrinsic motivation to perform their daily tasks and become overwhelmed with stress from the increasingly high performance pressure from the data. In this way, we can view psychological biases as an effective coping mechanism that ensures motivated employees who do not lose their motivation or job satisfaction due to poor performance results. Similarly, we may speculate that it is

beneficial for public organizations when street-level bureaucrats inflate the validity of indicators and their own contribution to performance scores when they perform well as the positive feedback bolsters their intrinsic motivation and job satisfaction.

If we consider street-level bureaucrats' defensive evaluations and responses to performance information as a coping mechanism, it also provides some interesting perspectives and venues for future research. In particular, future research may examine how cross-pressure affects their interpretation of data. Does a higher cross-pressure increase bias? Moreover, can additional time, resources, or cognitive capacity reduce biased evaluations? In sum, Lipsky's (1980) classical concepts nuance our understanding of the dissertation's findings. The identified psychological biases can be perceived as an important coping mechanism that safeguards the motivation of the street-level bureaucrats. Future research could further explore the potential benefits of psychological biases as a necessary mechanism for ensuring an effective public sector.

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English Summary

Today, public organizations throughout modern democracies measure, collect, and use performance information. While the public administration literature has provided valuable insights into how politicians, managers, and citizens evaluate this information, we know much less about how the public employees on the front line of the public service delivery evaluate and respond to this information. This is unfortunate because performance information has become an important element in street-level bureaucrats' work conditions.

This PhD dissertation therefore examines how the content of performance information and contextual factors influence street-level bureaucrats' evaluations and responses to performance information in public organizations. To do this, the dissertation draws on and combines public administration theory with psychological insights. Applying psychological theory is beneficial as data must be processed and interpreted before it can be used. Building on the performance management literature and theory on motivated reasoning, it develops theoretical propositions about the street-level bureaucrats' evaluations and responses to performance information about their own performance or that of their organization. To examine these propositions, the dissertation uses large-scale survey experiments involving thousands of street-level bureaucrats from Danish public high schools and employment agencies.

The dissertation shows that the content of performance information indeed influences their evaluations and responses to data. Specifically, performance information affects their perceptions of performance indicators, the importance of performance dimensions, responsibility attribution, and support for managerial policy initiatives. Furthermore, these findings challenge the assumption that employee involvement increases the employees' support for performance goals. Finally, the dissertation shows that the source of data influences the street-level bureaucrats' perceptions of performance information as useful and relevant as well as their willingness to use the data for learning activities. Overall, the dissertation provides a first step toward an understanding of how performance information is evaluated on the front line.

Dansk resumé

Overalt i moderne demokratier måler, indsamler og anvender offentlige organisationer en stor mængde resultatinformation. Mens litteraturen om offentlig forvaltning har leveret værdifuld viden om, hvordan politikere, ledere og borgere evaluerer denne information, mangler vi fortsat viden om, hvordan offentlige ansatte, der arbejder i frontlinjen af offentlige services, evaluerer og responderer på resultatinformationen. Denne manglende viden er problematisk, idet resultatinformation udgør et vigtigt element i frontlinjearbejdes arbejde.

Denne ph.d.-afhandling har derfor til formål at undersøge, hvordan indholdet af resultatinformation og kontekstuelle faktorer påvirker frontlinjearbejdes evalueringer og reaktioner på data i offentlige organisationer. For at besvare dette spørgsmål anvender og kombinerer afhandlingen offentlig forvaltningslitteratur med psykologiske indsigter. Anvendelsen af psykologiske indsigter er særlig fordelagtig, da data skal fortolkes, før de kan anvendes. Med udgangspunkt i litteraturen om resultatbaseret ledelse og teori om “motivated reasoning” udvikler afhandlingen teoretiske forventninger om frontlinjearbejdes evalueringer og reaktioner på resultatinformation om deres egen præstation eller deres organisations præstationer. For at undersøge disse forventninger anvender afhandlingen omfattende spørgeskemaeksperimenter fra flere tusinde frontlinjearbejdere fra danske offentlige gymnasier og jobcentre.

Afhandlingen viser, at indholdet af resultatinformation påvirker frontlinjearbejdernes evalueringer og reaktioner på data. Resultatinformation påvirker både frontlinjearbejdernes opfattelse af resultatindikatorer, vigtigheden af mål, tildeling af ansvar for resultater og opbakning til initiativer fra ledelsen. Derudover udfordrer afhandlingens fund en udbredt antagelse om, at medarbejderinvolvering øger medarbejdes opbakning til resultatmål. Endelig viser afhandlingen, at afsenderen af resultatinformationen påvirker frontlinjearbejdernes opfattelse af resultatinformationen som relevant og hjælpsom. I alt leverer afhandlingen dermed et første skridt i retning af en øget forståelse af, hvordan resultatinformation evalueres i frontlinjen.