



저작자표시-비영리-변경금지 2.0 대한민국

이용자는 아래의 조건을 따르는 경우에 한하여 자유롭게

- 이 저작물을 복제, 배포, 전송, 전시, 공연 및 방송할 수 있습니다.

다음과 같은 조건을 따라야 합니다:



저작자표시. 귀하는 원저작자를 표시하여야 합니다.



비영리. 귀하는 이 저작물을 영리 목적으로 이용할 수 없습니다.



변경금지. 귀하는 이 저작물을 개작, 변형 또는 가공할 수 없습니다.

- 귀하는, 이 저작물의 재이용이나 배포의 경우, 이 저작물에 적용된 이용허락조건을 명확하게 나타내어야 합니다.
- 저작권자로부터 별도의 허가를 받으면 이러한 조건들은 적용되지 않습니다.

저작권법에 따른 이용자의 권리는 위의 내용에 의하여 영향을 받지 않습니다.

이것은 [이용허락규약\(Legal Code\)](#)을 이해하기 쉽게 요약한 것입니다.

[Disclaimer](#)

정책학박사 학위논문

Voices, Responses, and Responsiveness

**Understanding how local governments respond to
the voices of their citizens**

민원서비스의 상호성:

민원 내용과 관료 대응성을 중심으로

2023 년 08 월

서울대학교 대학원

행정학과 정책학전공

조 희 찬

Voices, Responses, and Responsiveness

Understanding how local governments respond to
the voices of their citizens

지도 교수 권 일 응

이 논문을 정책학박사 학위논문으로 제출함
2023 년 03 월

서울대학교 대학원
행정학과 정책학전공
조 희 찬

조희찬의 정책학박사 학위논문을 인준함
2023 년 06 월

위 원 장 _____ 이 수 영 _____ (인)

부위원장 _____ 고 길 곤 _____ (인)

위 원 _____ 성 옥 준 _____ (인)

위 원 _____ 임 동 혁 _____ (인)

위 원 _____ 권 일 응 _____ (인)

Abstract

Public encounters are fundamentally interpersonal interactions, yet the emotional elements during these interactions are often overlooked. As representatives of the government, civil servants are expected to respond promptly and professionally to the voices of citizens. Occasionally, if not often, they are also expected to understand and endure violations of mutual respect that they experience unwillingly during the process.

This study particularly focuses on the linguistic qualities of voices and responses during interactions between civil servants and citizens. The linguistic features of both the voices of citizens and the responses from civil servants influence their mutual interactions. The findings suggest that discourteous voices from citizens may hinder prompt and warm responses, which in turn may have a negative impact on citizen satisfaction, leading to a self-perpetuating cycle of negative emotions. While the individual interests of civil servants might not always align with those of the citizens or the broader public, they generally uphold the priorities of the current elected officials and follow established rules and procedures.

This study also navigates the multifaceted nature of responsiveness imposed on civil servants at the frontlines of the government. The findings demonstrate the complexities of responsiveness, encompassing

considerations of whom to respond to, as well as the timeliness and quality of responses, and the actual satisfaction of individual citizens. Despite the common practice of prioritizing the promptness of responses and downplaying emotions in favor of rationality, recognizing and addressing emotional exchanges can humanize public services and potentially improve citizen satisfaction.

Public encounters are more than just information exchanges; they also encompass emotional exchanges that have significant implications for both civil servants and citizens. The power of these encounters lies not only in addressing citizen concerns but also in fostering a shared understanding and emotional connection between the government and its citizens.

Keywords: Street-level Bureaucracy, Incivility, Responsiveness, Citizen Satisfaction, Computerized Text Analysis
SNU Student Number: 2017-34110

Contents

Abstract	iii
1. Introduction	9
1.1. Multifaceted nature of bureaucratic responsiveness	12
1.2. Precis of study	17
2. Voices and Responsiveness: how discourteous voices are heard	19
2.1. From people to clients: discretion and ‘selective’ responsiveness	21
2.2. Responsiveness and discrimination	24
2.3. Responsiveness to emotional voices	26
2.4. Street-level bureaucrats and incivility in public encounters	30
2.5. Institutional context in Korea	36
2.6. Research design	38
2.7. Results	55
2.8. Discussions	64
3. Responses and Satisfaction: how responses are perceived	73
3.1. Citizen-side of service provision and satisfaction	74
3.2. Warmth and competence: emotional and linguistic qualities	76
3.3. Complexity of satisfaction	78
3.4. Research design	81
3.5. Results	85
3.6. Discussions	91
4. Elections and Responsiveness: how responsiveness cycles	97
4.1. Political interests and electoral cycles	97
4.2. Electoral cycles and shirking	99
4.3. Bureaucratic interests and political interests	101
4.4. Institutional context in Korea	103
4.5. Research design	105
4.6. Results	108
4.7. Discussions	115
5. Conclusion	120
References	125
국문초록	139

Appendix	141
A1. Policy area	141
A2. Coefficient and p-value for different sample sizes	147
A3. Respondent-level Characteristics	149
A4. Additional tables on satisfaction	152
A5. Additional tables by provincial governments	154
A6. Time trends	162
A7. Correlations	163
A8. Sample of the words from output	164
A9. Random sample of discourteous words in lexicon	165
A10. Sample of words with sense of availability in administrative language	165
A11. Validation	166
A12. Interview	168

List of Tables

Table 1 Number of Incidences of Verbal Abuse and Physical Violence	36
Table 2 Proportion of Uncivil Inquiries by Province	52
Table 3 Summary Statistics	54
Table 4 Incivility and Response Time	56
Table 5 Incivility and Response Time (Follow-up inquires only)	58
Table 6 Incivility and Response Time (Before and After the due date)	60
Table 7 Incivility and Response on the Due Date	61
Table 8 Incivility and Response Quality (Sense of Availability)	63
Table 9 Incivility and Response Quality (Sense of Availability - Phone number)	64
Table 10 Satisfaction Ratings by Incivility	83
Table 11 Summary Statistics	84
Table 12 Citizen Satisfaction and Response Time	86
Table 13 Citizen Satisfaction and Response Quality	87
Table 14 Citizen Satisfaction and Response Quality (Single Policy Domain)	88
Table 15 Summary Statistics	107
Table 16 Election Cycle and Response Time	110
Table 17 Election Cycle and Response Quality (Sense of Availability)	111
Table 18 Election Cycle and Response Quality (Alternate measure - Phone number)	112
Table 19 Summary Statistics (Electoral turnovers)	113
Table 20 Number of Municipal Government Election Results by Province and Election Year	114
Table 21 Responsiveness and Electoral Turnovers (Dependent variable: re-elected)	115
Table 22 Number of Inquiries by Policy Area	142
Table 23 Number of Inquiries by Policy Area and Policy Domain	143
Table 24 Response Time (days) by Policy Area	145
Table 25 Incivility by Policy Area	146
Table 26 Observations per Division-Respondent	149
Table 27 Incivility and Response Time (Respondent FE)	150
Table 28 Incivility and Response on the Due Date (Respondent FE)	151
Table 29 Number of Ratings by Respondent-Name/Alias Pairs	152
Table 30 Citizen Satisfaction by Policy Area	152
Table 31 Citizen Satisfaction by Policy Area (without duplicated pairs)	153
Table 32 Summary Statistics (Gangwon-do)	154
Table 33 Summary Statistics (Gyeonggi-do)	154
Table 34 Summary Statistics (Gyeongseongnam-do)	155

Table 35 Summary Statistics (Gyeongsangbuk-do)	155
Table 36 Summary Statistics (Gwangju)	156
Table 37 Summary Statistics (Daegu)	156
Table 38 Summary Statistics (Daejeon)	157
Table 39 Summary Statistics (Busan)	157
Table 40 Summary Statistics (Seoul)	158
Table 41 Summary Statistics (Ulsan)	158
Table 42 Summary Statistics (Incheon)	159
Table 43 Summary Statistics (Jeollanam-do)	159
Table 44 Summary Statistics (Jeollabuk-do)	160
Table 45 Summary Statistics (Chungcheongnam-do)	160
Table 46 Summary Statistics (Chungcheongbuk-do)	161
Table 47 Correlations	163
Table 48 Classification Results	167

List of Figures

Figure 1 Data Processing Procedures	50
Figure 2 Response Time (in days) by Year	55
Figure 3 Average Satisfaction Ratings Over Time	85
Figure 4 Change in Average Response Time Before Local Election	108
Figure 5 Incivility and Response Time: Coefficient and p-value for different sample sizes	147
Figure 6 Incivility and Response on Due: Coefficient and p-value for different sample sizes	148
Figure 7 Incivility and Response Quality (Phone Number): Coefficient and p-value for different sample sizes	148
Figure 8 Average Incivility over Time	162
Figure 9 Average Responses Including Phone Number over Time	162

1. Introduction

In *Rhetoric*, Aristotle suggests that one of the means of persuasion involves evoking the emotions of the audience. The voices of citizens, from simple inquiries to organized petitions, intentionally or unintentionally convey the emotional state of the speaker to persuade the government to act accordingly. Sometimes, if not often, one violates the norms of mutual respect and courtesy in the process.

Representing the face of the government, civil servants are customarily expected and required to endure the frustrations of citizens. As governments are the sole provider of the services citizens seek out for or, in some cases, the provider of last resort, some individuals may cross the line of courtesy out of frustration and desperation. Verbal aggression, such as insults, demeaning remarks, and unkind words, as well as negative behaviors from citizens, are a part of incivility civil servants unwillingly experience during public encounters. Civil servants are expected to understand and endure such behaviors, and respond, out of professional ethics to serve the public. The reported burnouts and emotional labors civil servants suffer (e.g. Mastracci, 2022; Lipsky, 2010) presume the working conditions they are in.

The frustrations with bureaucratic behaviors—“inhumane, incompetent, apathetic, and abusive treatment of individual[s]” (Goodsell, 1981, p.763)—that many have experienced and have prejudice on are shaped during encounters with the faces of government (Hummel, 1994; Keulemans, 2020). Because any form of mistreatment by civil servants would, even if they are not the *initial* source of discourteous treatment, likely be blamed on the civil servants and the government, understanding the dynamics between civil servants and citizens and the interactive nature of incivility is crucial to promote and shape a positive relationship.

This study navigates through the multifaceted nature of responsiveness imposed on civil servants at the frontiers of government body. As being responsive is critical to maintaining the legitimacy and gaining public acceptance of the government, civil servants “must be reactive, sympathetic, sensitive, and capable of feeling the public’s needs and opinions” (Vigoda, 2000, pp.166-167). However, civil servants often face dilemmas when making a choice between different ethics induced by the vagueness of to whom and to what to respond. As they are held accountable by both the public and institutions, civil servants must steer through the demands of multiple stakeholders—including politicians, elected officials, rules, citizens, and the public. Furthermore, being responsive to one voice may inadvertently lead to unresponsiveness to another, as resources are limited and competing demands may pull in complete opposite directions. Besides the subject to

whom to respond, the degree to which civil servants need to fulfill requests, and the underlying ethics behind their actions and inactions also vary significantly. Responding to the actual requests of citizens in a prompt manner is one form of responsiveness, while addressing the underlying cause of the request is another.

This study also focuses on person-to-person interactions that occur at the interface between citizens and the government and reveals how linguistic qualities of language play a role in these encounters. In any human communication, conversations exchange not just information, but also emotions that are interwoven together (Bartels, 2013). These emotional addendums may either facilitate or hinder the process of interactions. Although public service provision involves two parties—citizens and civil servants—research tends to focus on a single party in isolation and often relies on their recollections, limiting a full delineation of how exchanges unfold into a series of disappointments and disrespect.

Before delving into the complexities of interactions between citizens and the government, it is important to acknowledge the multifaceted nature of bureaucratic responsiveness. Bureaucracies strive to maintain legitimacy through their commitment to standards of fairness and equity. However, they operate within a paradoxical reality. On one hand, civil servants are expected to treat all citizens equally, ensuring fairness in their service provision. On the other hand, they are also expected to be responsive to the

unique circumstances of individual cases when appropriate. This creates a delicate balance between the need for standardized procedures and the demand for personalized attention. Civil servants face the challenge of improving effectiveness and responsiveness for clients in their work while simultaneously meeting the demands for efficacy and efficiency of government services from constituents. And as the providers of public services, civil servants often find themselves at the center of political controversies.

1.1. Multifaceted nature of bureaucratic responsiveness

Meeting the voice of citizens is one of the critical pillars of democracy. As responsiveness involves meeting the demands of the public (Salzstein, 1992), efforts to improve communication, responsiveness, and participation between government and citizens is crucial to maintain the legitimacy and gain public acceptance of the government (Berry et al., 2002; Glaser & Denhardt, 2000; Halvorsen, 2003; Kim & Lee, 2012; Nie & Wang, 2022). A responsive politician or bureaucrat, therefore, “must be reactive, sympathetic, sensitive, and capable of feeling the public’s needs and opinions” (Vigoda, 2000, pp.166-167).

Although responsiveness may seem simple and straightforward, the term has been used quite liberally and can take on a variety of divergent meanings. Responsiveness can vary depending on who is responding to

whom, the degree to which the request is fulfilled, and the underlying ethics behind the actions and inactions. As Bryer (2006) points out, “a single, unifying conceptual construct fails to meet the requirements of relevant writing, namely, it does not capture the conflicts that arise as bureaucrats are faced with responsiveness in different variations” (Bryer, 2006, p.480). Without acknowledging the directionality nature of responsiveness—origin, destination, and magnitude—the same term may possess multiple, yet conflicting meanings. For instance, responsiveness can be seen as outright corruption (e.g. Rourke, 1992) if administrators react to satisfy individual citizens even when such actions is contrary to the public will (Vigoda, 2002). However, responsiveness is also conceptualized as administrators responding to the public will, a critical virtue in democratic society. The ways in which one balances conflicting needs and demands is the essential part of responsiveness (Bryer, 2006).

While the voices of citizens are directed towards the government, it is the elected officials or civil servants who respond, rather than the government as an institution per se. Political responsiveness is maintained through electoral cycles, as the persistent pressure of winning election encourages elected officials to respond and deliver services (Brookman, 2013; Cai et al., 2023). However, the responsiveness of civil servants is the major concern in political science, as the proper response “depends on [civil servants’] capacity to act as sensible moral agents who can, among other things, interpret

vague directives, strike compromises between competing values, and prioritize the allocation of scarce resources” (Zacka, 2017, p.4). While elected officials may try to align bureaucratic responsiveness through political controls, the behaviors of civil servants are inherently political. Civil servants, the core actors who investigate and exercise their discretion in providing services, are expected to be responsive to political inputs with the information and expertise of the bureaucracy.

Responsiveness varies depending on the subject being responded to. As responsiveness is indispensable for fulfilling responsibility, different notions of responsiveness emerge based on the concept of responsibility. Determining to whom one should respond extends beyond the entity to which civil servants should be responsible. Scholars have highlighted that civil servants are legally and ethically accountable to elected officials, while others emphasize the responsibility to the public (Saltzstein, 1985; Selden, 1997). As it is necessary to differentiate between the interests of individuals and those of the public, particularly when the two collide, the question of to whom to be responsible is critical.

The ability for civil servants to interpret and respond to their environment is constrained by “rules, regulations, organizational cultures, and leadership and authority structures” (Bryer, 2006, p.483). Being responsive to the hierarchical order is also a form of bureaucratic responsiveness as the overseers of the bureaucracy represent societal interests in a democratic

society. Rules, administrative procedures, and professional norms can also be a subject of response. Although “rule-worship bureaucrats” are accused of being unresponsive to citizens’ needs, following established rules and procedures is in fact also considered a form of responsiveness. It is a matter of professional norms and ethics where one may choose to act in a way that conflicts with set rules in order to achieve a greater good. The hierarchical order and established rules overstate the extent to which one has complete control and guidance, even in unforeseen situations (Zacka, 2017). However, the ambiguity and vagueness inherent in legislative statutes often do not fully resolve themselves when applied to real-life situations.

Recognizing that citizens are individuals with distinct needs and circumstances, being responsive does not necessarily mean implementing policies equally to every individual (Bryer, 2006). Instead, there is an emphasis on responsiveness to the diverse needs of different groups of people, and responsiveness to individual customers of public services. These shift the focus of bureaucratic responsiveness from inside the government to outside, or as a state-agent to a citizen-agent (Maynard-Moody & Musheno, 2000; de Boer, 2020). As professionals of public administration, civil servants are expected to understand and respond based on their own professional and public goals (Bryer, 2006).

Responsiveness also entails speed and accuracy (Vigoda, 2002). In fact, many literatures focus on the promptness of responses as

responsiveness (e.g. Dipoppa & Grossman, 2020; Christensen & Ejdemyr, 2020). While speed refers to the elapsed time between a request and the response, accuracy pertains to the extent of action taken to address the requested problem (Schumaker, 1975). Individuals who contact their government for services expect not only a simple reaction but also actual changes in service provisions (Saltzstein, 1985). Schumaker (1975) categorizes responsiveness into five different types based on the level of policy impact it provides: access responsiveness, agenda responsiveness, policy responsiveness, output responsiveness, and impact responsiveness. This definition also aligns with how many literatures conceptualize responsiveness in procedural and consequential dimensions, as it covers agenda setting in the policy process, from simply reacting to stimulus, to managing the underlying cause of the demand.

Responsiveness varies based on the directions, magnitudes, and underlying ethics involved, as discussed so far. However, these forms of responsiveness are not mutually exclusive or replacement for each another (Bryer, 2006). They all coexist and play a part in the overall concept of responsiveness. Balancing and facilitating between conflicting needs and demands would be essential in being responsive especially in an increasingly collaborative environment.

1.2. Precis of study

This study delves into multiple aspects of responsiveness, with a particular emphasis on the role of language in the interactions between individual citizens and civil servants. Using a novel dataset of actual texts of requests, responses, and ratings exchanged between individual citizens and civil servants, the role of linguistic qualities in requests on responsiveness, as well as the relationship between the qualities in administrative language and citizen satisfaction, is explored. By being able to dive into the individual interactions between the two parties, the actions and reactions between individuals can be studied, instead of relying on the perceived characteristics of the opposing parties.

The civil servants in this study encompass a wide range of workers from various divisions of local governments who are responsible for responding to citizen requests, appeals, inquiries, and or complaints. These workers may or may not be on the street or sit behind the counter, but they do interact with individual clients and exhibit characteristics of street-level bureaucracy.

Street-level bureaucracy, according to Lipsky (2010) is defined as “public service workers who interact directly with citizens in the course of their jobs, and who have substantial discretion in the execution of their work” (p.23). These workers encompass a range of occupations, including

social workers, teachers, police officers, judges, and public defenders.

While these occupations may appear diverse and unrelated, street-level bureaucracy does not specifically pertain to individual job titles, but rather to occupations that exhibit a set of common characteristics in the nature of their work. These shared characteristics embody an “essential paradox that plays out in a variety of ways.” (Lipsky, 2010, p.xii) In this regard, street-level bureaucracy extends beyond frontline workers behind office counters; it may encompass a broad range of workers who are responsible for responding to citizen contacts.

This paper is structured as follows: The first section focuses on the government-side of public encounters and examines how the attitude in the voices of citizens affects responsiveness. The second section investigates government responses and citizen-side of public encounters, delving into the relationship between linguistic characteristics of responses and citizen satisfaction. Lastly, the third chapter examines bureaucratic responsiveness to citizen and hierarchical order, especially regarding the political interests of incumbent elected officials.

2. Voices and Responsiveness: how discourteous voices are heard

Citizens are not just passive recipients of public services but active contributors who demand and pursue personal values during public encounters (Döring, 2021). Citizen-initiated contacts, which are non-electoral activities attempting to affect the decisions made by government officials for one's benefit (Verba & Nie, 1972; Jones et al., 1978), are made on a regular basis and represent a major form of political participation (Mladenka, 1981). Though these individual contacts may seem to deal only with particularized problems, "the sum total of all such contacts and the myriad responses to them do represent a mechanism for social allocation without the clear necessity of general social choice" (Verba & Nie, 1972, p.112).

Representative governments maintain non-electoral channels for political participation to ensure individual participation between electoral cycles (Pitkin, 1967; Grimes & Esaiasson, 2014). These channels, which citizens have chance to verbalize their demands, grievances, and suggestions, are vital for the government to identify societal needs and plan out solutions to alleviate and mitigate the problems (Fung, 2004; Moynihan, 2003; Neshkova & Guo, 2012). While these voices are made to request actions and inactions by the government on the provision of public services, some

“voices” (Hirschman, 1970) also signal public dissatisfaction with government services and distrust in government (Van de Walle, 2018). Citizens choose to voice their experiences with “inappropriate or discourteous treatments, mistakes, faults, inconsistencies, misleading guidance, unclear procedures, or displayed bias or injustices” in public services (Brewer, 2007, p.550).

The trends in administrative reforms have led to an expansion of the role of citizens and citizen associations, introducing new ethical obligations for administrators (Vigoda, 2002; Bryer, 2006). The New Public Management movement, which treats citizens as customers and public services as marketable, recognizes the rights of citizens to complain about public services as they would with private entities (Im, 2003). Citizens can now easily vocalize their voices directly to the service providers or through various means, including submitting a complaint on the government website or social media. Administrative reforms as well as technological advancements have expanded the ways to raise voices for unsatisfied services. Citizen involvement is also seen as a form of coproduction as citizens play a collaborative role in public service provision, such as in the 311 Systems of the United States, which takes nonemergency services requests from city residents (e.g. Clark et al., 2020). Moreover, these non-electoral forms of political participation increase with government responsiveness because citizens recognize that government can meet their needs and increase the expected

benefit of participation (Campbell et al., 1954; Jones et al., 1978; Dipoppa & Grossman, 2020).

Despite the availability of channels for individual voices, raising one's voice can sometimes be seen as a risk for individuals due to the direct and personal nature of the communication. The bureaucratic encounter can be "demeaning, disempowering, and paternalistic; that ... can contribute to reinforcing status distinctions" (Zacka, 2017, p.3). Moreover, the contact itself may jeopardize the relationship between the recipient and provider of services, potentially leading to negative service outcomes, especially if the recipient of the complaint abuses their authority and power.

As nervous and frustrated as one can be, some voices can be hesitant. But they can also verge on verbal aggression toward the service provider (Van de Walle, 2018); and, at times, these voices may even violate social norms of mutual respect.

2.1. From people to clients: discretion and 'selective' responsiveness

In a democratic society, the government, and its policies are to express the values and principles the people have chosen (Zacka, 2017). However, the will of the people does not always convey the will of all people, and one need to determine how to measure the people's will (Pennock, 1952;

Saltzstein, 1992). This presents a dilemma of public officials when choosing between different ethical considerations, given the ambiguity around who and what to respond to.

Oftentimes “to be responsive to one stakeholder is to potentially be unresponsive to another” (Bryer, 2006, p.482) as the resources are finite and requests are pointing in complete opposite directions. As bureaucracy is being held accountable by the public and institutions, they are bound to respond to multiple bodies, from elected officials, rules, citizens, clients, and the public. Civil servants are also being requested to acknowledge the unique and personalized needs, while also recognizing equitable and consistent services to all citizens. These aspirations are in line with familiar criticisms and stereotypes of bureaucrats that they are distant, insensitive, rule-worship, and more passive than their counterparts in the private sector (Zacka, 2017).

The demands placed on civil servants in a democratic state extend beyond just responsiveness; they also face a plurality of normative demands, often in conflict with each other (Zacka, 2017). Civil servants are expected to be efficient in their use of public resources, provide fair and responsive service, maintain transparency in their procedures, and exhibit respect during interactions, all while remaining responsible and accountable to the public. Public work requires an awareness of these conflicting yet

insatiable demands and the capacity to negotiate and balance difficult compromises between them.

Street-level bureaucrats, positioned at the lowest ranks of the bureaucratic hierarchy, are compelled to resolve any ambiguity or conflict that arises during implementation, as they cannot delegate the responsibility any further (Zacka, 2017). They have discretion due to the nature of service provision requiring “human judgement that cannot be programmed [or substituted]” (Lipsky, 2010, p.161). Consequently, the responsibility of deciding and balancing conflicting demands falls to the hands of street-level bureaucrats who handle each case at the forefront of government.

Given the insufficient resources and information, constrained time, and high ambiguity, street-level bureaucrats are under constant stress (Lipsky, 2010; Maynard-Moody & Musheno, 2003; Keulemans, 2020). To deal with such stress related to public service delivery, street-level bureaucrats develop behavioral and mental shortcuts to master the tasks (Lipsky, 2010). Although they are expected to exercise impartial attitudes, they resort to behavioral strategies “when interacting with clients, in order to master, tolerate, or reduce external and internal demands and conflicts they face on an everyday basis” (Tummers et al., 2015, pp.1101-1102), which then “effectively become the public policies they carry out” (Lipsky, 2010, p.xiii).

Random acts of discretion can be attributed to an individual’s ethics and the environment in which they operate. These random acts of discretion,

at best, are modes of mass processing “to deal with the public fairly, appropriately, and thoughtfully. At worst, they give in to favoritism, stereotyping, convenience, and routinizing—all of which serve their own or agency purposes” (Lipsky, 2010, p.xiv). These informal patterns of practices warrant greater attention, as they systematically structure bureaucratic interactions, thereby influencing policy implementation and public service distribution in a systemic manner (Brodin, 2012).

2.2. Responsiveness and discrimination

Unequal responses to citizen contacts may quickly erode satisfaction with public services and trust in government. Furthermore, if services are prioritized for privileged groups and underserve less privileged ones, the gap between them would worsen. Numerous news headlines and popular beliefs suggest and accuse government of unequal treatment to minorities, and individuals with low-income, and lower levels of education (Clark et al., 2020).

Studies on urban services have three competing hypotheses that may cause bias in urban service provision. The first hypothesis suggests that political machines trade services for votes, prioritizing service provision in neighborhoods with politically active constituents or areas of greater political interests (Wilson, 1960; Mladenka, 1981; Meier et al., 1991). The second hypothesis, known as the "underclass hypothesis," contends that

political systems are biased, leading to lesser service provision in neighborhoods with lower income and more minorities (Meier et al., 1991). Similarly, wealthier and better-educated citizens may receive services more promptly due to their ability to navigate the bureaucratic labyrinth (Jones et al., 1978; Mladenka, 1981). The third hypothesis suggests that service demands are processed according to organizational rules to standardize and simplify service routines (Cyert & March, 1964; Mladenka, 1981; Meier et al., 1991).

Contrary to popular beliefs or speculations that urban service provision is biased based on neighborhood characteristics, empirical results are mixed, or rather not clearly evident. While some studies found that better-off neighborhoods receive more prompt response to their contacts (Jones et al., 1978; Vedlitz et al., 1980; Thomas & Streid, 2003), others have shown that the promptness of governmental services does not vary with the level of income and racial composition (Jones et al., 1978; Mladenka, 1981). More recent studies analyzing response time using the 311 systems in the United States indicate that racial and political composition of neighborhoods does not significantly affect service time. Based on their study of 311 systems in 15 cities over a 10-year period, Clark et al. (2020) show that while some cities do exhibit a significant difference in the promptness of services, the practical differences are too small to be a cause for concern.

In addition to studies on urban service provision analyzed at the neighborhood level, recent field experiments provide evidence of selective responsiveness to individuals with different racial characteristics. These studies used emails to control associated characteristics and manipulate individual-level racial attributes (e.g. Butler & Broockman, 2011; White et al., 2015; Costa, 2017). However, these studies measure the systematic bias of state legislators or election officials. Although election and voting procedures are critical and valuable, state legislators and election officials are distinct from the street-level bureaucrats with whom people interact daily (Einstein & Glick, 2017). Similarly conducted experiments on street-level bureaucrats, who are less tied to politics compared to state legislators, have shown limited evidence of racial disparities in responsiveness (Einstein & Glick, 2017).

2.3. Responsiveness to emotional voices

The interface between citizens and the government is a person-to-person interaction, not a person-to-institution interaction. The physical characteristics of the person requesting, and the disposition of services could be the main input to a machine—the government—which delivers the output as programmed. Though often accused of as a cold, rigid, and insensitive cogs in a

mechanical system, an actual person is sitting behind the counter, and psychological factors may also play a role in decision-making and responses.

Public encounters involve person-to-person interactions that are multifaceted processes, establishing channels for the exchange of not just information but also interwoven emotions (Bartels, 2013). These inevitable emotional addendums may either facilitate or hinder the process of individuals making claims, understanding each other, and resolving underlying issues.

In any human communication, conversations are encoded in informational and relational components (Eckhard & Friedrich, 2022; see also, Watzlawick et al., 1967; 2011). Conversations during public encounters are no exception to human communication. In fact, citizens are often in an inferior position to civil servants since civil servants represent government authority and have the power to make decisions about the services citizens seek to obtain (Eckhard & Friedrich, 2022). Frustration may lead to emotional messages bursting through, in addition to the informational message conveyed, as individuals navigate the administrative labyrinth with which they are not familiar. Studies indicate that the quality of communication and interaction between citizens and civil servants leads to more favorable outcomes for citizens (Nielsen, 2007; Raaphorst et al., 2018). Furthermore, the communication styles of civil servants also have a significant impact on

citizen satisfaction (Eckhard & Friedrich, 2022). The quality of communication does impact both parties involved.

The emotions conveyed through the voices of citizens may evoke feelings of sympathy or empathy in the person behind the counter. Civil servants consider the *issues and situations* the clients face and respond accordingly (Zacka, 2017). In addition to the personal impact, the accumulation of negative sentiments from the public can increase pressure on the government to pay closer attention to the subject matters, ultimately holding civil servants accountable to act upon them.

Recent studies have utilized natural language processing methods to measure the sentiment expressed in conversations during public encounters and examine its impact on responsiveness. Sentiments are categorized into either positive or negative (e.g. Su & Meng, 2016; Cai et al., 2023; Feng et al., 2023), or more sophisticated classifications such as fear, sorrow, and anger (e.g. Bae et al., 2023). Studies conducted in the context of local governments in the Chinese authoritarian regime consistently show that requests containing negative sentiments have a slightly higher probability of receiving a response, but at the expense of delays (Su & Meng, 2016; Cai et al., 2023; Feng et al., 2023). These results suggest that negative sentiments expressed in petitions can create pressure on local governments from all directions, including external pressure from public opinion and internal pressure from the central government for bureaucratic accountability (Zhang et al.,

2021). These pressures may cause local governments to deliberate over their responses, leading to a more complex decision-making process and longer explanations (Feng et al., 2023).

Empirical evidence regarding emotional voices and responsiveness in democratic regimes is mixed. A study on responsiveness in the Korean government suggests that complaints conveying fear tend to be addressed more promptly, whereas those expressing sorrow and anger are responded to more slowly (Bae et al., 2023).

Another study by Epstein et al. (2021) conducted a field experiment similar to the one mentioned earlier (e.g. White et al., 2015; Einstein & Glick, 2017) where emails and tweets with different contents were sent out to public officials in the United States. The result shows that frustrated emails are more likely to receive a response compared to friendly ones, whereas tweets conveying anger receive more prompt responses than those expressing neutral sentiment or friendliness (Epstein et al., 2021).

Among different types of negative sentiments, some emotions have directionality—they do not just describe the feelings of the speaker, but also points towards the listener. For instance, clients may express anger towards themselves or the situation they are in, but they may also direct their anger towards the person behind the counter. While existing literature recognizes that communications involve both informational and relational components (Eckhard & Friedrich, 2022; Cai et al., 2023) and that emotions and feelings

play an essential role in the equation of responsiveness, they often overlook the emotional labor frontline workers may undergo in the process.

2.4. Street-level bureaucrats and incivility in public encounters

It is a common courtesy as individuals in civil society to respect and be polite to each other. Nevertheless, frontline workers are typically expected to endure the complaints and frustrations of their clients (Groth & Grandey, 2012). In the private sector, customers may take liberties in the way they treat frontline workers, as they realize their power over the employees. Customers are often considered the lifeline of most organizations, and the “customer is always right” mantra prevalent in the industries empowers customers over employees (Kern & Grandey, 2009; van Jaarsveld et al., 2010).

Discourteous treatments by customers, including demeaning remarks, insults, unkind words, and harmful behaviors are not uncommon in the environment where services are being exchanged (Cortina et al., 2001; Sliter et al., 2010; Pearson et al., 2001; Martin & Hine, 2005; Wilson & Holmvall, 2013; Walker et al., 2017).

The situation in the public sector is not much different from that in the private sector, and in some cases, it may be worse. Often accused of as passive, insensitive, and rule-worshipping, civil servants are responsible for responding to individual and public interests. Unlike in the private sector

where there is an exchange of economic value, frontline workers in public sector are tasked with assessment of qualifications and rights of the client and appropriateness of service provision.

Additionally, citizens may become frustrated as they navigate through the administrative processes with which they are unfamiliar, leading to outbursts of discourtesy. As civil servants represent the government authority and have the power to make decisions on service provisions citizens seek out for, some individuals may cross the line of courtesy out of frustration and desperation. Despite all these, civil servants are expected to understand and endure such behavior, and respond, out of professional ethics to serve the public.

Incivility refers to various forms of behaviors that are considered rude, condescending, or otherwise low intensity deviant behavior which violate the norms of mutual respect (Andersson & Pearson, 1999; Chen, 2017; Cortina et al., 2017; Epstein et al., 2021). The impact of incivility is not limited to severe forms of misconduct, as even mild forms of incivility have been shown to influence worker's attitudes, behaviors, responsiveness, and emotional well-being (Cortina et al., 2001; Kabat-Farr et al., 2018}).

Citizen incivility can increase the job demands of street-level bureaucrats. Job demands refer to “physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort and are therefore associated with certain

physiological and/or psychological costs” (Bakker & Demerouti, 2006, p.312). The job demands are perceived by the workers (van Jaarsveld et al., 2010), and interactions with clients that are emotionally demanding heighten the job demands of frontline workers (Demerouti et al., 2001; Bakker & Demerouti, 2006). When workers are exposed to high job demands over a prolonged period, according to the job demands-resources theory, they may experience burnout and enter a loss cycle (Bakker & Costa, 2014; Bakker, 2015). The increased levels of burnout can lead to intentional avoidance of tasks, more frequent mistakes, and conflicts with clients and colleagues. These repercussions can, in turn induce increased job demands, leading to a self-undermining, loss cycle (Bakker 2015).

Organizations often develop so-called “display rules” (Dormann & Zapf, 2004) that either explicitly or implicitly require employees to show only certain emotions and provide services in a standardized way. The violated norm of mutual respect increases the likelihood of workers engaging in emotional labor, as they are required to manage their emotions to conform to organizational and social expectations during the interactions (Hochschild, 1983). The discrepancy between genuinely felt emotions and the imposed display of emotions is a threat to workers’ emotional autonomy (Grandey, 2003), causing psychological strains (Hobfoll, 1989; Dorman & Zapf, 2004).

The increased job demands and psychological strains elucidate the internal mechanism of hardships frontline workers face when they encounter uncivil clients; however, the theories do not touch on how behaviors may unfold. In the private sector, retribution through incivility (e.g. Walker et al., 2017) could be a viable option as the conflict is between two private individuals. However, the broken norms of mutual respect and courtesy between citizens and street-level bureaucrats may manifest in a different way.

To deal with the stress related to public service provision, street-level bureaucrats develop behavioral and mental shortcuts to master the tasks (Lipsky, 2010). Although frontline workers are expected to exercise impartial attitudes, they employ behavioral efforts “when interacting with clients, in order to master, tolerate, or reduce external and internal demands and conflicts they face on an everyday basis” (Tummers et al., 2015, pp.1101-1102). As the job demands increase due to client incivility, street-level bureaucrats are likely to employ coping mechanisms to deal with the job demands and stress. The strategy of countering aggression can be aggression (Vinzant et al., 1998; Tummers et al., 2015), but there are also other ways of coping without jeopardizing the relationships.

Street-level bureaucrats may prioritize certain groups of clients by allocating more time, resources, and energy (Jilke & Tummers, 2018). Although frontline workers cannot choose their clients, they have the discretion to decide whom to put more effort into. Therefore, if a frontline worker has

insufficient resources to fulfill every demand, he or she may decide on whom to prioritize and focus on spending the limited number of available resources. Certain clients, in this case, those who are friendly, would be given priority over those who are hostile (Sanfort, 2000). As a result, uncivil clients may be disregarded.

As even the mild forms of incivility can evoke emotional demands and therefore job demands of civil servants to meet the “display rules” (Dorrmann & Zapf, 2004), civil servants may use their discretion to offset the increased job demands. Thus, the first prediction to test in this section is that *the response is less prompt when the request is made with discourteous words*. Furthermore, because responsiveness not only conveys promptness but also the thoroughness and helpfulness of the response, *the quality of response would be lower when the request is made with discourteous words*.

Prioritizing friendly or civil clients is a strategy to minimize job demands while preserving psychological resources. Street-level bureaucrats may disregard the demands of uncivil clients completely or spend minimal time dealing with their demands. However, such strategy would be viable only if public encounters are one-time events. If citizens and street-level bureaucrats encounter repeatedly, as they would in real-life, prioritizing friendly clients may not always be the optimal strategy to minimize job demand and maintain resources.

Unsatisfied clients whose demands were initially disregarded may repeatedly initiate contact, seek alternative channels, and become more vocal. This would significantly escalate job demands for frontline workers as the external pressures build up, and the worker might then consider allocating more resources to hostile clients. Clients, aware of this prioritization, may strategically choose to make contacts in hostile tones. Coping mechanisms street-level bureaucrats employ, therefore, may need to be adjusted as the two actors seek equilibrium.

The issue of responsiveness to uncivil voices is of a great concern as it not only compromises fairness in public service provision but also raises tension around societal values it represents. It creates a dilemma between ensuring fairness and protecting the emotional well-being of frontline workers. This issue also raises questions about the extent to which society is willing to tolerate violations of mutual respect, as “street-level bureaucrats respond to general orientations toward clients’ worthiness or unworthiness that permeate the society and to whose proliferation they regularly contribute” (Lipsky, 2010, p.109). And the question is whether random acts of individuals reveal broader systematic issues.

2.5. Institutional context in Korea

The number of citizen contacts surpassed 10 million in 2019 (see Table 1) and is consistently increasing, as it has become easier for individuals to voice their concerns directly to service providers through various means, including government website or social media. Administrative reforms as well as technological advancements have broadened the ways to express dissatisfaction with services and request for service provisions.

However, alongside the increase in citizen contacts, the number of reported incidences where civil servants experience verbal abuse and physical violence from their clients is also on the rise. News headlines about civil servants committing suicide after enduring chronic conflict with clients, along with their verbal and physical abuses, are not uncommon (e.g. Jeong, 2021a; Jeong, 2021b; Lee, 2023).

Table 1 Number of Incidences of Verbal Abuse and Physical Violence

Year	Verbal abuse and violence	Total number of citizen contacts
2018	34,483 (0.49%)	7,006,935
2019	38,054 (0.37%)	10,320,042
2020	46,079 (0.37%)	12,408,714
2021	51,883 (0.35%)	14,650,026

Source: Park (2023) and Anti-corruption & Civil Rights Commission (2023)

Public institutions in Korea are required by law to respond to inquiries received via official channels. The Enforcement Decree of the Civil

Petitions Treatment Act¹, Article 14, states that inquiries must be responded to within *seven* days; inquiries that require an explanation or interpretation of statutes in 14 days. However, repeated inquiries (more than twice) of the same nature are not subject to responses. The Act was revised in 2016, expanding to cover a broader range of institutions, including the National Assembly, the court, and public organizations. Moreover, the amendment adjusted the response time window for responses by excluding Saturdays, in addition to Sundays and national holidays, from the calculation of the time period.

There are two major online channels through which citizens can submit their voices to local governments in Korea: the “Seol” system provided by the Ministry of Interior and Safety (MOIS), and “e-People” system maintained by Anti-Corruption and Civil Rights Commission (ACRC). While the two systems are maintained and provided by MOIS and ACRC, each local government uses and manages the systems. The two channels collect voices separately; however, they are internally integrated. Inquiries misdirected to other institutions are automatically redirected to the appropriate institution in charge without requiring resubmission, thanks to the integrated system. To minimize the confusion from maintaining two separate channels for those submitting inquiries, MOIS and ACRC agreed on the need for a

¹ <https://www.law.go.kr/LSW//lsInfoP.do?lsiSeq=235837&chrClsCd=010203&urlMode=engLsInfoR&viewCls=engLsInfoR#EJ14:0> (last accessed on October 25, 2022)

unified channel in 2016. Since then, while most local governments have unified to a single channel, “e-People”, some still actively utilize both channels.

While the response time period is set by the Act, local governments in Korea set their own performance promises to deliver standardized levels of services and to improve public service delivery through the Citizen’s Charters². The charters were enacted as part of New Public Management reforms in the 1990s (Im, 2003). These charters outline the delivery standards one can expect from public service delivery, functioning as a contract between the government and its citizens (Clark, 2000; Im, 2003; Thomassen et al., 2014; Van de Walle, 2018). While charters have since disappeared in Western countries (Van de Walle, 2018), the Citizen’s Charters in Korea are still being updated and made publicly available. The charters also contain specific examples of how frontline workers would or should greet and respond to the contacts made by citizens.

2.6. Research design

This section aims to study how the attitudes conveyed in the voices of citizens affect the responsiveness of civil servants. Recent studies have started

² <https://www.law.go.kr/LSW/admRulLsInfoP.do?admRulSeq=10000096228> (last accessed on September 28, 2022)

to analyze the effect of emotions in citizen requests on responsiveness (e.g. Bae et al., 2023; Cai et al., 2023; Feng et al., 2023). However, incivility is distinct from other forms of emotions due to its directionality. Furthermore, not many studies have examined the linguistic features of response, despite the fact that responsiveness involves more than just promptness, as discussed earlier.

Using a novel dataset of actual texts of requests and responses exchanged between individual citizens and civil servants of local governments in Korea, this study investigates how discourteous voices are responded to. This level of analysis provides insights that would not be apparent in an aggregated-level of analysis, since discourteous manners between two individuals is very nuanced.

To understand the rationale for discourteous inquiries and responsiveness, semi-structured interviews were conducted with six officials working in local government across three provinces. These provinces encompass different levels of administrative division, including a metropolitan city, a city (Si), and a district (Gu). These interviews were conducted either in person or via phone and each lasted between 35 minutes to an hour. The interviewees were mainly lower-ranking officials with experience or current responsibilities in service provision across various areas such as traffic management, environmental affairs, and administration. Additional details and sample questions can be found in Appendix 12.

Data

A unique dataset of nearly one million online inquiries publicly made by citizens to local governments in Korea, between 2003 and 2021, is analyzed. The dataset was built by collecting public inquiries registered in the “Seol” system from every local government in Korea. This novel dataset contains not only the full text of inquiries, but also the responses made by the civil servant in charge. Moreover, the dataset also includes evaluation scores indicating how satisfied the inquirer was with the response. Leveraging the fact that every public institutions is required by law to respond to each inquiry within seven days, the responses and responsiveness of the government are analyzed.

The fact that the “Seol” system is only available in Korean³ may not be much of a problem, given Korea's high ethnic and cultural homogeneity (Kim, 2022) and the fact that Korean is the only official language of the Korean government. The “Seol” system was the major channel to which local government websites provided links when one searches for online inquiries. However, as local governments decided to unify the online channels to “e-People” in 2017, there has been a continuous decrease in the total number of inquiries the “Seol” system receives each year.

³ The “e-People” system provides services in 14 different languages as of 2022.

Inquiries that are repeatedly submitted more than three times are not subject to a response. Such cases are terminated by local governments by citing the name of the Act and the relevant article number⁴ in the response. Some responses refer to their previous responses by the response ID number. Because these cases are repeated and identical, conveying little new information, they are dropped from the dataset. Moreover, inquiries with an identical body of text and identical responses are also excluded from the dataset, as organized voices are likely to produce the same body of text in inquiries and responses. Lastly, inquiries and responses with empty texts are also omitted from the dataset. After the cleaning process, about 30% of the total number of 938,664 inquiries are dropped from the dataset.

Measures

Dependent variable: Responsiveness

Response time

Responsiveness is measured through two different components: promptness and quality. Response time is straightforward, as it refers to the time elapse between a request and the response. It is first measured in minutes, then converted into days. One advantage of the online system is that it accepts submissions 24/7, but the worker who processes and responds to inquiries

⁴ Civil Petitions Treatment Act Article 23

only works on weekdays. Therefore, the day of the week of submission is also taken into account as a control variable, as inquiries submitted on weekends have a disadvantage in response time.

99.3 percent of responses are made within 21 days, and responses that took longer than 60 days are dropped from the sample. The heads of local governments are required by law⁵ to oversee the procedures and operational status of responses at least once a month, and internal inspections are performed quarterly or semi-annually to rectify any misconduct. Due to the internal controls, responses that took longer than 60 days are more likely to be left out by mistake and answered later as the internal inspection points them out.

In addition to measuring response time in number of days, whether the respond was made on the due date is also utilized as a measure of responsiveness. According to the “Seol” system and the Civil Petitions Treatment Act, inquiries should be responded within *seven* days, and inquiries that require an explanation or interpretation of statutes should be responded to within 14 days. However, prior to 2016, Saturdays were also counted in the time period. The due dates of each inquiry are calculated by considering

⁵ Enforcement Decree of the Civil Petitions Treatment Act Article 22 (<https://law.go.kr/lInfoP.do?lsiSeq=181064&chrClsCd=010203&urlMode=engLsInfoR&viewCls=engLsInfoR#0000>) (last access on September 28, 2022)

the time of inquiry; an inquiry made outside working hours (after 6 PM) or on weekends are taken into account and adjusted accordingly.

Response quality

Response quality requires a more nuanced approach in its measurement.

The quality of response could be measured by how well the response actually alleviate the underlying problem. Although solving the actual problem is a critical part of responsiveness, its measurement is very complicated and may not be desirable. Being responsive to one request may mean being unresponsive to another, especially when the two requests are competing in opposite directions. Due to such unforeseeable and chaotic conflict of interests, analyzing responsiveness to how the government adopt to every single demand may introduce institutional context, and potentially bias responsiveness, as the government cannot possibly satisfy every single demands.

Instead, the quality of responsiveness is measured by the relational aspect of administrative language based on literature in the taxonomy of administrative language (Eckhard & Friedrich, 2022). The relational aspect encompasses the exhibition of emotional engagement and a sense of support and availability. Linguistic features that convey the *sense of support and availability* are utilized to measure linguistic quality, due to their ease of detection in language and the exemplary response style set by local government in the Korean context.

Local governments publish Citizen's Charters which outline the delivery standards citizens can expect when they encounter public service. Besides the guarantees to deliver services on time, the charters include example lines of how frontline workers would or should start and end conversations. Conversations are expected to be "handled kindly with a clear and cheerful voice"⁶, and should ask if the client has any further questions before ending the conversation with "thank you, have a nice day"⁷. Since many charters emphasize greetings at the start and end of conversations and asking if the client has further questions, these two criteria are used to measure response quality. The proportion of words related to being available for further questions in the responses is measured for the quality of responses.

The relational component of language is measured using the same technique as measuring incivility as introduced in the next section. Based on the exemplary response style shown in Citizen's Charters by local governments, words that contain similar meanings are classified. The sample of words can be found in Appendix 10.

⁶ <https://www.sd.go.kr/main/contents.do?key=1325> (last accessed on October 5, 2022)

⁷ <https://www.gwanak.go.kr/site/gwanak/04/10405010000002020120902.jsp> (last accessed on October 5, 2022)

Independent variable: incivility

Computerized text analysis

There are three main approaches for measuring verbal aggression—or sentiment in a broader context—inherent within a text, each with distinctive pros and cons: hand-annotating approaches, machine-learning approaches, and dictionary-based approaches. Traditionally, sentiment within a text is manually coded by annotators and a codebook. These trained annotators read through every text and judge them based on set criteria. This method is expensive, and even with extensive sessions of training, high levels of reliability are not always achieved (Weber et al., 2018; Van Atteveldt et al., 2021).

Compared to the hand-annotating approaches, machine-learning approaches and dictionary-based approaches are using computerized methods to automatically annotate text data. Machine-learning approaches or supervised learning involve hand-annotation of a subset of texts according to their level of sentiment and training an algorithm to predict the sentiment of unclassified texts (Osnabrugge et al., 2021). In contexts where appropriate training data are readily available, machine-learning approaches can be efficient and accurate (Rice & Zorn, 2021). However, when accurate training data in the same context are not available, the approach may introduce inefficiency and potential bias (Rice & Zorn 2021). Existing labeled datasets are typically built using informal and short texts such movie reviews and tweets

(Boukes et al., 2020). Consequently, machine-learning algorithms trained using these data types might yield less accurate results when they are applied to texts with different writing styles, including those that are formal, lengthier, encompass a wider variety of topics, or belong to different genres (Boukes et al., 2020).

Dictionary-based approaches are generally more transparent and easier to apply than that of machine-learning approaches. These approaches utilize a predefined dictionary of sentiment words and measure the frequency of word incidence to score each text (Rice & Zorn, 2021). As the dictionary-based approaches rely heavily on the quality and comprehensiveness of predefined dictionaries, the validity of the measure also depends on how accurately and extensively the dictionary captures the sentiment within a specific context (Grimmer & Stewart, 2013; Boukes et al., 2020; Rice & Zorn, 2021; Osnabrugge et al., 2021).

There is a proliferation of readily available off-the-shelf dictionaries; however, they are usually developed for and validated on a specific domain, and such performance does not traverse well across other domains (Van Atteveldt et al., 2021). As many words or jargon are specialized in certain domains and contexts, applying readily available dictionaries specific to other tasks and domains may lead to widely divergent results, especially since dictionary-based approaches depend on the number of relevant words in the

dictionary (González-Bailon & Paltoglou, 2015; Soroka et al., 2015; Young & Soroka, 2012; van Atteveldt et al., 2021).

Despite its shortcomings, a dictionary-based approach is adopted due to its advantages in transparency and cost since generating training data for supervised learning is very costly. To address the problem of the lack of a domain-specific dictionary in public administration, word-embedding techniques are used to identify context-specific words and build a customized dictionary (Gennaro & Ash, 2021; Rice & Zorn, 2021; Osnabrugge et al., 2021). A smaller yet customized dictionary is not inferior to large established dictionaries since the performance of dictionary-based approaches “depend[s] more on the relevant keywords in the dictionary than on the number of valence words as such” (Boukes et al., 2020).

Word embedding and building domain-specific dictionary

The domain-specific dictionary of incivility directed toward street-level bureaucrats is developed in several steps, with word embedding model at its core (Rheault et al., 2016; Rice & Zorn, 2021; Osnabrugge et al., 2021).

Based on the tendency that words with similar meanings are more likely to co-occur with the same neighboring words, word embedding transforms words and phrases into vectors where semantically related words are geometrically located in proximate vectors (Mikolov et al., 2013; Pennington et al., 2014; Li et al., 2021; Gennaro & Ash, 2022). The resulting word vectors

contain a myriad of linguistic information, such that simple operations on vectors provide semantically similar words or relationships between words (Rice & Zorn, 2021). For instance, the trained word embedding model shows that calculating a vector space of $\text{vec}(\text{동장}) + \text{vec}(\text{구청}) - \text{vec}(\text{구청장})$ results in a vector similar to that of $\text{vec}(\text{동사무소})$ ⁸.

The following processes are carefully taken to construct word vectors from the text of the voices of citizens. The process is delineated in Figure 1. First, the texts are preprocessed to replace specific words and characters which do not convey many meanings in the analysis with more generalized terms, including phone numbers, e-mail, web addresses, attachment file names, and addresses including detailed street names and building numbers. The texts are then checked for spelling errors⁹. The preprocessed texts are then tokenized¹⁰ to transform into their base forms (Rudkowsky et al., 2018). Also, since many words are usually collocated in phrases, two- and three-word phrases are detected¹¹ and concatenated to be treated as a single

⁸ ‘동사무소’ was the most similar word with the similarity score of 0.589. Other similar words include ‘읍사무소’, ‘주민센터’, ‘면사무소’, with similarity scores 0.569, 0.537, and 0.536 respectively.

⁹ An open-sourced Python package *py-hanspell* (version 1.1) is used. It utilizes spell checker developed by Naver. Available at <https://github.com/ssut/py-hanspell>.

¹⁰ An open-sourced Python package *konlpy* (version 0.6.0) is used. Available at <https://github.com/konlpy/konlpy>.

¹¹ An open-sourced Python package *gensim* (version 4.2.0) is used. Available at <https://github.com/RaRe-Technologies/gensim>. The *gensim* library is also used for training the word2vec model.

word (Li et al., 2021). Finally, the word vector is then trained¹² to develop an extended, context-specific dictionary to measure verbal aggressions. After training the model converts each of the 415,056 words in the corpus to a 300-dimensional vector.

The starting point of developing a domain-specific dictionary of verbal aggressions in the public sector is to find similar words (cosine similarity between two word vectors) to that of “civil servant”¹³. As expected, most similar words include “employee”, “street-level bureaucrat”, and “public officials”¹⁴. The actual names of civil servants that were not processed in the preprocessing steps were also found.

The focus of this step is to identify words that are interchangeable with or describe “civil servant” in a demeaning manner. For example, while the ninth most similar word, in terms of cosine similarity, to “civil servant” is “hard-working civil servant”, the next similar word turns out to be “첼밥통”¹⁵, a word which condemns an apathetic and careless manner of bureaucrats. Other words and phrases include “indolent”, “sit on one’s hands”, “his honor civil servant”, and “live on our taxes”¹⁶.

¹² The dimension of word vectors is set at 300. Two words are defined as neighbors if they are no further apart than five words in a sentence. Words that appear less than five times in the corpus are omitted. A skip-gram model is trained with 10 epochs.

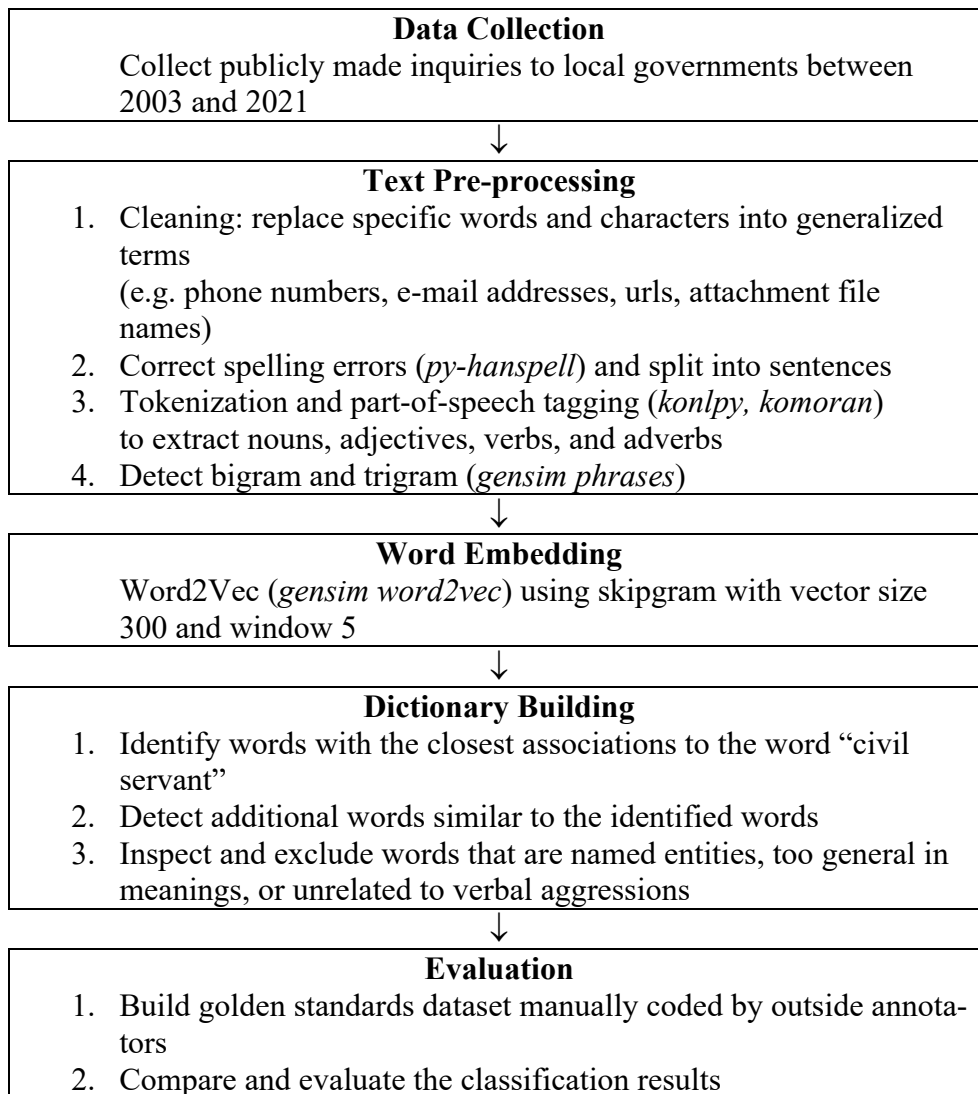
¹³ “공무원”

¹⁴ “직원,” “일선 공무원,” “공직자”

¹⁵ Literal translation “iron-clad rice container”

¹⁶ “나태하다”, “복지부동하다”, “공무원 나으리”, “세금 먹고 살다”

Figure 1 Data Processing Procedures



The top 300 words with the closest associations to the word “civil servant” are first selected as seed words. A short list of the resulting words can be found in Appendix 8. Another 300 words closer to each of the seed words are additionally identified. Finally, every identified word in the list is manually inspected and scrutinized to be included in the dictionary. Words

such as named entities that are not preprocessed, or too general in meanings, and words that are unrelated to verbal aggression are excluded. The context in which the word is used is taken into account when a word conveys multiple meanings and has different usages. For example, words and phrases such as “morals” are excluded while “moral hazards” or “lack of morals” are included. This procedure leads to a vocabulary of 4,097 uncivil words. A sample of randomly selected words are available in Appendix 9.

Applying dictionary

The incivility of each inquiry is computed by applying the customized dictionary to check whether a word in the dictionary is presented or not. Out of 671,481 observations being used in the model, about 29% of them are labeled as uncivil. The proportion of uncivil inquiries remains fairly constant across regions as shown in Table 2.

Table 2 Proportion of Uncivil Inquiries by Province

Province	Incivility (%)	
	Civil	Uncivil
Gwangwon-do	69.08	30.92
Gyeonggi-do	70.23	29.77
Gyeongsangnam-do	71.35	28.65
Gyeongsangbuk-do	71.86	28.14
Gwangju	74.4	25.6
Daegu	70.92	29.08
Daejeon	72.03	27.97
Busan	69.13	30.87
Seoul	71.41	28.59
Ulsan	72.08	27.92
Incheon	71.81	28.19
Jeollanam-do	71.6	28.4
Jeollabuk-do	69.49	30.51
Chungcheongnam-do	69.52	30.48
Chungcheongbuk-do	70.56	29.44
Total	70.55	29.45

Control variables

The characteristic of policy areas may have an impact on both the response time and quality. Since responses include the name of the respondent and the department they are affiliated with, it is possible to infer the related policy area related to the inquiries by the department name, without relying on computerized methods such as topic modeling. The Local Business Reference Model (LBRM)¹⁷ developed by the Ministry of Interior and Safety (MOIS), classifies every task carried out by municipal governments according to their functions, organizations, and objectives. A total of 51 policy

¹⁷ <https://www.data.go.kr/data/15062318/fileData.do> (last accessed on September 28, 2022)

areas are manually coded by referencing the name of the department and LBRM. More details can be found in Appendix 1.

The length of inquiry, measured by the number of words, may represent the complexity of the problem; longer inquiries might contain more detailed information and more sophisticated cases. Since the complexity of the request cannot be accurately assessed by external observers, the length of inquiry is used as a proxy. Furthermore, the presence of legal matters is also included as a proxy for the complexity of problem. This is determined by whether the response text contains following patterns: the word “조” or “항” followed by a number.

The characteristics of local governments are also taken into account to control for potential confounding factors. For instance, frontline workers in local governments with substantial job burdens may face higher job demands and inadequate job resources, affecting their level of effort. The number of inquiries received per employee each month and the resident population per employee are included as control variables to account for each worker’s workload. Other variables, such as expenditure per capita, the amount of local tax per capita, financial autonomy of local government, the proportion of residents dwelling in urban areas, and registered vehicles per capita are also considered. Since Korea is a highly ethnically and culturally homogeneous country (Kim, 2022), the racial composition is unlikely to significantly affect the responsiveness of local governments. Therefore,

controlling for the racial composition of neighborhoods would not be necessary in this analysis.

Table 3 Summary Statistics

Variable	N	Mean	SD	Median	Min	Max
Response time (days)	671481	5.43	3.72	5.41	0	59.99
Incivility	671481	0.29	0.46	0	0	1
Revision of CPTA	671481	0.22	0.41	0	0	1
Law-related	671481	0.06	0.23	0	0	1
Local tax per capita	671481	408.33	239.95	380	27	2288
Resident population per employee	671481	328.99	144.39	324.47	26.57	895.04
Number of inquiries per employee	671481	1.36	24.64	0.09	0	1089.47
Financial autonomy	671481	63.67	12.52	66.1	21.9	92.8
Sense of availability	671481	1.48	1.72	1	0	27
Phone number	671481	0.71	0.46	1	0	1
Length of inquiry	671481	123.09	119.32	94	1	4946
Length of response	671481	99.67	64.14	85	1	1489
On due date	671481	0.07	0.26	0	0	1
Satisfaction rating	55708	2.56	1.63	2	1	5

2.7. Results

Incivility and response time

Figure 2 Response Time (in days) by Year

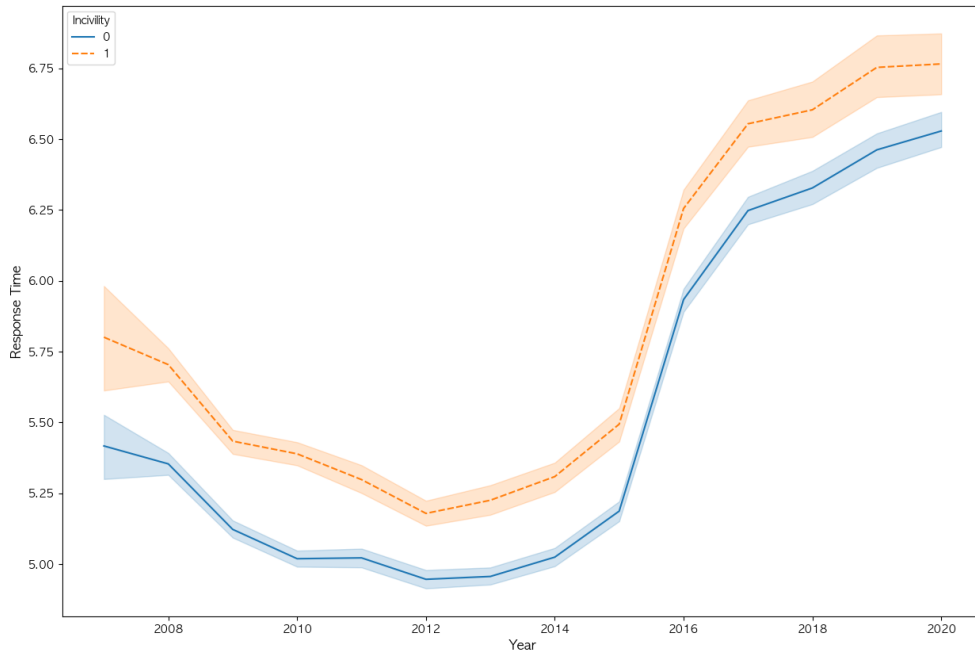


Figure 2 illustrates the average response time trend from 2007 to 2021, indicating that throughout the entire period, requests with discourteous language were responded to more slowly on average than those without such language. Notably, there was a sharp increase in response time in 2016, which coincides with the enactment of the revised Civil Petitions Treatment Act (CPTA) in February of that year. This revision excluded Saturdays from the count of the time period, which shifted the average response time by approximately a day.

As a next step in the analysis, three linear regression models with different specifications are used to examine the association between incivility and response time. Table 4 summarizes the main results. In all models, the standard errors are clustered at the respondent level.

Table 4 Incivility and Response Time

	(1)	(2)	(3)
Incivility	0.0519*** (0.0152)	0.0960*** (0.0130)	0.0960*** (0.0129)
Length of inquiry	0.00244*** (0.0000703)	0.00238*** (0.0000659)	0.00238*** (0.0000659)
Revision of CPTA	1.198*** (0.0368)	1.127*** (0.0750)	1.127*** (0.0750)
Law-related	0.260*** (0.0306)	0.167*** (0.0258)	0.167*** (0.0258)
Day of the week	Y	Y	Y
Year FE		Y	Y
Local government FE		Y	Y
Policy areas		Y	Y
Local tax per capita			-0.000242 (0.000282)
Resident population per employee			-0.000574 (0.000388)
Number of inquiries per employee			-0.000621+ (0.000342)
Financial autonomy			-0.00202 (0.00338)
Constant	4.711*** (0.0250)	0.688 (0.577)	1.026+ (0.624)
N	671481	671481	671481
adj. R-sq	0.036	0.086	0.086

Note: Standard errors, clustered by respondent, in parentheses;
+ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001;

Model 1 is a baseline model, which includes the explanatory variables, capturing incivility in citizen voices. The basic control variables include a dummy variable indicating the revision of CPTA and whether the

inquiry contains legal matters. Another dummy variable indicating the day of the week is also included in the model because inquiries are only processed on weekdays; the day of the week of a submission is made affects response time. The length of an inquiry is also included because longer inquiries would contain more detailed information and the problem may be more sophisticated. As a result, both incivility and the length of inquiry are positively associated with response time by civil servants.

Model 2 involves additional fixed effects including year, local government, and policy areas. The local government-specific fixed effect corrects for time-constant heterogeneity among local governments. The model shows that the longer response time of uncivil inquiries is not the result of different local government characteristics. One might argue that some policy areas are more demanding and time consuming than others. If it takes more time to deal with difficult problems, then the policy area, will be driving up the response time. The result shows otherwise. Model 3 includes control variables that may depict the administrative burden and urban characteristics of local governments. And yet, the relationship between incivility and response time still holds.

Another possible mechanism that affects the association in-between would be a repeated relationship between the citizen and the civil servant. One of the strategies which civil servants employ is to hold off the response as long as possible so that the undesirable inquiries do not repeat as

frequently (Interviewee A, May 24, 2023). If an inquiry is a follow-up to a previous inquiry, such characteristics in inquiries may affect the response time, obscuring the relationship.

Table 5 Incivility and Response Time (Follow-up inquiries only)

	(1)	(2)	(3)
Incivility	0.245+ (0.138)	0.244+ (0.138)	0.242+ (0.138)
Length of inquiry	0.00395*** (0.000737)	0.00374*** (0.000756)	0.00374*** (0.000752)
Law-related	0.484* (0.232)	0.368 (0.241)	0.367 (0.240)
Day of the week	Y	Y	Y
Year FE	Y	Y	Y
Local government FE	Y	Y	Y
Policy areas		Y	Y
Controls			Y
Constant	5.348*** (0.971)	4.712*** (1.056)	5.061+ (2.866)
N	5020	5020	5020
adj. R-sq	0.091	0.107	0.106

Note: Standard errors, clustered by respondent, in parentheses. Controls include local government-level variables including local tax per capita, resident population per employee, number of inquiries per employee, and financial autonomy.

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Therefore, a subsample only including follow-up inquiries is made and analyzed. In 2016, along with the revision of the Act, the “Seol” system was updated so that those who submit their inquiries can indicate whether the inquiry is a follow-up to a previous inquiry and refer to the past inquiry via hyperlink. A subsample which only includes the inquiries with this indication may only contain inquiries with similar characteristics. The same

model is employed for the subsamples, and Table 5 summarizes the results. The results show that the relationship between incivility and response time still holds in the subsample.

Overall, regardless of the measurement strategy or statistical specification, the models confirm the expectations, namely that uncivil voices are more likely to be responded to more slowly.

Responses at the last minute

Civil servants may strategically choose to deliver the desired service on the very last day to hinder frequent contact from the client without delivery failures. Adaptation of such a coping mechanism is a result of considering the encounters as repeated contacts instead of single encounters. Table 6 shows the results with same models but with split samples, one before and on the deadline, and the other after the deadline.

The result shows that before and on the day of its due date, the relationship and coefficients are very similar to the model with full samples. However, for the ones past due, the coefficients have the opposite signs, showing the tendency that uncivil inquiries are not long forgotten but responded to within the anticipated time range. Because workers foresee from their experience that those who raise their voices in a discourteous way are more likely to initiate another contact, they abide by the law (Tummers et al., 2015) and strictly follow the due date.

Table 7 summarizes the results from logistic regression models. The dataset for logistic regression only contains inquiries that do not require law-related interpretations. Responses past the deadline are also dropped to show the tendency between those inquiries which are responded to before the deadline. The results show that the likelihood of inquiries with discourteous language being responded to on the deadline is higher than that of more civil inquiries.

Table 6 Incivility and Response Time (Before and After the Due Date)

	Before day 7		Past day 7	
	(1)	(2)	(3)	(4)
Incivility	0.0876*** (0.0112)	0.0978*** (0.00973)	-0.170* (0.0680)	-0.121+ (0.0654)
Length of inquiry	0.00200*** (0.0000541)	0.00192*** (0.0000518)	0.000137 (0.000242)	0.000211 (0.000234)
Revision of CPTA	0.583*** (0.0688)	0.598*** (0.0620)	-1.267** (0.447)	-1.155* (0.483)
Day of the week	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Local gov. FE		Y		Y
Policy areas	Y	Y	Y	Y
Controls		Y		Y
Constant	2.044*** (0.593)	1.486* (0.625)	26.56*** (7.267)	25.81*** (7.159)
N	579288	579288	53885	53885
adj. R-sq	0.058	0.102	0.042	0.079

Note: Standard errors, clustered by respondent, in parentheses. Controls include local government-level variables including local tax per capita, resident population per employee, number of inquiries per employee, and financial autonomy.

+ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001

Table 7 Incivility and Response on the Due Date

	(1)	(2)
Incivility	0.0596*** (0.0134)	0.0542*** (0.0141)
Length of inquiry	0.00105*** (0.0000518)	0.00102*** (0.0000530)
Revision of CPTA	2.504*** (0.163)	2.515*** (0.165)
Day of the week	Y	Y
Year FE	Y	Y
Local government FE	Y	Y
Policy areas	Y	Y
Controls		Y
Constant	-2.385*** (0.692)	-2.650*** (0.740)
N	637721	574631

Note: Standard errors, clustered by respondent, in parentheses. Controls include local government-level variables including local tax per capita, resident population per employee, number of inquiries per employee, and financial autonomy. Logistic regression with dependent variable: whether the response was made on the due date.

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Incivility and response quality

In addition to response time, the quality of responses may also be affected by uncivil behavior from clients. While it may be difficult to quantify whether those who use uncivil language receive the desired service, it is possible to measure whether a response meets the service standards outlined in published citizen charters and conveys a sense of availability. Similar to the job demands required to process uncivil inquiries on time, responding to uncivil inquiries in a courteous manner may also require emotional labor from workers. However, while response time is measured and managed by

supervisors as required by law, the quality of responses, such as compliance with guidelines, is not as strictly managed, if at all.

The results are presented in Table 8 and Table 9, which demonstrate the quality of responses in terms of providing sense of availability (Eckhard & Friedrich, 2022). Results in Table 8 show a consistent pattern: requests that contain uncivil language tend to receive lower levels of relational component of languages compared to more civil requests.

In addition to the use of relational language, the sense of availability can also be demonstrated by providing a phone number for clients to call. Even when the response quality is measured by the inclusion of a phone number in the response, the relationship between the use of uncivil language and responsiveness in terms of response quality remains consistent. The results present in Table 9 shows similar patterns to the results in Table 8, as they measure the similar use of relational language.

Table 8 Incivility and Response Quality (Sense of Availability)

	(1)	(2)
Incivility	-0.0495*** (0.00869)	-0.0528*** (0.00667)
Length of inquiry	-0.000547*** (0.0000308)	-0.000439*** (0.0000278)
Length of response	0.00723*** (0.000126)	0.00647*** (0.000115)
Revision of CPTA	0.114* (0.0450)	0.0957* (0.0425)
Law-related	-0.422*** (0.0210)	-0.370*** (0.0184)
Day of the week	Y	Y
Year FE	Y	Y
Local government FE		Y
Policy areas	Y	Y
Controls		
Constant	-0.202 (0.260)	-0.0483 (0.265)
N	671481	671481
adj. R-sq	0.126	0.198

Note: Standard errors, clustered by respondent, in parentheses. Controls include local government-level variables including local tax per capita, resident population per employee, number of inquiries per employee, and financial autonomy.

+ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001

Table 9 Incivility and Response Quality (Sense of Availability - Phone number)

	(1)	(2)	(3)
Incivility	-0.146*** (0.0106)	-0.144*** (0.0107)	-0.142*** (0.0107)
Length of inquiry	-0.000431*** (0.0000381)	-0.000366*** (0.0000380)	-0.000365*** (0.0000378)
Revision of CPTA	0.202** (0.0654)	0.183** (0.0657)	0.184** (0.0657)
Law-related	0.0525 (0.0320)	0.0838** (0.0311)	0.0852** (0.0308)
Day of the week	Y	Y	Y
Year FE	Y	Y	Y
Local government FE	Y	Y	Y
Policy areas		Y	Y
Controls			Y
Constant	-0.151 (0.462)	2.462** (0.910)	3.277*** (0.955)
N	671425	671425	671425

Note: Standard errors, clustered by respondent, in parentheses. Logistic regression with dependent variable is whether the response provides phone numbers. Controls include local government-level variables including local tax per capita, resident population per employee, number of inquiries per employee, and financial autonomy.
+ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001

2.8. Discussions

All citizens have the right to request for public services and are entitled to correspondence. As the sole provider of the services citizens seek, local governments should be accountable for their responsiveness to each and every citizen requests and treat equally regardless of individual characteristics. However, the issue of responsiveness behind the results is beyond

ensuring fairness—it also raises questions about the extent to which society is willing to tolerate the violations of mutual respect.

The results consistently show that incivility hinders the responsiveness of workers in terms of promptness and response quality, specifically in the use of relational languages. Requests with discourteous manners tend to be responded just in time, on the brink of being considered late. The results demonstrate that the effect of discourteous voices on responsiveness is significant but not substantial, with a slight delay of only a few hours as evidenced by the coefficients of incivility in the models. As modern bureaucracy is officially dedicated to equal treatment, patterns of prejudice become very subtle (Lipsky, 2010). Furthermore, the results could be attributed to the various strategies frontline workers adopt to handle such cases, as well as the Korean context where the number of days to respond by is specified by law.

Adherence to rules and set procedures

Set procedures, such as the number of days specified by the law, serve the purpose of ensuring regularity, accountability, and fairness. By establishing a specific timeframe within which clients can expect a response, these procedures create predictability and promote client confidence. As bureaucracies may not always prioritize reducing delays (Lipsky, 2010), the prescribed number of days acts as a form of bureaucratic control, ensuring a

fair exercise of discretion for street-level bureaucrats when dealing with citizen-initiated contacts.

Despite the original intentions behind the established timeframe, these now set routines serve as a legitimate excuse for inflexibility, as the principle of fairness in a narrow sense necessitates equal treatment. The increase in response time by a single day following the revision of the law indicates the tendency of workers to adhere to the rules. The timeframe effectively shields workers from having to contend with the complex human dimensions of individual situations. In addition, street-level bureaucrats are able to distance themselves from perceived responsibility for outcomes thanks to the imposed limitations on the extent of their discretion (Lipsky, 2010). Strict adherence to rules and reluctant to make exceptions, even when circumstances might warrant them, serve as protective measures for workers.

To meet the expectations of clients, ironically, workers adhere to the standard processing time. Clients on the receiving end may compare the processing time between workers and put pressure on those who are less prompt (Interviewee B and C, May 26, 2023). Additionally, when handling multiple cases involving the same individual, they attempt to close the cases simultaneously to avoid further contact from the client requesting the processing of the remaining cases (Interviewee B, May 26, 2023).

Indeed, most civil servants interviewed do not feel constrained by the seven-day deadline for response; instead, they feel more secured within the timeframe. This timeframe grants them to have more control over their workflow, as they can choose when to respond rather than feeling rushed by clients to prioritize their requests (Interviewee A, May 24, 2023). This miniscule discretion in managing their workflow is favorable by workers. The interviewees emphasized the importance of *protection* as they constantly face pressure from clients who want their cases to be processed first. By stating that the case is *in process*, workers can provide excuses to manage these pressures and set appropriate expectations (Interviewee B, May 26, 2023).

The established timeframe also serves as a reference point for managers to monitor the work practices frontline workers. Workers are aware that any indication of not working at full capacity will result in additional assignments, as there is always more work to be done. Therefore, there is no incentive to complete tasks promptly, as any time saved through efficiency will be allocated to other assignments. In fact, some workers express concerns that their managers might view them as having too much free time if they process requests immediately (Interviewee D, May 28, 2023).

Effective use of resources

The aforementioned rationalizations not only protect workers from client pressures, but also shield them from acknowledging their own deficiencies (Lipsky, 2010). Such assertions can be a strategic means to deflect clients' claims, while also stemming from a genuine distress caused by "the gap between expectations and perceived capability." (Lipsky, 2010, p.149). Prioritizing services for deserving clients allows workers to believe that they are effectively utilizing their use of limited resources.

At times, it can be counterproductive for street-level bureaucrats to be more responsive. Routines may be distorted in order to minimize contact or limit the provision of services (Lipsky, 2010). Some workers strategically choose to deliver responses on the very last day to meet their accountability for timely delivery and deter uncivil clients from making too frequent contacts. They knowing that individuals who make requests in discourteous manners tend to make a sequence of contacts due to their lack of trust in how workers handle cases. To manage this, some workers hold off on responding until the last minute (Interviewee A, May 24, 2023). One interviewee mentioned that their manager advised them to hold on to the cases longer with the same reason (Interviewee D, May 28, 2023).

Being prompt in responding to requests can be seen as a way to prioritize certain clients by allocating more time and energy to them (Jilke &

Tummers, 2018). Street-level bureaucrats have the ability to reward and punish clients by expediting or delaying services, and as well as by demonstrating their commitment to problem-solving. Even without any underlying intentions, workers may “find greater gratification in interacting with some clients than with others and have opportunities to act on these preferences” (Lipsky, 2010, p.108). The findings suggest that workers are more willing to assist individuals who approach them with a civil and courteous attitude. In their interactions with polite clients, workers may strive to be helpful and provide guidance on alternative ways to address underlying issues. However, when dealing with discourteous clients, their approach is more focused on providing literal answers to questions and fulfilling specific requests (Interviewee B and C, May 26, 2023; Interviewee E, May 28, 2023). One interviewee shared a similar instance where “if a worker is angered by a client’s constant phone calls [they] might just put this case file at the bottom of his pile of applications, effectively punishing the client for her persistence” (Sandfort, 2000, p.737).

Psychological strains

Street-level bureaucrats often resort to sanctions when clients deviate from acceptable standards of behavior (Lipsky, 2010). Such sanctions and their affinity to adherence to rules and set procedures is one of the outcomes of the psychological strain inherent in the working environment of frontline

workers. They constantly face the challenge of balancing competing values in their work within a paradoxical reality.

Furthermore, the psychological strain experienced by these workers can also stem from the physical threat posed by frustrated clients. Workers may “face physical and psychological threats when they leave the safety of the office or service headquarters” (Lipsky, 2010, p.120). In fact, some frontline workers have concerns about angry clients who may visit their office with the intention to cause harm. Since their name, workplace, and office phone numbers are shared in their responses, individuals with malicious intentions can easily identify and locate them. As a result, some “try to maintain a respectful and courteous demeanor out of fear [for their personal safety]” [translated into English] (Interviewee B and C, May 26, 2023).

Workers may suffer from emotional hardships as they confront the gap between their expectations and the realities of the public service environment. While workers perceive their task as providing services to address the needs and concerns of citizens, they often face challenges and constraints that hinder their ability to fulfill these expectations. Every interviewee reported that they suffer from emotional hardships almost every day. While they consider their task as providing services to address the *inconveniences* citizens face, they frequently find themselves grappling with the *frustrations and grievances* expressed by citizens (Interviewee E, May 28, 2023). They acknowledge that frontline work inherently involves emotional

labor. However, frontline workers face challenges in managing the ever-increasing volume of citizen contacts without receiving additional organizational resources and support, which lead to demoralization. Without addressing the underlying cause, the current public service system may struggle to sustain or provide satisfactory services to citizens.

There may be concerns about the low R-squared values of the models, as they may limit the practical implications that can be drawn from the findings. If the model cannot fully delineate the variance, efforts to reduce the level of incivility may be impractical. However, it should be noted that the aim of this study is not to blame civil servants for unfair treatment of certain requests, nor to nudge them to respond more promptly overall. In fact, the majority of requests are being responded to on time. The focus should rather be on the underlying efforts by civil servants to fulfill their responsibilities despite the increase in required emotional labor due to discourteous behaviors. The subtle difference in “attitudes” conveyed in requests may not explain the variance of responsiveness much, but it is present. Beyond the actual numbers, the results show that there is a difference in how civil servants perceive requests with different manners, and this subtle difference hints emotional hardships that civil servants may go through.

Although the results from the set of models suggest a relationship between discourteous manners embedded in requests and responsiveness, there are several limitations to this study. First, the data is a novel dataset of

actual texts of requests and responses between individual citizens and civil servants which represents a form of person-to-person interaction, but not face-to-face. It is a screen-to-screen interaction between those who have access to the internet and are tech-savvy enough to visit local government websites to make online requests. Even though most people have access to internet in Korea (Ramirez, 2017), there are still a large number of people who prefer other channels.

It should also be noted that these interactions are made in public, rather than private. Both the individuals who make requests and the individuals who respond are aware that other people are able to observe how the interaction unfolds. When interactions are public, the field experiment by Epstein et al. (2021) has shown that local governments tend to respond faster on Twitter than they do with private interactions, such as emails. The perception of being open to public may induce workers to respond more quickly; however, since the number of days to respond is written into law, the difference in response time may be minimal.

3. Responses and Satisfaction: how responses are perceived

Many problems faced by the state are closely intertwined with the deteriorating relationship between civil servants and citizens. As the gap widens between the state and its citizens, collective efforts to address societal issues become increasingly futile, leading to a growing reluctance to participate in political activities (Erber & Lau, 1990; Neo et al., 2023). This, in turn, triggers a vicious cycle marked by a deficit in trust in government and a diminishing reputation for public institutions.

As the primary objective of public service provision is to meet the needs of the people and improve their well-being, it is crucial to examine the citizen-side of the public encounters, especially at interpersonal levels. While scholars have examined the behaviors of citizens during citizen-government encounters, relatively little attention has been given to citizen-side of the episodic interactions (de Boer, 2020). Whereas the previous section mostly focused on the linguistic qualities of citizen inquiries on bureaucratic responsiveness, this section focuses on the timeliness and linguistic qualities of responses by civil servants and their effect on citizen satisfaction.

3.1. Citizen-side of service provision and satisfaction

The experience and perception citizens form during citizen-government encounters are consequential in their assessment of the legitimacy and authority of the government (Hansen, 2022; Eckhard & Friedrich, 2022). Government responsiveness is, according to Ostrom (1975, p.275) “the capacity to satisfy the preferences of citizens.” A responsive government is more likely to fulfill individual and advocate group interests, which in turn earn more favorable attitudes towards government performance (Nie & Wang, 2022).

In the eyes of citizens, the actions and inactions of a single frontline worker can be seen as representative of the entire government. Unlike elected officials, street-level bureaucrats have more direct and frequent interactions with citizens on a day-to-day basis (Lipsky, 2010). These encounters shape citizens’ attitudes and perceptions of the government, and ultimately, contribute to their overall satisfaction with public services and trust in the government (Glaser & Denhardt, 2000; Halvorsen, 2003; Yang & Holzer, 2006; Nie & Wang, 2022). Such encounters do not necessarily be repetitive; even a single encounter may shape attitude not only towards the individual behind the counter but also towards the entire administrative and political institution (Hansen, 2022).

Besides actual encounters, citizens may form their attitudes towards the government based on their prior expectations derived from multiple

sources. These expectations are established by benchmarking a target or establishing an ideal state. One may compare the performance of peer organizations (Olsen, 2017), or consider public perceptions of the government. As the perceptions align with the expectations, citizens tend to feel more positively about the government (Bonito, 2004; Hall, 2012; Neo et al., 2023).

What do citizens look for during their brief encounters, and how do citizens expect their counterparts to behave? As it is not always possible for workers to provide exactly what a client asks for—being responsive to one client may result in being unresponsive to another—the outcome is only a part of the overall experience of an encounter, which shapes the perception of the government and its performance. According to a recent study by Neo et al. (2023), the most frequently mentioned values that citizens expect from their public encounters are serviceability, responsiveness, and dedication. Citizens seek counterparts who empathize with the situation they are in, are willing to help, and treat them with kindness and friendliness (Neo et al., 2023). These expectations citizens have on civil servants and service providers underlie their interactions with civil servants and influence their attitudes and satisfaction with the government (van Ryzin, 2015; Neo et al., 2023).

The perceived government performance is shaped by the overall experience of the encounter, as well as the outcome. The communication style of street-level bureaucrats with citizens also plays a crucial role in shaping

their experience. Citizens are more likely to be satisfied with government performance when local governments respond to demands with action and explanation, while referral responses have a negative effect on citizen satisfaction (Nie & Wang, 2022). This is where perceptions of the competence and warmth of street-level bureaucrats intersect.

3.2. Warmth and competence: emotional and linguistic qualities

Warmth and competence are the two fundamental dimensions that shape individuals' impressions of others, according to studies in social psychology (Fiske et al., 2007), and “are considered strong predictors for subsequent attitudes and behavior” (Hansen, 2022, p.940). As the names of each dimension suggest, the warmth dimension captures “traits that are related to perceived intent, including friendliness, helpfulness, sincerity, trustworthiness and morality, whereas the competence dimension reflects traits that are related to perceived ability, including intelligence, skill, creativity and efficacy” (Fiske et al., 2007, p.77). These dimensions are important in explaining how public encounters shape trust in government (Hansen, 2022), and in steering public organizations to more favorable positions (de Boer, 2020).

Warmth and competence of an individual may shape their impressions of counterparts through two interconnected mechanisms: emotional and linguistic exchanges. Emotional contagion is “the tendency to

automatically mimic and synchronize facial expressions, vocalizations, postures, and movements with those of another person and, consequently, to coverage emotionally” (Hatfield et al., 1992, pp.153-4; Petrovsky et al., 2023). This process involves facial and body expressions, as well as tone of voice (Wangenheim et al., 2007). Given that public encounters occur between *individual* citizens and civil servants, this “mirroring” (e.g. Burgoon et al., 1995; Petrovsky et al., 2023) may take place during these interactions. A recent study by Petrovsky et al. (2023) reveals that the psychological well-being as well as job performance of service providers influence citizen satisfaction. The long-established perception that happy employees make happy customers holds true in the business sector (Heskett et al., 1997; Garlick, 2010) as well as in the public sector (Petrovsky et al., 2023).

The linguistic quality of language exchanged between a citizen and a civil servant during encounter is also consequential for citizen’s perception. In any human communication, conversations are encoded in informational and relational components (Eckhard & Friedrich, 2022). These two components are similar to the two dimensions—warmth and competent—that shape individuals’ impressions of others. Using simple and understandable language and being transparent about the motivations and intentions behind administrative processes are associated with the informational component of administrative language, while exhibiting emotional engagement and sense

of support and availability are associated the relational component (Eckhard & Friedrich, 2022).

These dimensions of social cognition (warmth and competence) and administrative language (informational and relational) reveal that administrative practices, which emphasize the competence of government with informational languages in citizen relationships, have their limitations. The power dynamics in bureaucratic encounters often result in individual citizens being in a naturally inferior position to civil servants, as the civil servants represent government authority and have the power to decide whether to provide the services that citizens seek to obtain. According to the survey experiment conducted by Eckhard and Friedrich (2022), communication styles in administration that emphasize the relational component and convey a sense of availability have a significant effect on citizen satisfaction, while those emphasizing the informational component do not. A number of studies also have pointed out the significance of emotional engagement by bureaucrats in shaping citizens' perceptions of service quality (Hsieh, 2014; Eckhard & Friedrich, 2022).

3.3. Complexity of satisfaction

Satisfaction is a multifaceted phenomenon. Reported levels of satisfaction are not just the direct reflection of experienced service quality; prior

attitudes towards the institutions, previous or indirect experiences, and expectations of services all construct the complex nature of satisfaction (Van de Walle, 2018; Van Ryzin, 2004; Zhang et al., 2022). Therefore, the subjective assessment of public services does not solely reflect the performance and quality of the service, as shown by the expectancy-disconfirmation model (Van Ryzin, 2004, 2013; Van de Walle, 2018). For instance, individuals with high expectations for a service, which may result from high normative standards or past satisfied experience, are less likely to be satisfied upon receiving an identical service than those with lower expectations. To leave the individual satisfied with the encounter, the performance and services provided must also be of a proportionally high standard (Petrovsky et al., 2023).

Uncivil behaviors exhibited by clients may be attributed to their previous experiences with public service or low expectations of the services they anticipate. While the surfaced uncivil behavior may not reflect the expected level of service, it may still indicate the individual's prior attitude towards public services. Those with neglected voices, despite the coping mechanisms employed by frontline workers, may not necessarily overcome their low expectations and therefore, experience low levels of satisfaction. However, individuals who have their voices heard and receive proper attention are more likely to report higher levels of satisfaction.

Besides the cognitive and linguistic aspects of citizen-government encounters, the service decision—whether to provide the requested services or not—is a quintessential factor in determining citizen satisfaction. However, contrary to intuition, the survey experiment by Eckhard and Friedrich (2022) shows that the effect of communication styles is independent of the outcome of service decisions. That is, while the service decisions do have an impact on citizen satisfaction, the emotional engagement and support conveyed in the response also influence the level of satisfaction, regardless of the service decision. Even if a citizen’s request is rejected, they may still be satisfied with the encounter if they understand the reasons behind the decision and the civil servant they interacted with seems approachable, willing to assist, and available. This aligns with how citizens care as much about “the process of their interactions with the state as they do about the outcome” (Moynihan et al., 2015, p.47; see also, Hansen, 2022). Moreover, according to the experiment, citizens who received highly relational and informational communication and had their service request denied reported higher levels of satisfaction than those who received less pronounced communication and had their request approved (Eckhard & Friedrich, 2022).

It is neither possible nor appropriate for civil servants to provide adequate level of services based on the level of expectations of their counterparts. Being prompt in responding to one’s request meets their expectations and signifies the performance and competence of the counterpart. Thus,

while taking the level of expectation into account, *citizen satisfaction is higher when the response is made more promptly*. Furthermore, individuals form impressions of others based on warmth and a sense of support. Even in the form of text on a screen, the use of relational language can shape the satisfaction of the service. Therefore, *citizen satisfaction would be higher when the response contains highly relational language*.

3.4. Research design

Previous literature mostly has relied on recollections of past encounters, or factorial survey experiments (Eckhard & Friedrich, 2022). And thus far, citizen satisfaction with individual interactions have not been analyzed, mostly due to the limitations in data availability. While Nie and Wang (2022) utilized individual government responses from an online petition platform of local governments in China, the level of citizen satisfaction was based on survey data from different sources, aggregated at the local government level. Analyzing citizen satisfaction at the individual level allows for a more nuanced understanding of the factors that influence satisfaction, including the linguistic qualities of government responses. This type of analysis provides insights that would not be apparent at an aggregated level and may lead to more practical implications.

Building on the analysis from the previous section, this section utilizes the same dataset and examines the citizen satisfaction with individual encounters based on the response they received. The depended variable, satisfaction ratings on how satisfied citizens are on the response to their requests, are measured on a 5-point Likert scale, 5 indicating high satisfaction. Out of 671,481 observations used in the analysis, only about 8% of responses are evaluated by the client. Table 10 shows that most of the responses are rated 1 as expected, and the proportion of uncivil inquiries drops as the satisfaction rating increases from 1 to 5.

The regression models take into account the presence of verbal aggression towards workers in the initial inquiry, as a way to account for prior attitudes toward bureaucratic encounters, in line with the expectancy-disconfirmation model. Additionally, other variables are included to capture the nature of the inquiry, such as the policy area, length of the inquiry, and whether the inquiry pertains to legal matters. The complexity of the requested service cannot be accurately assessed by external observers. Therefore, in order to approximate the complexity, the length of the inquiry and the presence of legal matters are used as proxies. The models also incorporate year and local government level fixed effects.

Table 10 Satisfaction Ratings by Incivility

Satisfaction Ratings	Incivility		
	Civil	Uncivil	Total
1	14,883	9,652	24,535
2	4,096	1,872	5,968
3	4,019	1,641	5,660
4	5,895	1,729	7,624
5	9,622	1,971	11,593
Total	38,515	16,865	55,380

Due to the limitation of the dataset, personal characteristics such as gender, age, and education level cannot be taken into account in the analysis models. However, given the nature screen-to-screen interactions, workers do not have full knowledge of the personal characteristics of their counterparts, which may limit their ability to tailor their responses accordingly. Therefore, it is unlikely that personal characteristics have a significant influence on the quality and promptness of responses received by clients.

The revision of CPTA is utilized as an instrumental variable to address potential endogeneity problem regarding response time. As discussed earlier, clients' prior attitudes towards civil servants and the government may affect response time and subsequently, their satisfaction ratings. Although the presence of incivility in an inquiry is accounted for, other unobserved confounding variables may still exist. The revision of CPTA, especially the exclusion of Saturdays in counting the time period, was an independent event that affected all workers throughout the local governments, thus serving as a suitable instrumental variable. Exploiting such an

exogenous event and employing this variable in a two-stage least squares (2SLS) analysis may help minimize any biases introduced by potential endogeneity concerns.

Table 11 Summary Statistics

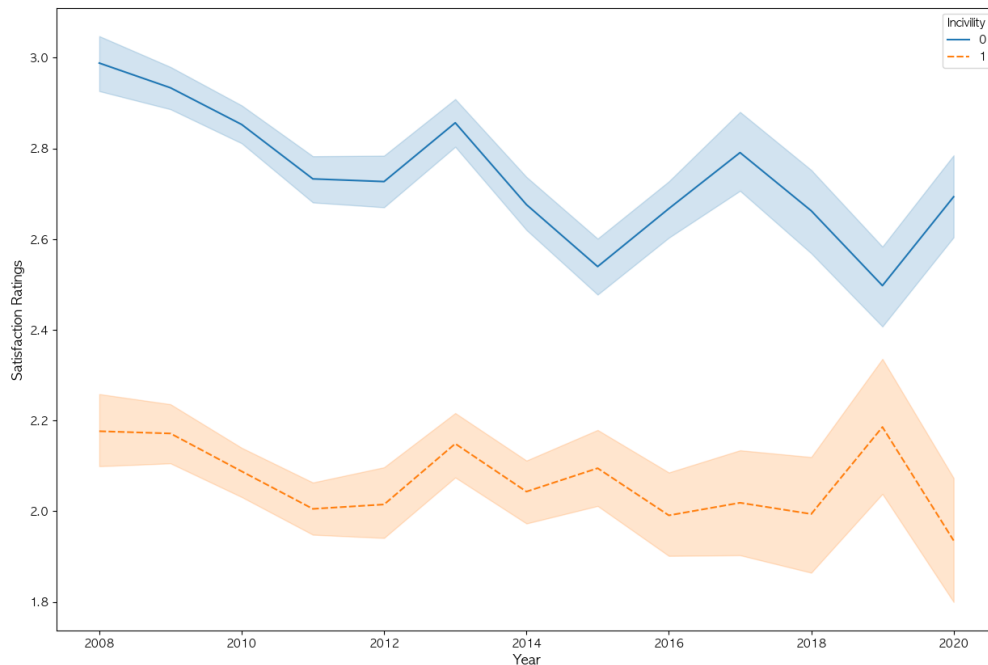
Variable	N	Mean	SD	Median	Min	Max
Response time (days)	55708	5.55	3.43	5.82	0	59.87
Incivility	55708	0.3	0.46	0	0	1
Revision of CPTA	55708	0.21	0.41	0	0	1
Law-related	55708	0.07	0.25	0	0	1
Local tax per capita	55708	418.13	235.69	393	27	2288
Resident population per employee	55708	331.2	136.88	342.91	27.67	895.04
Number of inquiries per employee	55708	2.05	34.12	0.1	0	1089.47
Financial autonomy	55708	64.05	12.13	66.4	21.9	91.8
Sense of availability	55708	1.58	2.08	0.81	0	20.69
Phone number	55708	0.68	0.47	1	0	1
Length of inquiry	55708	139.89	166.1	102	1	4946
Length of response	55708	101.61	65.69	86	1	1008
Satisfaction rating	55708	2.56	1.63	2	1	5

To further understand the reasoning behind responsiveness and citizen satisfaction, semi-structured interviews are conducted with six officials working in local government across three provinces, representing different levels of administrative division including a metropolitan city, a city (Si), and a district (Gu). These interviews, which lasted from 35 minutes to an hour, were conducted either in-person or via phone. The officials interviewed were primarily in lower-ranking positions and either had prior experience or were currently engaged in service provision in various areas such

as traffic management, environmental affairs, and administration. Sample questions and more details can be found in Appendix 12.

3.5. Results

Figure 3 Average Satisfaction Ratings Over Time



As shown in Figure 3, individuals who exhibited uncivil behavior also rated the responses significantly lower in satisfaction on average, compared to those who displayed courteous manner in their inquiries. This discrepancy in satisfaction may be attributed to not only differences in the quality of service received but also to prior expectations of the service (Van Ryzin, 2004). Although the level of incivility does not directly capture the expected

level of service, it can be an indicator of the prior attitude one has towards public service. To account for the prior satisfactory state of uncivil inquiries, regression models with different specifications are examined. The results are summarized in Table 12.

Table 12 Citizen Satisfaction and Response Time

	(1) Satisfaction	(2) Satisfaction	First Stage Response time	Second Stage Satisfaction
Response time	-0.0524*** (0.00220)	-0.0523*** (0.00220)		-0.178+ (0.105)
Revision of CPTA	-0.133 (0.108)	-0.131 (0.108)	1.059*** (0.190)	
Incivility	-0.615*** (0.0151)	-0.614*** (0.0151)	0.150*** (0.0325)	-0.595*** (0.0221)
Length of inquiry	-0.000652*** (0.0000455)	-0.000654*** (0.0000455)	0.00117*** (0.000107)	-0.000506*** (0.000130)
Length of response	-0.00109*** (0.000105)	-0.00109*** (0.000105)	0.00461*** (0.000238)	-0.000506 (0.000496)
Law-related	-0.266*** (0.0252)	-0.266*** (0.0252)	-0.0488 (0.0549)	-0.272*** (0.0266)
Day of the week	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Local gov. FE		Y	Y	Y
Policy areas	Y	Y	Y	Y
Controls		Y	Y	Y
Constant	4.942*** (0.482)	5.321*** (0.512)	8.308+ (4.457)	4.022*** (0.307)
N	55708	55708	55708	55708
adj. R-sq	0.120	0.120	0.094	0.057

Note: Robust standard errors, in parentheses. This table includes the results of 2SLS regression. First stage robust F-score is 31.0366. Controls include local government-level variables including local tax per capita, resident population per employee, number of inquiries per employee, and financial autonomy.

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$;

Table 13 Citizen Satisfaction and Response Quality

	(1)	(2)	(3)	(4)
Sense of Availability	0.237*** (0.0148)	0.236*** (0.0149)		
Phone number			0.280*** (0.0159)	0.281*** (0.0159)
Response time	-0.0520*** (0.00219)	-0.0520*** (0.00220)	-0.0520*** (0.00220)	-0.0520*** (0.00220)
Incivility	-0.608*** (0.0150)	-0.607*** (0.0150)	-0.602*** (0.0150)	-0.601*** (0.0150)
Length of inquiry	-0.000633*** (0.0000447)	-0.000635*** (0.0000446)	-0.000627*** (0.0000441)	-0.000629*** (0.0000441)
Length of response	-0.00136*** (0.000107)	-0.00137*** (0.000107)	-0.00145*** (0.000108)	-0.00145*** (0.000108)
Revision of CPTA	-0.160 (0.107)	-0.158 (0.107)	-0.141 (0.107)	-0.138 (0.107)
Law-related	-0.244*** (0.0252)	-0.244*** (0.0252)	-0.247*** (0.0252)	-0.247*** (0.0252)
Day of the week	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Local government FE	Y	Y	Y	Y
Policy areas	Y	Y	Y	Y
Controls		Y		Y
N	55708	55708	55708	55708
Adj. R-sq	0.124	0.124	0.125	0.125

Note: Robust standard errors, in parentheses. Controls include local government-level variables including local tax per capita, resident population per employee, number of inquiries per employee, and financial autonomy.

+ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001;

Table 14 Citizen Satisfaction and Response Quality (Single Policy Area)

Policy area	(1) Regional Development	(2)	(3) Transportation and Traffic	(4)	(5) Public Health	(6)
Phone number	0.362*** (0.0468)	0.292*** (0.0376)	0.269*** (0.0401)	0.232*** (0.0329)	0.389** (0.137)	0.302* (0.137)
Response time	-0.0505*** (0.00501)	-0.0455*** (0.00488)	-0.0361*** (0.00565)	-0.0334*** (0.00574)	-0.0505** (0.0173)	-0.0422** (0.0156)
Incivility	-0.639*** (0.0356)	-0.576*** (0.0378)	-0.504*** (0.0304)	-0.469*** (0.0341)	-0.666*** (0.100)	-0.675*** (0.103)
Length of inquiry	-0.000778*** (0.000127)	-0.00103*** (0.000204)	-0.000665*** (0.000166)	-0.000609*** (0.000150)	-0.000791* (0.000344)	-0.000736* (0.000335)
Length of response	-0.00141*** (0.000266)	-0.00182*** (0.000281)	-0.00202*** (0.000268)	-0.00184*** (0.000288)	0.000171 (0.000968)	-0.000370 (0.000936)
Revision of CPTA	-0.400* (0.199)	-0.417+ (0.233)	0.287 (0.225)	0.238 (0.231)	1.036*** (0.241)	1.152*** (0.252)
Law-related	-0.180** (0.0587)	-0.0782 (0.0638)	-0.373*** (0.0678)	-0.443*** (0.0717)	-0.439* (0.206)	-0.395+ (0.223)
Day of the week	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
Local gov. FE	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y
No duplicate pairs		Y		Y		Y
Constant	6.012*** (0.568)	6.598*** (0.408)	4.791*** (1.036)	4.907*** (0.960)	8.505*** (1.822)	8.313*** (1.908)
N	18238	13015	15215	12410	1247	1148
Adj. R-sq	0.187	0.092	0.083	0.065	0.134	0.110

Note: Robust standard errors, in parentheses. Controls include local government-level variables including local tax per capita, resident population per employee, number of inquiries per employee, and financial autonomy.

+ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001;

Consistently throughout all models, response time is negatively associated with citizen satisfaction. Individuals who exhibited uncivil behavior overall have lower satisfaction, as seen in Figure 3. The length of inquiry and the presence of legal matters, as indicators for the complexity of the request, are also negatively associated with citizen satisfaction. As suggested by the literature, there is a positive association between the performance and competence of the service providers, as measured by their promptness in responding, and citizen satisfaction.

The 2SLS model is utilized to isolate the relationship between response time and citizen satisfaction from unobserved confounding variables. In the first stage, the robust F-score exceeds 20, indicating that the revision of CPTA can serve as a relevant instrument variable for response time. The coefficient in the second stage of the 2SLS model indicates a bias towards zero, suggesting that the relationship between response time and citizen satisfaction may be even more negatively related than previously observed.

Unlike response time, the quality of response is positively associated with citizen satisfaction, as expected from previous literature (Eckhard & Friedrich, 2022), with the use of administrative language exhibiting a sense of availability being positively correlated with satisfaction (Table 13). The indicators for the complexity of the request are negatively associated with citizen satisfaction as also shown above. Even though incivility in inquiries may not fully capture the expectations of services, the results demonstrate

how the use of uncivil language is negatively associated with the level of satisfaction.

The characteristics of policy areas can influence the level of citizen satisfaction. For instance, inquiries related to regional development, which often involve conflicting interests among various groups and individuals, can be complex to handle and may pose challenges in achieving citizen satisfaction. Similarly, policy areas such as transportation and traffic, which receive a notable volume of inquiries and complaints, can also present challenges in meeting citizen expectation and achieving satisfactory outcomes. To examine whether the characteristics of specific policy areas influence the association between response time and quality and citizen satisfaction, a subsample consisting of certain policy areas was also analyzed. The results, presented in Table 14, demonstrate that the relationship between response time and citizen satisfaction remains consistent for encounters within policy areas such as regional development, transportation and traffic, and public health.

Furthermore, it has been observed that certain individuals express their satisfaction more frequently than others. However, due to the limitations of the online system, it is not possible to identify individual citizens as unique identifiers are not provided. Additionally, some individuals choose to remain anonymous when submitting their requests, and even if names are revealed, there is a possibility of multiple individuals having the same

name. When sorting the ratings by respondent and the names or aliases provided by individual citizens, certain names consistently provide the same ratings to the respondent. Table 29 in Appendix 4 displays the descriptive statistics, indicating that the individual with the same name or alias rated the same respondent more than 900 times. However, it is important to note that workers are not obligated to respond to the same inquiry more than three times, as stipulated by the law, so these ratings are based on different inquiries.

Although it is uncertain whether these individuals with the same names or aliases are actually the same person, in order to assess the robustness of the results, the duplicated dyads were removed from the sample and the same model was applied. The results in Table 14 indicate that even after dropping these cases from the sample, the relationship between response time, quality, and citizen satisfaction remains consistent.

3.6. Discussions

Citizens shape their attitudes and perceptions of the government based on the interactions they have during public encounters. Yet, governments have largely been focused on their side of the counter—how to provide services efficiently and effectively on behalf of citizens. However, as citizens increasingly play a collaborative role in public service provisions (Bryer, 2006;

Vigoda, 2002), more understanding is needed on what happens on the other side of the counter (de Boer, 2020; Hansen, 2022; Eckhard & Friedrich, 2022).

The results show that both the promptness of responses and the use of relational language are associated with citizen satisfaction. Clients “judge services positively if they are treated with respect regardless of the quality of services.” (Lipsky, 2010, p.94). This finding, while seemingly straightforward, contrasts with the prevailing focus of practitioners who primarily emphasize the informational aspects of language (Eckhard & Friedrich, 2022). As many instances of interactions between citizens and civil servants are increasingly moderated by technology, the results from the text data of online interactions are becoming more relevant. The proper use of language, in both physical and remote interactions, is critical for effective communication from the government to its citizens.

Street-level bureaucrats continually interact with a diverse range of individuals they serve, making their work inherently dynamic. Despite the challenges that they face, one of the “most rewarding aspect of an otherwise often unrewarding job is the variety of situations and people they encounter” (Lipsky, 2010, p.75). The tone of voices and attitudes expressed through their actions play a vital role in the human aspect of service provision. For instance, teachers can encourage or discourage their students to ask questions by adjusting their tone of voice (Lipsky, 2010).

When considering the findings from the previous section, it becomes apparent that discourteous behavior during public encounters can contribute to a self-perpetuating cycle of negative emotions and counterproductive behaviors. This cycle can further reinforce negative perceptions of bureaucrats, portraying them as cold-hearted and insensitive. While breaking these cycle might seem straightforward, it is essential to recognize the underlying tension between the individual burdens faced by employees and the organizational capacity to address them effectively.

By approaching frontline workers in a discourteous manner, clients may inadvertently evoke the very behaviors they expect, thereby creating self-fulfilling prophecies. Clients might strategically express empathy for the challenges faced by workers or humbly accept responsibility for their own situation, in an attempt to manipulate responses and future interactions. The disadvantaged position of clients may discourage them from engaging in behaviors that may offend the workers or provide negative evidence about their own character. However, in certain circumstances, clients may express anger or forcefully demand their rights, violating the norms of mutual respect and courtesy.

By approaching people in a cold-hearted and insensitive manner, street-level bureaucrats may inadvertently elicit the behaviors they expect from clients, creating self-fulfilling prophecies. Frontline workers tend to differentiate clients based on their perceived level of cooperativeness,

regardless of their actual receptiveness to intervention (Lipsky, 2010). As a result, clients who are deemed particularly uncooperative may receive differential responses. Most interviewees indicated that when interacting with polite clients, they strive to be helpful and provide guidance on alternative ways to address underlying issues. However, when dealing with uncivil clients, their approach is more focused on answering the questions in a literal sense (Interviewee B and C, May 26, 2023). Furthermore, their responses tend to be more formal and dry, including references to statutes and guidelines related to the issue at hand (Interviewee E, May 28, 2023).

Frontline workers do not simply perpetuate self-fulfilling prophecies to reprimand discourteous clients. They employ professional strategies to handle cases with tense emotions and uncivil attitudes. These strategies are aimed at minimizing the likelihood of additional follow-up inquiries and maintaining a productive working relationship with clients. In situations where clients raise their voices and are currently inflamed, workers do not respond promptly (Interviewee E, May 28, 2023). This is because the client may not be able to handle the case and understand the response in a logical manner in that moment. Instead, workers aim to postpone the response until the client has regained their composure and can accept the facts and understand the response more effectively. Rather than being emotionally involved in such situations by mirroring the client's emotions (Hatfield et al., 1992),

workers try to maintain a sense of detachment and routinize the task (Mladenka, 1981; Tummers et al., 2015).

There are other instances where civil servants engage in public encounters while keeping communication styles in mind (Ekhard & Friedrich, 2022). One interviewee shared a case involving a colleague who had processed over 500 inquiries in the past three months (Interviewee B, May 26, 2023). This colleague decided to add a simple line of greetings at the end of the response and observed a noticeable difference in the average satisfaction ratings.

Civil servants in Korea are incentivized based on their performance, indicated by citizen satisfaction ratings and the number of inquiries they have successfully processed. Local governments maintain regular monitoring of response rates to citizen inquiries and complaints. These follow-ups are conducted on a quarterly or semi-annual basis to ensure that citizen requests and issues are addressed in a timely and effective manner. Governments also train workers to provide better services during the public encounters. During the training sessions, workers are provided with techniques such as “slightly raising their tone of voice at the end of each sentence to create the impression of being more polite and courteous in their interactions with citizens [translated in English]” (Interviewee B, May 26, 2023).

Organizations tend to prioritize the measurement of performance that is easily quantifiable without intruding on the interaction between

workers and clients (Lipsky, 2010). These measures may not be entirely suitable and may even have counterproductive effects, as they may not necessarily align with the directions favored by the organizations or the expectations of the public. While civil servants do intentionally or unintentionally provide services with the person in the receiving end in mind, many interviewees stated that they do not process cases with the scores in mind. They expressed that satisfaction ratings and the number of inquiries is beyond their control; one mentioned that, as a result, their division follows a rotation system for nominating employees for good performance (Interviewee A, May 24, 2023).

There are several factors that were not able to be captured in the model. The results rely on the assumption that the screen-to-screen nature of interaction may minimize the effect of physical characteristics of the counterpart on perceptions. The model also relies on the results from the experiment that the effect of communication styles is independent of the outcome of service decisions (Eckhard & Friedrich, 2022).

4. Elections and Responsiveness: how responsiveness cycles

The main focus of the previous sections has been on analyzing the written communication exchanged between citizens and civil servants. The linguistic qualities of both the initial inquiry and the response have been shown to significantly impact the perceptions of those receiving them. While street-level bureaucrats do have discretion to resolve any ambiguity and conflict that arise in policy as they cannot delegate their responsibilities to any further (Zacka, 2017), they are also bound by the hierarchy of accountability. This section aims to examine how bureaucratic responsiveness is influenced by the political interests of elected officials and their supervision.

4.1. Political interests and electoral cycles

The regular election cycle serves to ensure and promote political accountability in representative democracy. Public officials are elected to serve the people and may face the consequences if they fail to address important societal issues (Vigoda, 2000). The persistent pressure of winning elections encourages elected officials to respond to and deliver services (Brookman, 2013; Cai et al., 2023). Addressing requests of citizens, therefore, “is a central activity for most elected officials” (Christensen & Ejdemyr, 2020,

p.459). Recent studies show that a large portion of what politicians actually do involves constituency services (Paller, 2019; Bussell, 2020).

Inadequate services and service provision requested by citizens can paradoxically provide a unique opportunity for elected officials to champion their issues and interests (Mladenka, 1981). Answering to citizens' needs is crucial for the legitimacy and accountability of the government. Therefore, elected officials are highly likely to respond to these requests. Moreover, unlike in electoral participation where citizens choose a bundle of agendas at best, citizens contacting the government have a specific purpose and objective in mind (Jones et al., 1977). Addressing these needs can be an easy win for incumbents to maximize the electoral payoff with a relatively low cost of effort.

However, when elections are distant in time, both voters and elected officials tend to pay less attention to government performance (e.g., Shepsle et al., 2009; Christensen & Ejdebyr, 2020). Due to recency bias in retrospective voting (e.g. Huber et al., 2012; Healy & Lenz, 2014), incumbents concentrate their efforts during periods when voters are paying closer attention to upcoming elections (Christensen & Ejdebyr, 2020; Dipoppa & Grossman, 2020). Even if voters are prospective rather than retrospective, incumbents still have incentive to use their advantage of being in office to signal their competence and maximize their efforts as elections approach (Christensen & Ejdebyr, 2020). Dipoppa and Grossman (2020), based on

online reporting of street-related issues in England, empirically show that local councils tend to respond faster to reported issues as elections are imminent, and constituents also increase the rate of reporting problems during the election period. The political interests in addressing constituency requests, coupled with the cyclical nature of the payoffs, may result in increased efforts to address those requests as the next electoral cycle approaches.

4.2. Electoral cycles and shirking

When incumbents are willingly or unwillingly freed from their electoral shackles, would they behave differently? Incumbents entering their last term in office might no longer worry about reelection (e.g., Besley & Case, 1995; Figlio 1995; Rothenberg & Sanders, 2000; Christensen & Ejdemyr, 2020). As a result, without the pressure of political interests, incumbents may lack the incentives to make efforts in responding to the interests of constituents. Last-term shirking is “a simple maximization problem, in which incumbents weight the cost of effort against the electoral payoff” (Christensen & Ejdemyr, 2020, p.461).

Previous literatures have examined the behavioral changes of state legislatures, governors, and congress in the absence of future political interests (e.g., Besley & Case, 1995; Carey et al., 2006; Rothenberg & Sanders,

2000). Some studies have focused on ideological shirking, examining whether incumbents deviate from the preferences of voters in their last term, and have found evidence that incumbents vote more sincerely during their final term (Figlio, 1995). Other studies have focused on fiscal spending and taxes, finding that per capita spending and taxes were higher under term-limited governors (Besley & Case, 1995). Additionally, Besley et al. (2010) have highlighted how policies that can hinder economic growth emerge in states with a lack of political competition.

There is limited research examining the effect of electoral cycles on constituency services, which constitute a significant portion of politicians' efforts. Recent studies address this gap by investigating responsiveness to complains in the months preceding elections in the United State and United Kingdom, using online data on service requests (e.g. Christensen & Ejde-my, 2020; Dipoppa & Grossman, 2020). However, these studies primarily utilized samples from areas such as San Francisco, New York, and local authorities in the United Kingdom, where council-manager forms of government are predominant. Given that street-level bureaucrats play a crucial role in the actual delivery of services, the mechanisms through which the political interests of elected officials influence the timeliness of bureaucratic responses may differ in other forms of government, particularly those where mayors are directly elected.

4.3. Bureaucratic interests and political interests

Elected officials have electoral incentives to be responsive to citizen requests in the months leading to elections; however, *unelected* civil servants are the ones who *actually* carry out services and address the requests. Being career professionals, civil servants may not have direct incentive to maximize their efforts in the same way as elected officials. As professionals in governmental services, the primary focus of civil servants may be on maximizing their competence and performance, and building reputation as professionals (Carpenter, 2014). They could alleviate political pressure from elected officials and provide services based on professional norms. Service provisions are processed by organizational rules to standardize and simplify service routines (Mladenka, 1981), resulting in impartial and nondiscriminatory patterns of service provision.

On the other hand, responsiveness to the hierarchical order of responsibility is another bureaucratic norm that civil servants adhere to in order to align with societal interests. Civil servants are bounded by “rules, regulations, organizational cultures, and leadership and authority structures” (Bryer, 2006, p.483). While civil servants may not respond to requests that violate norms and rules, they tend to respond positively to the demands of elected officials when it comes to supporting the tasks of political executives. Even if civil servants follow their personal interests, the fact that

elected officials control budgeting and personnel management means that increasing efforts for prompt responses would align with both personal and political interests. As the interests of elected officials and civil servants align, incumbents can effectively nudge civil servants to increase their efforts in the months leading to elections (Dipoppa & Grossman, 2020).

Electoral turnovers may disrupt the bureaucracy. Empirical evidence, even in states with tenure protections for civil servants, show that political turnover indeed affects the number of high-level bureaucrats (Bolton et al., 2020; Doherty et al., 2019; Dahlström and Holmgren, 2019; Christensen et al., 2014), and these turnovers can also impact the quality of public services (Akhtari et al., 2022). As elected officials seek to maximize their control over the bureaucracy, they appoint administrative collaborators who understand and agree with their intentions and closely cooperate (Christensen et al., 2014). Elected officials may select the right staff from a pool of competent career civil servants and/or political appointees, depending on the organizational and institutional settings (Christensen et al., 2014). Institutional constraints may moderate the degree of disruption; however, electoral turnovers lead to bureaucratic turnovers in states with relatively strong job stability protection and insulation from politics, as in Sweden (Dahlström & Holmgren, 2019), and United States (Doherty et al., 2019).

Civil servants, therefore, comply with the interests of elected officials and may increase their efforts to meet the demands of the hierarchical

order as they are held accountable. Thus, the first prediction to test in this section is that there will be *more prompt responses during the months leading up to the next election*. Furthermore, because incumbents, who are constrained by term limits, may reduce their efforts and shirk, the responsiveness in such cases would be hindered, even in the months leading up to the next election.

4.4. Institutional context in Korea

Local elections in Korea are held every four years, with all municipalities on the same cycle. The local governments in Korea operate under a mayor-council form of government system, where voters elect municipal mayors and members of municipal legislatures. The mayors of municipal governments, though constrained by the central government and provincial governments, do have power on bureaucratic appointments. Mayors of municipal governments in Korea are limited to three *consecutive* terms in office in the same municipal government. Some mayors have been in office for more than four terms, though not consecutively. In addition, some mayors choose to run for mayor in a different municipal government after their term limit is reached in their current office.

Civil servants in Korea are mostly tenured and enjoy strong job stability protection, as guaranteed by Article 7 of the Constitution. They are

also bound by the same Article to remain unaffiliated with political parties. These protections and restrictions aim to isolate civil servants from bureaucratic politics and ensure political impartiality. However, in practice, civil servants in local governments are not completely independent from bureaucratic politics.

Elected officials of local governments in Korea have the power to manage their organizations through appointments and budgeting, which means workers, whether reluctantly or willingly, are conscious of the orders and intentions of the elected officials (Yoon & Han, 2012; Keum & Kwon, 2014; Lee & Kim, 2019). As elected officials may serve up to 12 years, being in a conflicted relationship with the mayor may lead to a dead end in a worker's career (Lee & Kim, 2019, p.12). Civil servants across all types and ranks in local governments believe that most of the elected officials they have served prioritize bureaucratic appointments based on loyalty and support (Keum & Kwon, 2014).

While mayors themselves cannot directly oversee every employee in the organization, political appointees chosen by the mayor may also manage lower-ranked personnel based on their proximity to the mayor (Lee & Kim, 2019). Such practice empowers workers who are perceived as supporters of the elected official to enjoy more influence within the organization, while those who are in conflict with the mayor may feel excluded (Yoon & Han, 2012). Given that the main motivation for civil servants is promotion, the

powerful authority of elected officials over budgeting and appointments creates a dilemma for civil servants. They must decide whether to follow unreasonable orders and directly or indirectly engage in the electoral process. Lower-ranked workers, in particular, occasionally process requests from clients that are unreasonable under the orders of their supervisors, which they cannot refuse (Yoon & Han, 2012, p.253).

Furthermore, as the next election approaches, incumbents often initiate unofficial projects aimed at securing their reelection (Lee & Kim, 2019, p.12). Incumbency advantage is known to exist in Korea (Hwang, 2014; Lee & Yoon, 2019), and this advantage may be attributed to the direct impact of incumbents strategically aligning resources in advance for their reelection campaigns.

4.5. Research design

Building on the analysis conducted in the previous section, the objective of this section is to investigate the relationship between the electoral cycle and bureaucratic responsiveness in local governments in Korea. By utilizing data on individual citizen requests and responses, this section also aims to examine whether local governments address requests more promptly during the electoral cycle. Additionally, by taking into account the limitation of elected officials serving a maximum of three consecutive terms in the same

office, this section compares the changes in responsiveness of local governments in the months leading up to local elections and assesses the impact of eligibility for reelection. Furthermore, response quality, as discussed in earlier sections, is utilized as a measure of responsiveness.

To supplement the existing dataset in the first section of this study, several new variables have been introduced to investigate the effect of electoral cycles on bureaucratic responsiveness. One of these variables is the proximity to local elections, which is represented by a dummy variable indicating the five months leading up to the month in which local elections are scheduled. Since local elections typically take place in June every four years, the pre-election months from January to May are indicated by this variable. Another variable used is the number of terms the current mayor has served in office, which serves as a measure of the incumbent's political interest. The last variable newly introduced in this section is ruling party, indicating whether the incumbent is also affiliated with the ruling party. These additional variables are obtained from the National Election Commission.

To gain a deeper understanding of the reasons behind responsiveness and election cycles, semi-structured interviews are conducted with six officials from local government across three provinces. These provinces represent different levels of administrative division, including a metropolitan city, a city (Si), and a district (Gu). The interviewees primarily held lower-ranking positions and had responsibilities or experience in services

provision across a range of areas such as traffic management, environmental affairs, and administration. Sample questions and further details can be found in Appendix 12.

Table 15 Summary Statistics

Variable	N	Mean	SD	Median	Min	Max
Response time (days)	670392	5.43	3.72	5.41	0	59.99
Incivility	670392	0.29	0.46	0	0	1
Revision of CPTA	670392	0.22	0.41	0	0	1
Law-related	670392	0.06	0.23	0	0	1
Local tax per capita	670392	406.17	233.7	380	27	1509
Resident population per employee	670392	329.14	144.45	325.49	26.57	895.04
Number of inquiries per employee	670392	1.36	24.66	0.09	0	1089.47
Financial autonomy	670392	63.65	12.52	66.1	21.9	92.8
Sense of availability	670392	1.65	2.13	0.93	0	46.15
Phone number	670392	0.71	0.46	1	0	1
Length of inquiry	670392	123.08	119.32	94	1	4946
Length of response	670392	99.67	64.15	85	1	1489

4.6. Results

Figure 4 Change in Average Response Time Before Local Election

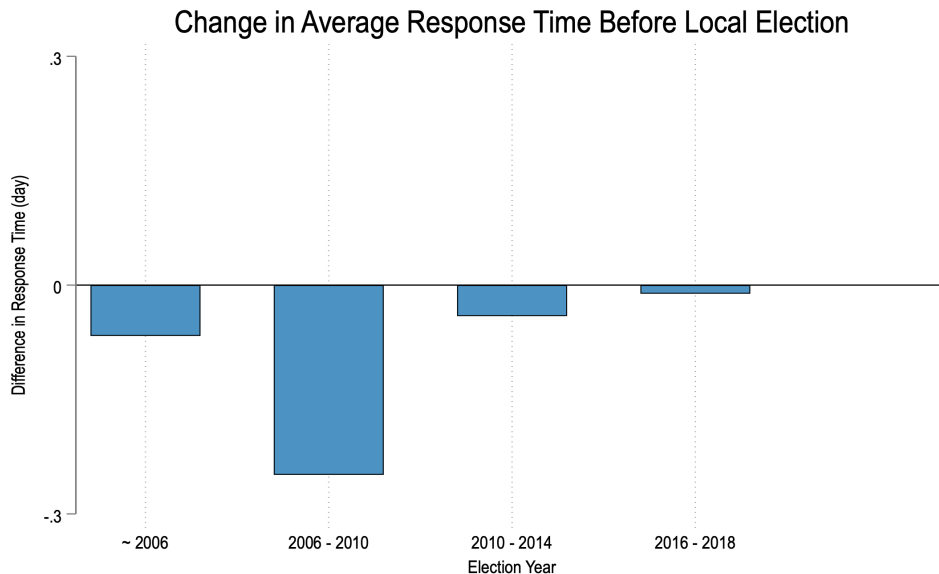


Figure 4 illustrates the difference in average response time during the five months leading up to the next local election compared to the average response time for the remaining duration of the term. The figure indicates that while the difference in response time is relatively minor, there is a subtle distinction in response time before the elections.

Building on the first model presented in Table 16, which is similar to the one used in the first section, additional variables such as election proximity and the number of terms served by the incumbent are introduced in the subsequent models. The results demonstrate that during the months

preceding local elections, responses to citizen requests are more prompt compared to rest of the term. However, the number of terms served by the incumbent does not show a significant association with response time. These findings suggest that there is a clear trend of increased promptness in responses during the months leading up to the election.

Furthermore, Model 4 shows that the interaction term between election proximity and the last term in office is positive, suggesting that while there is an effect of the election cycle on response time, mayors in their last term may not prioritize constituent service provision as much as newly elected officials. The results may indicate that civil servants adhere to the hierarchical order and that the political interests of incumbents become more pronounced during elections.

Unlike response time, the results for response quality are mixed. Tables 17 and 18 show that there is an increase in quality before the election compared to the rest of the term. However, Model 3 in Table 17 reveals a decrease in the response quality when comparing incumbents in their first term to those in their second term. Additionally, the interaction term between election proximity and the last term in office shows a positive relationship, contrary to the predicted direction (Model 4, Table 18).

Table 16 Election Cycle and Response Time

	(1)	(2)	(3)	(4)
Incivility	0.0965*** (0.0130)	0.0966*** (0.0130)	0.0965*** (0.0129)	0.0965*** (0.0129)
Election proximity		-0.126*** (0.0291)	-0.124*** (0.0292)	-0.186*** (0.0388)
Second term			0.0165 (0.0261)	0.00545 (0.0284)
Third (last) term			0.0453 (0.0377)	0.0150 (0.0391)
Election proximity x Second term				0.0937 (0.0626)
Election proximity x Third term				0.368*** (0.0883)
Ruling Party			0.165*** (0.0329)	0.164*** (0.0329)
Length of inquiry	0.00237*** (0.0000658)	0.00237*** (0.0000657)	0.00237*** (0.0000656)	0.00237*** (0.0000656)
Revision of CPTA	1.011*** (0.0433)	1.017*** (0.0433)	1.022*** (0.0431)	1.018*** (0.0431)
Law-related	0.171*** (0.0258)	0.172*** (0.0258)	0.172*** (0.0258)	0.172*** (0.0258)
Day of the week	Y	Y	Y	Y
Election Cycle	Y	Y	Y	Y
Controls	Y	Y	Y	Y
N	670392	670392	670392	670392
Adj. R-sq	0.085	0.085	0.085	0.085

Note: Standard errors, clustered by respondents, in parentheses. Controls include local government fixed effect, policy area fixed effect, local government-level variables including local tax per capita, resident population per employee, number of inquiries per employee, and financial autonomy. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$;

Table 17 Election Cycle and Response Quality (Sense of Availability)

	(1)	(2)	(3)	(4)
Incivility	-0.123*** (0.00827)	-0.123*** (0.00827)	-0.123*** (0.00827)	-0.123*** (0.00826)
Election proximity		0.0666** (0.0210)	0.0668** (0.0209)	0.0742** (0.0260)
Second term			-0.0406* (0.0199)	-0.0380+ (0.0210)
Third (last) term			-0.0630+ (0.0347)	-0.0646+ (0.0353)
Election proximity x Second term				-0.0240 (0.0446)
Election proximity x Third term				0.0214 (0.0634)
Ruling Party			0.00188 (0.0250)	0.00192 (0.0250)
Length of inquiry	-0.00104*** (0.0000377)	-0.00104*** (0.0000377)	-0.00104*** (0.0000377)	-0.00104*** (0.0000377)
Revision of CPTA	0.187*** (0.0319)	0.184*** (0.0319)	0.183*** (0.0320)	0.183*** (0.0320)
Law-related	-0.573*** (0.0150)	-0.574*** (0.0150)	-0.573*** (0.0149)	-0.573*** (0.0149)
Day of the week	Y	Y	Y	Y
Election Cycle	Y	Y	Y	Y
Local government FE	Y	Y	Y	Y
Policy areas	Y	Y	Y	Y
Controls	Y	Y	Y	Y
Constant	1.868*** (0.466)	1.717*** (0.471)	1.756*** (0.471)	1.751*** (0.472)
N	670392	670392	670392	670392
Adj. R-sq	0.116	0.116	0.116	0.116

Note: Standard errors, clustered by respondents, in parentheses. Controls include local government-level variables including local tax per capita, resident population per employee, number of inquiries per employee, and financial autonomy.

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$;

Table 18 Election Cycle and Response Quality (Alternate measure - Phone number)

	(1)	(2)	(3)	(4)
Incivility	-0.143*** (0.0107)	-0.143*** (0.0107)	-0.143*** (0.0107)	-0.143*** (0.0107)
Election proximity	0.105*** (0.0277)	0.0811* (0.0336)	0.0104 (0.0347)	-0.0140 (0.0398)
Second term	-0.106*** (0.0250)	-0.109*** (0.0266)	-0.104*** (0.0250)	-0.108*** (0.0266)
Third (last) term	-0.0650 (0.0420)	-0.0816+ (0.0449)	-0.0655 (0.0419)	-0.0816+ (0.0447)
Election prox. x Second term		0.0276 (0.0606)		0.0301 (0.0606)
Election prox. x Third term		0.194* (0.0869)		0.188* (0.0864)
Ruling Party	-0.0164 (0.0351)	-0.0164 (0.0351)	-0.0221 (0.0352)	-0.0220 (0.0352)
Length of inquiry	-0.000377*** (0.0000382)	-0.000377*** (0.0000382)	-0.000376*** (0.0000381)	-0.000376*** (0.0000381)
Revision of CPTA	0.409*** (0.0355)	0.407*** (0.0355)	0.324*** (0.0395)	0.322*** (0.0396)
Law-related	0.0864** (0.0310)	0.0868** (0.0309)	0.0864** (0.0308)	0.0867** (0.0307)
Day of the week	Y	Y	Y	Y
Election Cycle	Y	Y	Y	Y
Year (continuous)			0.0632*** (0.0140)	0.0631*** (0.0140)
Local gov. FE	Y	Y	Y	Y
Policy areas	Y	Y	Y	Y
Controls	Y	Y	Y	Y
N	670336	670336	670336	670336

Note: Standard errors, clustered by respondents, in parentheses. Logistic regression with dependent variable is whether the response provides phone numbers. Includes constant. Controls include local government-level variables including local tax per capita, resident population per employee, number of inquiries per employee, and financial autonomy.

+ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001;

Additional: from responsiveness to electoral turnovers

Does the incumbent who has been responsive to inquiries and complaints of citizens actually win the upcoming election? An additional analysis is carried out to examine electoral turnovers. Due to the limitation of data, there are not enough inquiries to represent the responsiveness of a local government during pre-election months. Therefore, responses accumulated two years before the next election are aggregated. Moreover, local governments without enough inquiries, if the number of inquiries is less than 0.05% of registered voters, are removed from the sample. Only local elections where the incumbent is eligible for re-election are analyzed.

Table 19 Summary Statistics (Electoral turnovers)

Variable	N	Mean	SD	Min	Max
Re-elected	354	0.43	0.5	0	1
% of discourteous inquiries	354	0.27	0.07	0	0.48
% of Sense of availability	354	0.48	0.25	0.02	0.98
% of Greetings	354	0.42	0.24	0	0.96
% of Phone number	354	0.55	0.28	0	1
Seniority	354	1.1	0.36	1	4
Ruling Party	354	0.45	0.5	0	1
Voter turnout	354	0.6	0.09	0.42	0.81
# of inquiries	354	415.66	514.47	11	4650
% of late responses	354	0.09	0.08	0	0.57

A logistic regression model with local government and election cycle fixed effects is used to analyze the likelihood of the incumbent to be re-elected in the upcoming local election. The result in Table 20 shows that the percentage of responses that contain a relational component of

administrative language has positive association with the re-election. This result aligns with how the use of relational language affect citizen satisfaction, as shown in the previous section.

Table 20 Number of Municipal Government Election Results by Province and Election Year

Province	2006	2010	2014	2018	2022	Total
Gangwon-do	3	7	5	3	0	18
Gyeonggi-do	5	19	10	15	2	51
Gyeongsangnam-do	7	8	8	4	0	27
Gyeongsangbuk-do	3	11	11	0	0	25
Gwangju	1	1	0	0	0	2
Daegu	0	4	3	5	3	15
Daejeon	0	2	2	0	0	4
Busan	5	11	6	10	12	44
Seoul	0	14	14	8	13	49
Incheon	3	5	5	6	4	23
Jeollanam-do	6	9	8	4	0	27
Jeollabuk-do	6	6	5	0	0	17
Chungcheongnam-do	7	8	9	6	4	34
Chungcheongbuk-do	5	8	5	0	0	18
Total	51	113	91	61	38	354

Table 21 Responsiveness and Electoral Turnovers (Dependent variable: re-elected)

	(1)	(2)	(3)	(4)	(5)	(6)
Incivility	-1.962 (2.261)	-2.689 (2.317)	-3.395 (2.297)	-1.615 (2.279)	-2.326 (2.333)	-2.921 (2.312)
Sense of availability	2.571* -1.193	2.506* -1.204		2.537* (1.196)	2.454* (1.205)	
Greetings	0.458 (1.138)	0.375 (1.169)		0.155 (1.179)	0.0836 (1.210)	
Phone number			-0.434 (0.992)			-0.460 (0.994)
Seniority	-0.471 (0.456)	-0.577 (0.481)	-0.496 (0.473)	-0.466 (0.458)	-0.576 (0.483)	-0.504 (0.480)
Ruling Party		-0.784* (0.334)	-0.817* (0.331)		-0.780* (0.336)	-0.810* (0.333)
Voter turnout	-2.517 (5.290)	-4.950 (5.426)	-5.072 (5.376)	-3.365 (5.358)	-5.599 (5.476)	-5.510 (5.414)
# of inquiries				-0.000466 (0.000382)	-0.000445 (0.000385)	-0.000489 (0.000385)
% of late responses	0.613 (2.348)	0.277 (2.398)	-0.396 (2.418)			
Election Cycle	Y	Y	Y	Y	Y	Y
Local gov. FE	Y	Y	Y	Y	Y	Y
N	354	354	354	354	354	354

Note: Standard errors, in parentheses. Logistic regression with dependent variable is whether the incumbent is reelected. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$;

4.7. Discussions

Democratic governments function by their administrations implementing policies, as well as formulating new policies (Christensen et al., 2014). Even though actual services are fulfilled by civil servants, government responsiveness during elections tends to overshadow the role of civil servants. In alignment with the interests of elected officials, civil servants may increase their efforts to meet the demands of the hierarchical order which they are

held accountable. The results partly show that workers respond to the political interests of incumbents.

Although there is a set rule on the timeline to respond, the political interests of incumbents may shift the timeframe. The number of hours it shifts may not be very dramatic, only a few hours. However, this confirms the suggestions from the interviews that when a new manager focuses on handling complaints, workers comply and try to process faster, albeit without much incentive in return (Interviewee A, May 24, 2023). Given the Korean government context, where there is a set rule on the timeframe, such results show that even though workers would not be held accountable for processing a few hours slower if they are on time, there is a tendency to respond to the political interests of incumbents.

Controlling street-level bureaucrats poses a challenge due to the inherent nature of street-level bureaucracy, which encompasses both professional and bureaucratic elements (Lipsky, 2010). Street-level bureaucrats have their own distinct interests that may differ from those of clients, organizational superiors, and even the public, to whom they are nominally subordinate. These differing interests create tensions and complexities in effectively controlling and managing the behavior of street-level bureaucrats.

However, for the most part, street-level bureaucrats “accept the legitimacy of the formal structure of authority, and they are not in a position to dissent successfully” (Lipsky, 2010, p.36). Some mayors have sent out

emails to employees, emphasizing the importance of responsiveness in public services and urging them to reduce the response times by half (Interviewee A, May 24, 2023 and Interviewee F, May 30, 2023). As most elected mayors maintain and monitor their own online channels where citizens can voice directly to the mayor alongside the official local government website, mayors regularly review the submissions received through their channels and refer specific issues to the responsible parties for prompt response and resolution (Interviewee C, May 26, 2023). These instances indicate that elected officials have a vested interest in being involved in the process and emphasizing public service provisions.

Although the interviewees do not specifically mention that elected officials directly emphasize or instruct frontline workers to address citizen requests more promptly in the months leading up to the next election, one interviewee does note that there is a change in atmosphere among managers as the election approaches (Interviewee B, May 26, 2023). Middle managers prefer the current mayor to be reelected, as the newly elected does disrupt the bureaucracy (Interviewee B and C, May 26, 2023).

The elected officials oversee the public services provided by the organization and manage the outcomes, occasionally directly involving themselves in the process. Local governments in Korea maintain regular monitoring of response rates to citizen inquiries and complaints. These follow-ups are conducted on a quarterly or semi-annual basis to ensure that citizen

requests and issues are addressed in a timely and effective manner. Civil servants are also rewarded based on their performance, indicated by citizen satisfaction ratings and the number of inquiries they have successfully processed. However, as many interviewees have suggested, the existing reward system does not effectively incentivize or motivate workers to put in extra efforts beyond their regular duties.

The difference in directions of the results between response time and quality may be attributed to the ease of accessing and managing the performance variables. Response time and satisfaction ratings are regularly monitored and can be easily tracked, allowing for more direct management and control. On the other hand, the contents of the response, which determine the quality, are not easily aggregated or monitored. Although supervisors do oversee how frontline workers respond, it is more challenging to keep track of the specific details and nuances of each response. This difference in ease of access and management may contribute to the variation in the results between response time and quality.

Addressing requests of constituents forms a large portion of activities undertaken by elected officials (Paller, 2019; Christensen & Ejdemyr, 2020). Concerned that any form of service denial or reprimand might tarnish their reputation and attract unwanted public attention, these officials tend to overly placate their constituents and make efforts to accommodate all

requests and complaints (Interviewee A, May 24, 2023; Interviewee B and C, May 26, 2023; Interviewee E, May 28, 2023).

While street-level bureaucrats accept the structure of authority and conform to the pressures and supervision of the organization, they are often left to fend for themselves when handling particularly aggressive and violent cases due to the overly submissive behavior of elected officials (Interviewee E, May 28, 2023). Civil servants recognize the importance and necessity of attending to citizen voices in a democratic state. However, they express discontent over bearing the consequences of the excessive compliant attitudes of elected officials. They are challenged by the task of managing an increasing volume of constituency services without additional organizational resources and support. In such a work environment, the patterns of prejudice and self-fulfilling prophecies that street-level bureaucrats form by inadvertently eliciting the behaviors they expect from clients may further embed into their daily work patterns.

Although the results from the set of models suggest more responsive civil servants, thus public service, during the pre-election periods, there are several limitations to this study. As this study relies on the data on interactions between citizens and civil servants are open to the public, the public nature of such interaction may suggest strategic behaviors from local governments to display their competence and responsiveness.

5. Conclusion

“That stupid bureaucrat” (Blau, 1956), who is customarily expected and required to endure the frustrations of citizens, represents the face of the government and is found to face pressures from all directions. This study shows how different forms of responsiveness unfold, with an emphasis on the use of language at the interface between individual citizens and civil servants. The findings demonstrate the multifaceted nature of responsiveness, encompassing considerations of whom to respond to, as well as the timeliness and quality of responses, and the actual satisfaction of the individual client.

As public encounters are, by their nature, person-to-person interactions, the linguistic quality of language exchanged between the two either facilitates or hinders the process of interactions. The findings suggest that what they hear and how they express impacts both citizens and civil servants during public encounters. Discourteous manners by clients may hinder a prompt and warm response, and such responses may have a negative impact on citizen satisfaction, leading to a self-perpetuating cycle of negative emotions. While frontline workers may have their own distinct interests that may diverge from those of clients or the public, they do conform to the interests of incumbent elected officials and adhere to rules and procedures to some extent.

As the concept of responsiveness has a multifaceted nature, emphasis on a single aspect of responsiveness forgoes much of its nuance. “Complaint-oriented services” (Herring, 2019) exemplify burden shuffling, as tying success metrics solely to promptly addressing complaints may overshadow the diverse aspects of responsiveness.

The linguistic qualities of language and emotions during interactions are also in a similar vein. Emotional labor is a quintessential component of the dynamic relationships between street-level bureaucrats and citizens; yet the presence of emotions in the work environment, as evident as it may be, is often disregarded. Emotion is juxtaposed against rationality and is sought to be minimized in the work environment (Guy et al., 2008). However, emotional addendums to the line of person-to-person interactions capture the humanized nature of public service, which can be a key to governance and citizen satisfaction (Guy et al., 2008).

Public services build on civil servants “who are both emotionally intelligent and engaged in their work” (Levitas & Vigoda-Gadot, 2020, p.426). Acknowledging the interwoven emotions, as well as their importance, would lead to a full delineation of the human nature of public service provision and what constitutes quality public service, as responsiveness to citizens becomes more of a priority (Hsieh, 2014).

The actions and inactions taken to handle client incivility should not be left solely to individual workers, as such work is inherently stressful and

evokes display rules to suppress negative emotions. Furthermore, as the informal work patterns that frontline workers intentionally or unintentionally follow become the public policies they implement, their routines and patterns of prejudice need considerable scrutiny. Nevertheless, formal and systematic supports and responses at the organizational level are necessary.

Organizations and supervisors of street-level bureaucrats often eschew a suitable response and frequently pressure individual workers to quietly endure discourteous voices, fearing potential damage to reputation and unwanted public attention (Yeom et al., 2021). However, such an approach further reinforces the self-fulfilling prophecies that frontline workers form by inadvertently eliciting the behaviors they expect from clients. Breaking the foreseeable vicious cycle in the current setting imposes significant pressure, psychological strains, and responsibilities on individual workers.

Supervisors can potentially strain workers as they act as representatives of the organization, with the responsibility of directing and enforcing organizational rules (Hsieh, 2014). However, their role as representatives of the organization also positions them as the primary source of organizational support, particularly in the Korean context. As dissatisfied and discourteous clients often belittle younger and lower-ranked civil servants and call out supervisors with higher authority to resolve their issues, the role of supervisors as a mediator and arbiter becomes an essential component of organizational support (Interviewee F, May 30, 2023). The support by coworkers is

also known to mitigate the detrimental effect of negative display rules (Hsieh, 2014).

Beyond the actual numbers, the results demonstrate that there is a difference in how civil servants perceive requests with varying manners, and this subtle difference hints at the emotional hardships that frontline workers may go through. The effect of discourteous language used by clients on responsiveness is significant, though the delays are relatively minor, often just a few hours. The low R-squared values of the models may indicate the limitations in practical implications. However, as this study relies on public interactions between citizens and civil servants, the perceived publicness of such interactions may potentially bias the behaviors of workers to meet the public expectations, especially given that the actual name of workers is labeled on the response. Moreover, coping behaviors are often concealed and nuanced in the work environment, making informal patterns of practice less readily visible. As the modern bureaucracy is officially dedicated to equal treatment, patterns of prejudice become even more subtle (Lipsky, 2010).

Obliging an equal level of responsiveness to discourteous voices could potentially heighten tension concerning fairness in public service provision. This situation poses a dilemma between upholding fairness and protecting the emotional well-being of frontline workers. Additionally, it

prompts questions about the extent to which society is willing to tolerate violations of mutual respect.

Public encounters at the face of government are fundamentally interpersonal interactions. The power of these encounters lies not just in the transfer of information, but also in the shared understanding and emotional connection fostered between two parties. During these exchanges, each party influences and is influenced by the other. After all, relations are mutual.

References

- Adam, C., Grohs, S., & Knill, C. (2022). Discrimination based on political beliefs: A field experiment on the freedom of assembly. *Public Policy and Administration*, 37(3), 261–282.
<https://doi.org/10.1177/0952076720905012>
- Akhtari, M., Moreira, D., & Trucco, L. (2022). Political Turnover, Bureaucratic Turnover, and the Quality of Public Services. *American Economic Review*, 112(2), 442–493.
<https://doi.org/10.1257/aer.20171867>
- Andersson, L. M., & Pearson, C. M. (1999). Tit for Tat? The Spiraling Effect of Incivility in the Workplace. *The Academy of Management Review*, 24(3), 452. <https://doi.org/10.2307/259136>
- Anti-Corruption & Civil Rights Commission. (2023). 2022 국민권익백서 [Civil Rights White Paper 2022] (11-1440100-000039-10). Anti-Corruption & Civil Rights Commission.
https://www.acrc.go.kr/boardDown-load.es?bid=47&list_no=44247&seq=1
- Bae, Y., Woo, B.-D., Jung, S., Lee, E., Lee, J., Lee, M., & Park, H. (2023). The Relationship Between Government Response Speed and Sentiments of Public Complaints: Empirical Evidence from Big Data on Public Complaints in South Korea. *SAGE Open*, 13(2), 215824402311680. <https://doi.org/10.1177/21582440231168048>
- Bakker, A. B. (2015). A Job Demands-Resources Approach to Public Service Motivation. *Public Administration Review*, 75(5), 723–732.
<https://doi.org/10.1111/puar.12388>
- Bakker, A. B., & Costa, P. L. (2014). Chronic job burnout and daily functioning: A theoretical analysis. *Burnout Research*, 1(3), 112–119.
<https://doi.org/10.1016/j.burn.2014.04.003>
- Bakker, A. B., & Demerouti, E. (2007). The Job Demands-Resources model: State of the art. *Journal of Managerial Psychology*, 22(3), 309–328. <https://doi.org/10.1108/02683940710733115>
- Bartels, K. P. R. (2013). Public Encounters: The History and Future of Face-to-face Contact Between Public Professionals and Citizens. *Public Administration*, 91(2), 469–483.
<https://doi.org/10.1111/j.1467-9299.2012.02101.x>
- Berry, J. M., Portney, K. E., & Thomson, K. (2002). *The rebirth of urban democracy*. Washington, D.C.: Brookings Institution Press.
- Besley, T., & Case, A. (1995). Does Electoral Accountability Affect Economic Policy Choices? Evidence from Gubernatorial Term Limits.

- The Quarterly Journal of Economics*, 110(3), 769–798.
<https://doi.org/10.2307/2946699>
- Besley, T., Persson, T., & Sturm, D. M. (2010). Political Competition, Policy and Growth: Theory and Evidence from the US. *Review of Economic Studies*, 77(4), 1329–1352. <https://doi.org/10.1111/j.1467-937X.2010.00606.x>
- Boukes, M., Van De Velde, B., Araujo, T., & Vliegenthart, R. (2020). What’s the Tone? Easy Doesn’t Do It: Analyzing Performance and Agreement Between Off-the-Shelf Sentiment Analysis Tools. *Communication Methods and Measures*, 14(2), 83–104.
<https://doi.org/10.1080/19312458.2019.1671966>
- Brewer, B. (2007). Citizen or customer? Complaints handling in the public sector. *International Review of Administrative Sciences*, 73(4), 549–556. <https://doi.org/10.1177/0020852307083457>
- Blau, P. M. (1956). *Bureaucracy in modern society*. New York, NY: Random House.
- Broockman, D. E. (2013). Black Politicians Are More Intrinsically Motivated to Advance Blacks’ Interests: A Field Experiment Manipulating Political Incentives. *American Journal of Political Science*, 57(3), 521–536. <https://doi.org/10.1111/ajps.12018>
- Brodkin, E. Z. (2012). Reflections on Street-Level Bureaucracy: Past, Present, and Future. *Public Administration Review*, 72(6), 940–949.
<https://doi.org/10.1111/j.1540-6210.2012.02657.x>
- Bryer, T. A. (2006). Toward a Relevant Agenda for a Responsive Public Administration. *Journal of Public Administration Research and Theory*, 17(3), 479–500. <https://doi.org/10.1093/jopart/mul010>
- Bryer, T. A., & Cooper, T. L. (2007). Challenges in Enhancing Responsiveness in Neighborhood Governance. *Public Performance & Management Review*, 31(2), 191–214. <https://doi.org/10.2753/PMR1530-9576310203>
- Burgoon, J. K., Stern, L. A., & Dillman, L. (1995). *Interpersonal adaptation: Dyadic interaction patterns*. Cambridge: Cambridge University Press.
- Bussell, J. (2020). Shadowing as a Tool for Studying Political Elites. *Political Analysis*, 28(4), 469–486. <https://doi.org/10.1017/pan.2020.14>
- Butler, D. M., & Broockman, D. E. (2011). Do Politicians Racially Discriminate Against Constituents? A Field Experiment on State Legislators. *American Journal of Political Science*, 55(3), 463–477.
<https://doi.org/10.1111/j.1540-5907.2011.00515.x>
- Cai, T., Li, F., Zhan, J., & Wang, Z. (2023). Does the crying baby always get the milk? An analysis of government responses for online requests. *Chinese Sociological Review*, 55(1), 96–125.
<https://doi.org/10.1080/21620555.2022.2103667>

- Campbell, A., Gurin, G., & Miller, W. E. (1954). *The voter decides*. New York, NJ: Row, Peterson.
- Carey, J. M., Niemi, R. G., Powell, L. W., & Moncrief, G. F. (2006). The Effects of Term Limits on State Legislatures: A New Survey of the 50 States. *Legislative Studies Quarterly*, 31(1), 105–134. <https://doi.org/10.3162/036298006X201742>
- Carpenter, D. (2014). *Reputation and power: Organizational image and pharmaceutical regulation at the FDA*. Princeton, NJ: Princeton University Press.
- Chen, G. M. (2017). *Nasty Talk: Online Incivility and Public Debate*. Springer International Publishing. <https://doi.org/10.1007/978-3-319-56273-5>
- Chen, J., Pan, J., & Xu, Y. (2016). Sources of Authoritarian Responsiveness: A Field Experiment in China. *American Journal of Political Science*, 60(2), 383–400. <https://doi.org/10.1111/ajps.12207>
- Christensen, D., & Ejdemyr, S. (2020). Do Elections Improve Constituency Responsiveness? Evidence from US Cities. *Political Science Research and Methods*, 8(3), 459–476. <https://doi.org/10.1017/psrm.2018.46>
- Christensen, J. G., Klemmensen, R., & Opstrup, N. (2014). Politicization and the Replacement of Top Civil Servants in Denmark: Politicization in Denmark. *Governance*, 27(2), 215–241. <https://doi.org/10.1111/gove.12036>
- Clark, B. Y., Brudney, J. L., Jang, S.-G., & Davy, B. (2020). Do Advanced Information Technologies Produce Equitable Government Responses in Coproduction: An Examination of 311 Systems in 15 U.S. Cities. *American Review of Public Administration*, 50(3), 315–327. <https://doi.org/10.1177/0275074019894564>
- Cortina, L. M., Magley, V. J., Williams, J. H., & Langhout, R. D. (2001). Incivility in the Workplace: Incidence and Impact. *Journal of Occupational Health Psychology*, 6(1), 64–80. <https://doi.org/10.1037/1076-8998.6.1.64>
- Costa, M. (2017). How Responsive are Political Elites? A Meta-Analysis of Experiments on Public Officials. *Journal of Experimental Political Science*, 4(3), 241–254. <https://doi.org/10.1017/XPS.2017.14>
- Cyert, R. M., & March, J. G. (1963). *A behavioral theory of the firm*. Englewood Cliffs, NJ: Prentice Hall.
- Dahlström, C., & Holmgren, M. (2019). The Political Dynamics of Bureaucratic Turnover. *British Journal of Political Science*, 49(3), 823–836. <https://doi.org/10.1017/S0007123417000230>
- de Boer, N. (2020). How Do Citizens Assess Street-Level Bureaucrats' Warmth and Competence? A Typology and Test. *Public Administration Review*, 80(4), 532–542. <https://doi.org/10.1111/puar.13217>

- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86(3), 499–512. <https://doi.org/10.1037/0021-9010.86.3.499>
- Dipoppa, G., & Grossman, G. (2020). The Effect of Election Proximity on Government Responsiveness and Citizens' Participation: Evidence From English Local Elections. *Comparative Political Studies*, 53(14), 2183–2212. <https://doi.org/10.1177/0010414020912290>
- Doherty, K. M., Lewis, D. E., & Limbocker, S. (2019). Executive Control and Turnover in the Senior Executive Service. *Journal of Public Administration Research and Theory*, 29(2), 159–174. <https://doi.org/10.1093/jopart/muy069>
- Döring, M. (2021). *The Public Encounter—Dynamics of Citizen–State Interactions* [Doctoral Dissertation, Universität Potsdam]. <https://doi.org/10.25932/publishup-50227>
- Dormann, C., & Zapf, D. (2004). Customer-Related Social Stressors and Burnout. *Journal of Occupational Health Psychology*, 9(1), 61–82. <https://doi.org/10.1037/1076-8998.9.1.61>
- Eckhard, S., & Friedrich, L. (2022). Linguistic Features of Public Service Encounters: How Spoken Administrative Language Affects Citizen Satisfaction. *Journal of Public Administration Research and Theory*, muac052. <https://doi.org/10.1093/jopart/muac052>
- Einstein, K. L., & Glick, D. M. (2017). Does Race Affect Access to Government Services? An Experiment Exploring Street-Level Bureaucrats and Access to Public Housing. *American Journal of Political Science*, 61(1), 100–116. <https://doi.org/10.1111/ajps.12252>
- Epstein, B., Bode, L., & Connolly, J. M. (2021). Do squeaky wheels get the grease? Understanding when and how municipalities respond to online requests. *New Media & Society*, 146144482110312. <https://doi.org/10.1177/14614448211031249>
- Erber, R., & Lau, R. R. (1990). Political Cynicism Revisited: An Information-Processing Reconciliation of Policy-Based and Incumbency-Based Interpretations of Changes in Trust in Government. *American Journal of Political Science*, 34(1), 236. <https://doi.org/10.2307/2111517>
- Feng, X., Wang, C., & Wang, J. (2023). Understanding how the expression of online citizen petitions influences the government responses in China: An empirical study with automatic text analytics. *Information Processing & Management*, 60(3), 103330. <https://doi.org/10.1016/j.ipm.2023.103330>
- Figlio, D. N. (1995). The Effect of Retirement on Political Shirking: Evidence from Congressional Voting. *Public Finance Quarterly*, 23(2), 226–241. <https://doi.org/10.1177/109114219502300206>

- Fiske, S. T., Cuddy, A. J. C., & Glick, P. (2007). Universal dimensions of social cognition: Warmth and competence. *Trends in Cognitive Sciences*, 11(2), 77–83. <https://doi.org/10.1016/j.tics.2006.11.005>
- Fung, A. (2004). *Empowered participation: Reinventing urban democracy*. Princeton, NJ: Princeton University Press.
- Garlick, R. (2010). Do Happy Employees Really Mean Happy Customers? Or Is There More to the Equation? *Cornell Hospitality Quarterly*, 51(3), 304–307. <https://doi.org/10.1177/1938965510368623>
- Gennaro, G., & Ash, E. (2022). Emotion and Reason in Political Language. *The Economic Journal*, 132(643), 1037–1059. <https://doi.org/10.1093/ej/ueab104>
- Glaser, M. A., & Denhardt, R. B. (2000). Local government performance through the eyes of citizens. *Journal of Public Budgeting, Accounting & Financial Management*, 12(1), 49–73. <https://doi.org/10.1108/JPBAFM-12-01-2000-B003>
- Goodsell, C. T. (1981). Looking Once Again at Human Service Bureaucracy. *The Journal of Politics*, 43(3), 763–778. <https://doi.org/10.2307/2130636>
- González-Bailón, S., & Paltoglou, G. (2015). Signals of Public Opinion in Online Communication: A Comparison of Methods and Data Sources. *The ANNALS of the American Academy of Political and Social Science*, 659(1), 95–107. <https://doi.org/10.1177/0002716215569192>
- Grandey, A. A. (2003). When “The Show Must Go on”: Surface Acting and Deep Acting as Determinants of Emotional Exhaustion and Peer-Rated Service Delivery. *Academy of Management Journal*, 46(1), 86–96. <https://doi.org/10.2307/30040678>
- Grimes, M., & Esaiasson, P. (2014). Government Responsiveness: A Democratic Value with Negative Externalities? *Political Research Quarterly*, 67(4), 758–768. <https://doi.org/10.1177/1065912914543193>
- Grimmer, J., & Stewart, B. M. (2013). Text as Data: The Promise and Pitfalls of Automatic Content Analysis Methods for Political Texts. *Political Analysis*, 21(3), 267–297. <https://doi.org/10.1093/pan/mps028>
- Groth, M., & Grandey, A. (2012). From bad to worse: Negative exchange spirals in employee–customer service interactions. *Organizational Psychology Review*, 2(3), 208–233. <https://doi.org/10.1177/2041386612441735>
- Guy, M. E., Newman, M. A., & Mastracci, S. H. (2008). *Emotional labor: Putting the service in public service*. Armonk, NY: M.E. Sharpe.
- Halvorsen, K. E. (2003). Assessing the Effects of Public Participation. *Public Administration Review*, 63(5), 535–543. <https://doi.org/10.1111/1540-6210.00317>

- Hansen, F. G. (2022). How impressions of public employees' warmth and competence influence trust in government. *International Public Management Journal*, 25(6), 939–961.
<https://doi.org/10.1080/10967494.2021.1963361>
- Hartmann, J., Heitmann, M., Siebert, C., & Schamp, C. (2023). More than a Feeling: Accuracy and Application of Sentiment Analysis. *International Journal of Research in Marketing*, 40(1), 75–87.
<https://doi.org/10.1016/j.ijresmar.2022.05.005>
- Hatfield, E., Cacioppo, J. T., & Rapson, R. L. (1992). Primitive Emotional Contagion. *Review of Personality and Social Psychology*, 14, 151–177. <https://doi.org/10.1017/CBO9781139174138>
- Healy, A., & Lenz, G. S. (2014). Substituting the End for the Whole: Why Voters Respond Primarily to the Election-Year Economy. *American Journal of Political Science*, 58(1), 31–47.
<https://doi.org/10.1111/ajps.12053>
- Herring, C. (2019). Complaint-Oriented Policing: Regulating Homelessness in Public Space. *American Sociological Review*, 84(5), 769–800.
<https://doi.org/10.1177/0003122419872671>
- Heskett, J. L., Sasser, W. E., & Schlesinger, L. A. (1997). *Service profit chain*. New York, NY: Simon and Schuster.
- Hirschman, A. O. (1970). *Exit, voice, and loyalty: Responses to decline in firms, organizations, and states*. Cambridge, MA: Harvard University Press.
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44(3), 513–524.
<https://doi.org/10.1037/0003-066X.44.3.513>
- Hochschild, A. R. (1983). *The managed heart*. Berkeley: University of California Press.
- Hsieh, C. W. (2014). Burnout Among Public Service Workers: The Role of Emotional Labor Requirements and Job Resources. *Review of Public Personnel Administration*, 34(4), 379–402.
<https://doi.org/10.1177/0734371X12460554>
- Huber, G. A., Hill, S. J., & Lenz, G. S. (2012). Sources of Bias in Retrospective Decision Making: Experimental Evidence on Voters' Limitations in Controlling Incumbents. *American Political Science Review*, 106(4), 720–741. <https://doi.org/10.1017/S0003055412000391>
- Hummel, R. P. (1994). *The bureaucratic experience: A critique of life in the modern organization* (4th ed.). New York, NY: St. Martin's Press.
- Hwang, A. R. (2014). Analyses on Two Sources of Incumbency Advantages in the 2010 Mayoral Election. *Korea and World Politics*, 30(4), 63–93.

- Im, T. (2003). Bureaucratic Power and the NPM Reforms in Korea. *International Review of Public Administration*, 8(1), 89–102.
<https://doi.org/10.1080/12294659.2003.10805020>
- Jeong, J. H. (2021a, January 12). "주정차 민원 힘들다" 30 대 공무원 투신 CCTV 에 찍혀 ["Parking complaints are hard" civil servant in his 30s caught on CCTV throwing himself to death]. JoongAng Ilbo.
<https://www.joongang.co.kr/article/23968742>
- Jeong, S. B. (2021b, November 19). 고성군 공무원 폭행 피해 속출...소극 대응에 2 차 피해 [Assaults on public officials in Goseong County continue...secondary damage from passive response]. KBS News.
<https://news.kbs.co.kr/news/view.do?ncd=5328947>
- Jilke, S., & Tummers, L. (2018). Which Clients are Deserving of Help? A Theoretical Model and Experimental Test. *Journal of Public Administration Research and Theory*, 28(2), 226–238.
<https://doi.org/10.1093/jopart/muy002>
- Jones, B. D., Greenberg, S. R., Kaufman, C., & Drew, J. (1977). Bureaucratic Response to Citizen-Initiated Contacts: Environmental Enforcement in Detroit. *The American Political Science Review*, 71(1), 148–165. <https://doi.org/10.2307/1956959>
- Jones, B. D., Greenberg, S. R., Kaufman, C., & Drew, J. (1978). Service Delivery Rules and the Distribution of Local Government Services: Three Detroit Bureaucracies. *The Journal of Politics*, 40(2), 332–368. <https://doi.org/10.2307/2130091>
- Kabat-Farr, D., Cortina, L. M., & Marchiondo, L. A. (2018). The emotional aftermath of incivility: Anger, guilt, and the role of organizational commitment. *International Journal of Stress Management*, 25(2), 109–128. <https://doi.org/10.1037/str0000045>
- Keulemans, S. (2020). *Understanding Street-Level Bureaucrats' Attitude Towards Clients: A Social Psychological Approach* [Doctoral dissertation, Erasmus University Rotterdam] <http://hdl.handle.net/1765/129367>
- Keulemans, S., & Van de Walle, S. (2020). Understanding street-level bureaucrats' attitude towards clients: Towards a measurement instrument. *Public Policy and Administration*, 35(1), 84–113.
<https://doi.org/10.1177/0952076718789749>
- Keum, C. H., & Kwon, O. C. (2014). 지방자치단체 인사관리의 공정성 확보방안 [How to Ensure Fairness in Local Government Personnel Management]. *Korean Public Personnel Administration Review*, 13(3), 179–197.
- Kern, J. H., & Grandey, A. A. (2009). Customer incivility as a social stressor: The role of race and racial identity for service employees.

- Journal of Occupational Health Psychology*, 14(1), 46–57.
<https://doi.org/10.1037/a0012684>
- Kim, K. (2022). How does immigration affect welfare support in Korea? *Social Policy & Administration*, 56(1), 163–179.
<https://doi.org/10.1111/spol.12763>
- Kim, S. H. (2023, April 5). 수습 갓 뻘 새내기 공무원, 민원인 상대 뒤 숨진 채 발견 [Fresh out of probation, rookie civil servant found dead after confronting complainant]. SBS News.
https://news.sbs.co.kr/news/endPage.do?news_id=N1007142761
- Kim, S., & Lee, J. (2012). E-Participation, Transparency, and Trust in Local Government. *Public Administration Review*, 72(6), 819–828.
<https://doi.org/10.1111/j.1540-6210.2012.02593.x>
- Lee, B. R., & Kim, S. Y. (2019). A Study of the Politicization of Local Bureaucracy. *Korean Journal of Public Administration*, 57(4), 1-30.
<https://doi.org/10.24145/KJPA.57.4.1>
- Lee, J. H. (2023, May 16). 원주시청 닷새 만에 또 ‘비보’...50 대 공무원 극단적 선택 [Wonju City Hall, Another tragic news in five days... civil servant in his 50s made an extreme choice]. Yonhapnews.
<https://www.yna.co.kr/view/AKR20230516102851062>
- Levitats, Z., & Vigoda-Gadot, E. (2020). Emotionally Engaged Civil Servants: Toward a Multilevel Theory and Multisource Analysis in Public Administration. *Review of Public Personnel Administration*, 40(3), 426–446. <https://doi.org/10.1177/0734371X18820938>
- Li, K., Mai, F., Shen, R., & Yan, X. (2021). Measuring Corporate Culture Using Machine Learning. *The Review of Financial Studies*, 34(7), 3265–3315. <https://doi.org/10.1093/rfs/hhaa079>
- Lipsky, M. (2010). *Street-Level Bureaucracy: Dilemmas of the Individual in Public Services*. Russell Sage Foundation.
- Martin, R. J., & Hine, D. W. (2005). Development and validation of the Uncivil Workplace Behavior Questionnaire. *Journal of Occupational Health Psychology*, 10(4), 477–490. <https://doi.org/10.1037/1076-8998.10.4.477>
- Mastracci, S. H. (2022). Dirty Work and Emotional Labor in Public Service: Why Government Employers Should Adopt an Ethic of Care. *Review of Public Personnel Administration*, 42(3), 537–552.
<https://doi.org/10.1177/0734371X21997548>
- Maynard-Moody, S., & Musheno, M. C. (2003). *Cops, teachers, counselors: Stories from the front lines of public service*. University of Michigan Press.
- Meier, K. J., Stewart, J., & England, R. E. (1991). The Politics of Bureaucratic Discretion: Educational Access as an Urban Service.

- American Journal of Political Science*, 35(1), 155.
<https://doi.org/10.2307/2111442>
- Mikolov, T., Chen, K., Corrado, G., & Dean, J. (2013). *Efficient Estimation of Word Representations in Vector Space* (arXiv:1301.3781). arXiv.
<http://arxiv.org/abs/1301.3781>
- Mladenka, K. R. (1981). Citizen Demands and Urban Services: The Distribution of Bureaucratic Response in Chicago and Houston. *American Journal of Political Science*, 25(4), 693.
<https://doi.org/10.2307/2110759>
- Moynihan, D. P. (2003). Normative and Instrumental Perspectives on Public Participation: Citizen Summits in Washington, D.C. *The American Review of Public Administration*, 33(2), 164–188.
<https://doi.org/10.1177/0275074003251379>
- Moynihan, D., Herd, P., & Harvey, H. (2015). Administrative Burden: Learning, Psychological, and Compliance Costs in Citizen-State Interactions. *Journal of Public Administration Research and Theory*, 25(1), 43–69. <https://doi.org/10.1093/jopart/muu009>
- Neo, S., Grimmelikhuijsen, S., & Tummers, L. (2023). Core values for ideal civil servants: Service-oriented, responsive and dedicated. *Public Administration Review*, puar.13583.
<https://doi.org/10.1111/puar.13583>
- Neshkova, M. I., & Guo, H. (2012). Public Participation and Organizational Performance: Evidence from State Agencies. *Journal of Public Administration Research and Theory*, 22(2), 267–288.
<https://doi.org/10.1093/jopart/mur038>
- Nie, L., & Wang, H. (2022). Government responsiveness and citizen satisfaction: Evidence from environmental governance. *Governance*, gove.12723. <https://doi.org/10.1111/gove.12723>
- Nielsen, V. L. (2007). Differential Treatment and Communicative Interactions: Why the Character of Social Interaction is Important. *Law & Policy*, 29(2), 257–283. <https://doi.org/10.1111/j.1467-9930.2007.00255.x>
- Olsen, A. L. (2017). Compared to What? How Social and Historical Reference Points Affect Citizens' Performance Evaluations. *Journal of Public Administration Research and Theory*, 27(4), 562–580.
<https://doi.org/10.1093/jopart/mux023>
- Osnabrügge, M., Hobolt, S. B., & Rodon, T. (2021). Playing to the Gallery: Emotive Rhetoric in Parliaments. *American Political Science Review*, 115(3), 885–899. <https://doi.org/10.1017/S0003055421000356>
- Ostrom, E. (1975). The design of institutional arrangements and the responsiveness of the police. In L. N. Rieselbach (Ed.), *People vs. government: The responsiveness of American institutions* (pp.274-299). Indiana University Press.

- Paller, J. W. (2019). Dignified Public Expression: A New Logic of Political Accountability. *Comparative Politics*, 52(1), 85–116.
<https://doi.org/10.5129/001041519X15619975411262>
- Park, J. S. (2023, February 2). “이불 사달라”는 요구 거절하자, 보복이 시작됐다...’괴롭힘’에 시달리는 공무원들 [“When I refused to buy a futon, the retaliation began”... Civil servants facing ‘harassments’]. *Hankook Ilbo*.
<https://www.hankookilbo.com/News/Read/A2023013016100004367>
- Pearson, C. M., Andersson, L. M., & Wegner, J. W. (2001). When Workers Flout Convention: A Study of Workplace Incivility. *Human Relations*, 54(11), 1387–1419.
<https://doi.org/10.1177/00187267015411001>
- Pennington, J., Socher, R., & Manning, C. (2014). Glove: Global Vectors for Word Representation. *Proceedings of the 2014 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 1532–1543. <https://doi.org/10.3115/v1/D14-1162>
- Pennock, J. R. (1952). Responsiveness, Responsibility, and Majority Rule. *American Political Science Review*, 46(3), 790–807.
<https://doi.org/10.2307/1952285>
- Perry, J. L., Brudney, J. L., Coursey, D., & Littlepage, L. (2008). What Drives Morally Committed Citizens? A Study of the Antecedents of Public Service Motivation. *Public Administration Review*, 68(3), 445–458. <https://doi.org/10.1111/j.1540-6210.2008.00881.x>
- Petrovsky, N., Xin, G., & Yu, J. (2023). Job Satisfaction and Citizen Satisfaction with Street-level Bureaucrats: Is There a Satisfaction Mirror? *Journal of Public Administration Research and Theory*, 33(2), 279–295. <https://doi.org/10.1093/jopart/muac022>
- Pitkin, H. (1967). *The Concept of Representation*. Berkeley, CA: University of California Press.
- Raaphorst, N., Groeneveld, S., & Van De Walle, S. (2018). Do tax officials use double standards in evaluating citizen-clients? A policy-capturing study among Dutch frontline tax officials. *Public Administration*, 96(1), 134–153. <https://doi.org/10.1111/padm.12374>
- Rainey, H. G., & Steinbauer, P. (1999). Galloping Elephants: Developing Elements of a Theory of Effective Government Organizations. *Journal of Public Administration Research and Theory*, 9(1), 1–32.
<https://doi.org/10.1093/oxfordjournals.jpart.a024401>
- Ramirez, E. (2017, January 31). *Nearly 100% of households in South Korea now have internet access, thanks to seniors*. *Forbes*.
<https://forbes.com/sites/elaineramirez/2017/01/31/nearly-100-of-households-in-south-korea-now-have-internet-access-thanks-to-seniors>

- Rheault, L., Beelen, K., Cochrane, C., & Hirst, G. (2016). Measuring Emotion in Parliamentary Debates with Automated Textual Analysis. *PLOS ONE*, 11(12), e0168843. <https://doi.org/10.1371/journal.pone.0168843>
- Rice, D. R., & Zorn, C. (2021). Corpus-based dictionaries for sentiment analysis of specialized vocabularies. *Political Science Research and Methods*, 9(1), 20–35. <https://doi.org/10.1017/psrm.2019.10>
- Rourke, F. E. (1992). Responsiveness and Neutral Competence in American Bureaucracy. *Public Administration Review*, 52(6), 539–546. <https://doi.org/10.2307/977164>
- Rothenberg, L. S., & Sanders, M. S. (2000). Severing the Electoral Connection: Shirking in the Contemporary Congress. *American Journal of Political Science*, 44(2), 316. <https://doi.org/10.2307/2669313>
- Rudkowsky, E., Haselmayer, M., Wastian, M., Jenny, M., Emrich, Š., & Sedlmair, M. (2018). More than Bags of Words: Sentiment Analysis with Word Embeddings. *Communication Methods and Measures*, 12(2–3), 140–157. <https://doi.org/10.1080/19312458.2018.1455817>
- Saltzstein, G. H. (1992). Bureaucratic Responsiveness: Conceptual Issues and Current Research. *Journal of Public Administration Research and Theory*, 2(1), 63–89. <https://doi.org/10.1093/oxfordjournals.jpart.a037112>
- Sandfort, J. R. (2000). Moving Beyond Discretion and Outcomes: Examining Public Management from the Front Lines of the Welfare System. *Journal of Public Administration Research and Theory*, 10(4), 729–756. <https://doi.org/10.1093/oxfordjournals.jpart.a024289>
- Schumaker, P. D. (1975). Policy Responsiveness to Protest-Group Demands. *The Journal of Politics*, 37(2), 488–521. <https://doi.org/10.2307/2129004>
- Selden, S. C. (1997). *The Promise of Representative Bureaucracy: Diversity and Responsiveness in a Government Agency*. Routledge.
- Shepsle, K. A., Van Houweling, R. P., Abrams, S. J., & Hanson, P. C. (2009). The Senate Electoral Cycle and Bicameral Appropriations Politics. *American Journal of Political Science*, 53(2), 343–359. <https://doi.org/10.1111/j.1540-5907.2009.00374.x>
- Sliter, M., Jex, S., Wolford, K., & McInnerney, J. (2010). How rude! Emotional labor as a mediator between customer incivility and employee outcomes. *Journal of Occupational Health Psychology*, 15(4), 468–481. <https://doi.org/10.1037/a0020723>
- Soroka, S., Young, L., & Balmas, M. (2015). Bad News or Mad News? Sentiment Scoring of Negativity, Fear, and Anger in News Content. *The ANNALS of the American Academy of Political and Social Science*, 659(1), 108–121. <https://doi.org/10.1177/0002716215569217>

- Su, Z., & Meng, T. (2016). Selective responsiveness: Online public demands and government responsiveness in authoritarian China. *Social Science Research*, 59, 52–67.
<https://doi.org/10.1016/j.ssresearch.2016.04.017>
- Thomas, J. C., & Streib, G. (2003). The New Face of Government: Citizen-Initiated Contacts in the Era of E-Government. *Journal of Public Administration Research and Theory*, 13(1), 83–102.
<https://doi.org/10.1093/jopart/mug010>
- Thomassen, J.-P., Ahaus, K., Van de Walle, S., & Nabitz, U. (2014). An Implementation Framework for Public Service Charters: Results of a concept mapping study. *Public Management Review*, 16(4), 570–589. <https://doi.org/10.1080/14719037.2012.726062>
- Tummers, L. L. G., Bekkers, V., Vink, E., & Musheno, M. (2015). Coping During Public Service Delivery: A Conceptualization and Systematic Review of the Literature. *Journal of Public Administration Research and Theory*, 25(4), 1099–1126. <https://doi.org/10.1093/jopart/muu056>
- Van Atteveldt, W., van der Velden, M. A. C. G., & Boukes, M. (2021). The Validity of Sentiment Analysis: Comparing Manual Annotation, Crowd-Coding, Dictionary Approaches, and Machine Learning Algorithms. *Communication Methods and Measures*, 15(2), 121–140.
<https://doi.org/10.1080/19312458.2020.1869198>
- Van de Walle, S. (2018). Explaining Citizen Satisfaction and Dissatisfaction with Public Services. In E. Ongaro & S. Van Thiel (Eds.), *The Palgrave Handbook of Public Administration and Management in Europe* (pp. 227–241). Palgrave Macmillan UK.
https://doi.org/10.1057/978-1-137-55269-3_11
- Van Jaarsveld, D. D., Walker, D. D., & Skarlicki, D. P. (2010). The Role of Job Demands and Emotional Exhaustion in the Relationship Between Customer and Employee Incivility. *Journal of Management*, 36(6), 1486–1504. <https://doi.org/10.1177/0149206310368998>
- Van Ryzin, G. G. (2004). Expectations, performance, and citizen satisfaction with urban services. *Journal of Policy Analysis and Management*, 23(3), 433–448. <https://doi.org/10.1002/pam.20020>
- Van Ryzin, G. G. (2013). An Experimental Test of the Expectancy-Disconfirmation Theory of Citizen Satisfaction: An Experimental Test of Expectancy-Disconfirmation. *Journal of Policy Analysis and Management*, 32(3), 597–614. <https://doi.org/10.1002/pam.21702>
- Van Ryzin, G. G. (2015). Service Quality, Administrative Process, and Citizens' Evaluation of Local Government in the US. *Public Management Review*, 17(3), 425–442.
<https://doi.org/10.1080/14719037.2013.841456>

- Vedlitz, A., Dyer, J. A., & Durand, R. (1980). Citizen Contacts with Local Governments: A Comparative View. *American Journal of Political Science*, 24(1), 50. <https://doi.org/10.2307/2110924>
- Verba, S., & Nie, N. H. (1972). *Participation in America—Political democracy and social equality*. University of Chicago Press.
- Vigoda, E. (2000). Are You Being Served? The Responsiveness of Public Administration to Citizens' Demands: An Empirical Examination in Israel. *Public Administration*, 78(1), 165–191. <https://doi.org/10.1111/1467-9299.00198>
- Vigoda, E. (2002). From Responsiveness to Collaboration: Governance, Citizens, and the Next Generation of Public Administration. *Public Administration Review*, 62(5), 527–540. <https://doi.org/10.1111/1540-6210.00235>
- Vinzant, J. C., Denhardt, J. V., & Crothers, L. (1998). *Street-level leadership: Discretion and legitimacy in front-line public service*. Washington, D.C.: Georgetown University Press.
- Walker, D. D., van Jaarsveld, D. D., & Skarlicki, D. P. (2017). Sticks and Stones Can Break my Bones but Words Can Also Hurt Me: The Relationship Between Customer Verbal Aggression and Employee Incivility. *Journal of Applied Psychology*, 102(2), 163–179. <http://dx.doi.org/10.1037/apl0000170>
- Wangenheim, F. V., Evanschitzky, H., & Wunderlich, M. (2007). Does the employee–customer satisfaction link hold for all employee groups? *Journal of Business Research*, 60(7), 690–697. <https://doi.org/10.1016/j.jbusres.2007.02.019>
- Watzlawick, P., Bavelas, J. B., & Jackson, D. D. (2011). *Pragmatics of Human Communication: A Study of Interactional Patterns, Pathologies, and Paradoxes*. New York: W. W. Norton & Company.
- Weber, R., Mangus, J. M., Huskey, R., Hopp, F. R., Amir, O., Swanson, R., Gordon, A., Khooshabeh, P., Hahn, L., & Tamborini, R. (2018). Extracting Latent Moral Information from Text Narratives: Relevance, Challenges, and Solutions. *Communication Methods and Measures*, 12(2–3), 119–139. <https://doi.org/10.1080/19312458.2018.1447656>
- White, A. R., Nathan, N. L., & Faller, J. K. (2015). What Do I Need to Vote? Bureaucratic Discretion and Discrimination by Local Election Officials. *American Political Science Review*, 109(1), 129–142. <https://doi.org/10.1017/S0003055414000562>
- Wilson, J. Q. (1960). *Negro Politics*. New York: Free Press.
- Wilson, N. L., & Holmvall, C. M. (2013). The development and validation of the Incivility from Customers Scale. *Journal of Occupational Health Psychology*, 18(3), 310–326. <https://doi.org/10.1037/a0032753>

- Yang, K., & Holzer, M. (2006). The Performance-Trust Link: Implications for Performance Measurement. *Public Administration Review*, 66(1), 114–126. <https://doi.org/10.1111/j.1540-6210.2006.00560.x>
- Yeom, J. S., Yoon, Y. G., Jeong, D. C., Chae, J. H., & Eun, J. H. (2021). 악성민원 관련 지역주민과 지방자치단체 민원담당 공무원 간의 갈등해소를 위한 대응전략 구축 연구 [Research on establishing a response strategy to resolve conflicts between local residents and local government complaint officials regarding malicious complaints] (KIPA No. 2021-07). Korea Institute of Public Administration. https://www.kipa.re.kr/site/kipa/research/selectBase-View.do?gubun=SU&seqNo=BASE_0000000000000662
- Yoon, G. S., & Han, S. J. (2012). A Qualitative Study on the Political Neutrality of Civil Servants: The Experience of Middle-and-Lower-Ranking Civil Servants in Local Government. *Korean Journal of Public Administration*, 50(3), 237-261.
- Young, L., & Soroka, S. (2012). Affective News: The Automated Coding of Sentiment in Political Texts. *Political Communication*, 29(2), 205–231. <https://doi.org/10.1080/10584609.2012.671234>
- Zacka, B. (2017). *When the state meets the street: Public service and moral agency*. The Belknap Press of Harvard University Press.
- Zhang, J., Wang, J., Yang, X., Ren, S., Ran, Q., & Hao, Y. (2021). Does local government competition aggravate haze pollution? A new perspective of factor market distortion. *Socio-Economic Planning Sciences*, 76, 100959. <https://doi.org/10.1016/j.seps.2020.100959>
- Zhang, J., Chen, W., Petrovsky, N., & Walker, R. M. (2022). The Expectancy-Disconfirmation Model and Citizen Satisfaction with Public Services: A Meta-analysis and an Agenda for Best Practice. *Public Administration Review*, 82(1), 147–159. <https://doi.org/10.1111/puar.13368>
- Zhu, Y., Hoepner, A. G. F., Moore, T. K., & Urquhart, A. (2022). Sentiment Analysis Methods: Survey and Evaluation. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4191581>

국문초록

그간 공공서비스를 매개로 한 관료와 시민의 만남은 주로 서비스 공급과 정보 교환 차원에서 논의되어왔다. 이 과정에서 ‘감정’이라는 요소는 상대적으로 주목받지 못하였다. 정부의 대리인으로서 관료는 프로페셔널하게, 그리고 즉각적으로 시민의 니즈에 응답하길 기대받는다. 그러나 이 과정에서 그들이 겪어야 할 감정적 요소, 특히 시민으로부터의 무례하고 부정적인 말투나 요청에 대해 ‘한 인간으로서’ 다르게 반응할 수 있는지 여부, 즉 대응의 변이(variation)에 대해서는 고의적 또는 암묵적으로 무시되어온 듯하다.

기분과 표현을 조절하는 것은 서비스 노동자에게는 감정 노동의 일종이라 할 수 있다. 관료에게도 예외는 아니다. 민원에 대한 정부의 응답 및 대응과정은 시민과 정부와의 관계 형성의 기반이 되기에 중요하다. 공공서비스 질이 곧 요청에 대한 개별적인 응답으로부터 결정되기 때문이다. 특히 관료의 감정에 부정적인 영향을 미치고 감정노동을 유발할 수 있는 민원에 대한 대응 관련 논의를 위해서도 이러한 상호작용 과정을 살펴보는 것이 중요하다. 이러한 맥락에서 본 연구는 시민과 공무원 간의 상호작용 및 전달과정에 대한 보다 심도 있는 이해를 도모하고자 한다.

본 연구는 관료와 시민간의 상호작용에서 활용하는 언어의 중요성에 초점을 맞추어 당사자의 어조가 상호 간의 응답 및 만족도에 미치는 영향을 살펴본다. 지방자치단체별로 공개되어 있는 민원 내용에 대한 텍스트 분석과 지자체의 민원 담당자와의 인터뷰를 통해 민원 특성과 해당 민원의 처리

소요시간 및 답변의 질적 측면의 관계를 살펴보고, 답변에 대한 만족도와
관계를 분석한다. 그 결과 민원인의 상대적으로 무례한 어조는 응답의 신속
성 및 질에 부정적인 영향을 미치는 것으로 나타난다. 또한 이러한 응답은
다시 민원인의 만족도에 부정적인 영향을 미치는 것으로 드러나, 민원인과
민원 담당자 간의 부정적인 악순환을 초래할 수 있는 것으로 보인다. 한편
이러한 과정에서 일선 관료들은 확립된 규칙과 절차를 따르며, 선출직 공무
원의 이해관계에 일정 수준 반응하는 것으로 나타난다.

공공서비스 및 민원서비스 과정에는 관료 전문성에 기반한
이성적인 판단 외에도 민원인이 처한 상황에 대한 공감과 민원인의 어조에
대한 반감 등 감성에 기반한 상호관계가 필연적으로 동반된다. 시민이
주도적으로 정부에 요청하는 민원이라는 둘 간의 매개체는 단순히 개인과
제도 사이에서 오가는 것이 아니다. 대민 업무 수행 과정에서의 민원인과
관료 간의 개별 상호작용과 관료 감정노동 및 재량에 대한 이해를 통해
공공서비스 만족도, 더 나아가 공공서비스에 대한 신뢰성 제고가 가능할
것이다.

주요어 : 민원서비스, 일선관료, 대응성, 상호성, 감정노동, 시민만족도
학 번 : 2017-34110

Appendix

A1. Policy area

As responses contain the name of the respondent and the bureaus and divisions they are affiliated with, it is possible to infer the related policy area of inquiries by the name of the division, without relying on computerized methods such as topic modeling on the body of text. There are 8,535 uniquely identified bureau and divisions in the dataset.

The Local Business Reference Model (LBRM)¹⁸ developed by the Ministry of Interior and Safety (MOIS), classifies every task carried out by municipal governments according to their functions, organizations, and objectives. By referencing LBRM, a total of 51 policy domain and 16 policy areas are manually coded. To match the names of local government divisions in Korea with the LBRM, a process is followed where each word in the division name is extracted and compared. In cases where there is a conflict or ambiguity, the name of the bureau and the preceding word are utilized.

Note, towns and villages(읍면동) is not classified in LBRM. However, regional offices are classified by themselves because their policy area

¹⁸ <https://www.data.go.kr/data/15062318/fileData.do> (last accessed on September 28, 2022)

cannot be determined by the name of the office. They are assumed to have similar tasks.

Table 22 Number of Inquiries by Policy Area

Policy Area	정책분야	Freq.	Percent
Public Safety	공공질서및안전	13,289	1.98
Science and Technology	과학기술	110	0.02
Education	교육	9,273	1.38
Defense	국방	9	0
Agriculture, Forestry and Fishery	농림해양수산	18,631	2.77
Culture and Tourism	문화체육관광	27,860	4.15
Public Health	보건	18,239	2.72
Social Welfare	사회복지	22,063	3.29
Industry and SMEs	산업중소기업	21,034	3.13
Traffic and Transportation	수송및교통	176,263	26.25
Towns and Villages	읍면동	27,934	4.16
Public Administration	일반공공행정	52,038	7.75
Regional Development	지역개발	197,452	29.41
Telecommunications	통신	2,875	0.43
Foreign Affairs	통일외교	357	0.05
Environment Protection	환경보호	84,054	12.52
Total	Total	671,481	100

Table 23 Number of Inquiries by Policy Area and Policy Domain

Policy Area	Policy Domain	N	Example
공공질서 및 안전	경찰	13	자치경찰대, 특별사법경찰지원단 등
	재난방재및민방위	13,247	방재과, 방재치수과, 안전재난과 등
	재난예방관리	29	재해예방과
과학기술	과학기술연구지원	110	과학기술지원담당관, 당노바이오추진단 등
	유아및초중등교육	3,322	교육과, 교육과학과, 교육발전팀 등
	평생직업교육	5,951	대덕구평생학습원, 도서관과, 감골도서관 등
국방	전력유지	9	군공항이전과, 민군협력과 등
농림	농업농촌	10,228	과수한방과, 농림과 등
해양	임업산촌	7,038	녹색산림과, 산림경영과 등
수산	해양수산업어촌	1,365	수산경영과, 수산진흥과, 어업생산과 등
	관광	10,416	고래관광개발과, 관광개발과, 관광과 등
	문화	8	금산다락원
체육	문화예술	11,026	강동아트센터, 공연예술과, 문예운영과 등
관광	문화재	499	강화박물관, 대가야박물관 등
	체육	5,912	건강체육과, 국민체육센터 등
	보건의료	15,340	간석건강관리센터, 건강과, 감염병대응과 등
보건	식품의약안전	2,899	식생활정책과, 식품안전과 등
	기초생활보장	141	기초복지과, 기초생활보장과 등
	노동	2,692	고용복지과, 노사경제과 등
사회복지	노인청소년	1,495	건강장수과, 경로복지과 등
	보육가족및여성	5,901	가정교육과, 가족여성팀 등
	사회복지일반	11,629	복지과, 복지정책과 등
주택	주택	15	국민생활관, 행복주택팀 등
	취약계층지원	190	남동다문화사업소, 자립지원과 등
	무역및투자유치	734	경제투자과, 기업유치과 등
산업 중소기업	산업중소기업일반	16,757	경제과, 경제산업국, 민생경제과 등
	산업진흥고도화	3,480	경제기업과, 경제기업사랑과, 기업지원과 등
	에너지및자원개발	63	신재생에너지팀, 에너지산업과 등
수송 및 교통	도로	33,564	가로교통팀, 건설도로과 등
	도시철도	630	경량전철과, 도시철도과 등
	물류등기타	141,615	건설교통과, 교통계획과, 교통관광과 등

Policy Area	Policy Domain	N	Example
	철도	186	철도과, 철도정비과 등
	항공공항	5	항공산업과, 항공산업경제과 등
	해운항만	263	경제항만과, 연안관리과 등
읍면동	읍면동	27,934	
일반 공공행정	일반행정	46,479	감사공보담당관, 감사실, 경영개발과 등
	재정금융	5,558	공정조세과, 세무 1 과, 예산담당관 등
지역개발	산업단지	3,328	공단조성과, 단지조성과, 산단관리과 등
	산업단지개발	2	국가산단추진단 전략사업과
	수자원	2,925	생태하천과, 수자원개발과 등
	지역및도시	191,197	개발과, 개발촉진과, 건설과 등
통신	정보통신	2,875	스마트정보과, 자치정보과, 전산정보과 등
통일외교	외교통상	197	국제지원과, 국제통상과 등
	통일	160	통일기본조성과, 남북철도교통과 등
환경보호	대기	11	대기정책과
	상하수도및수질	15,359	맑은물관리과, 물관리과, 상수과 등
	자연	660	고래과, 국가정원관리과, 생태환경과 등
	폐기물	23,905	녹색미화과, 사회위생과, 생활위생과 등
	해양보전	8	새만금해양정책과, 섬자원개발과 등
	해양수산업어촌	1	해양오염사고대책팀
	환경보호일반	44,110	기후환경과, 늘푸른과, 산림휴양과 등

Table 24 Response Time (days) by Policy Area

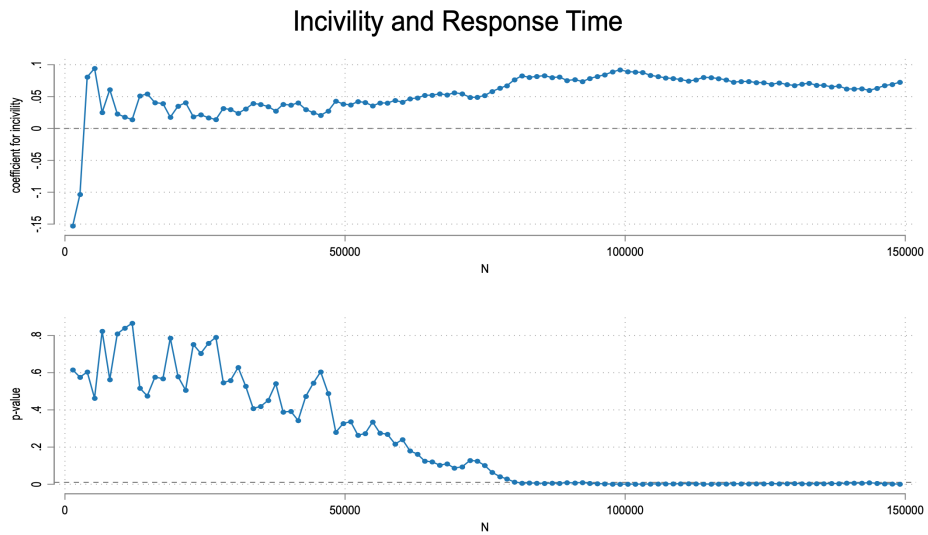
Policy Area	N	Mean	SD	Min	Median	Max
Public Safety	13,289	5.4431	3.8121	0.0108	5.3244	58.6406
Science and Technology	110	4.5358	4.8487	0.2147	3.9847	45.1779
Education	9,273	4.8592	3.3046	0.0113	4.7847	55.9364
Defense	9	5.1636	3.3868	0.7940	5.9564	9.7552
Agriculture, Forestry and Fishery	18,631	5.4566	3.8776	0.0089	5.5598	59.5808
Culture and Tourism	27,860	5.1920	3.5508	0.0093	5.0192	58.7446
Public Health	18,239	4.6566	3.3444	0.0042	4.2211	54.9582
Social Welfare	22,063	5.1817	3.5798	0.0035	5.1345	59.6847
Industry and SMEs	21,034	5.1823	3.6001	0.0040	5.0705	59.2758
Traffic and Transportation	176,263	5.5351	3.7982	0.0076	5.6594	59.9863
Towns and Villages	27,934	4.9579	3.7063	0.0099	4.7864	59.0287
Public Administration	52,038	4.7569	4.0129	0.0002	4.3233	59.9855
Regional Development	197,452	5.8214	3.6921	0.0022	5.9402	59.8980
Telecommunications	2,875	4.4301	3.5271	0.0070	3.9990	58.3630
Foreign Affairs	357	5.8851	2.6299	0.1121	6.1440	19.6853
Environment Protection	84,054	5.3312	3.5122	0.0041	5.2080	59.9859
Total	671,481	5.4306	3.7221	0.0002	5.4054	59.9863

Table 25 Incivility by Policy Area

Policy Area	N	Mean
Public Safety	13,289	0.2341034
Science and Technology	110	0.2545455
Education	9,273	0.2920306
Defense	9	0.4444444
Agriculture, Forestry and Fishery	18,631	0.2837207
Culture and Tourism	27,860	0.3067839
Public Health	18,239	0.344043
Social Welfare	22,063	0.3247065
Industry and SMEs	21,034	0.3119236
Traffic and Transportation	176,263	0.3010898
Towns and Villages	27,934	0.3221522
Public Administration	52,038	0.3081786
Regional Development	197,452	0.2784424
Telecommunications	2,875	0.2316522
Foreign Affairs	357	0.3417367
Environment Protection	84,054	0.2891237
Total	671,481	0.2946621

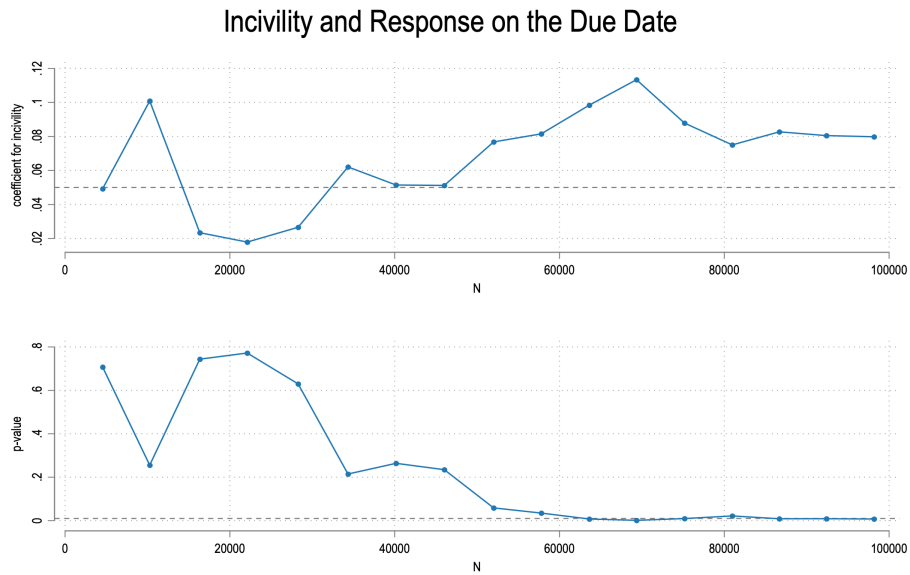
A2. Coefficient and p-value for different sample sizes

Figure 5 Incivility and Response Time: Coefficient and p-value for different sample sizes



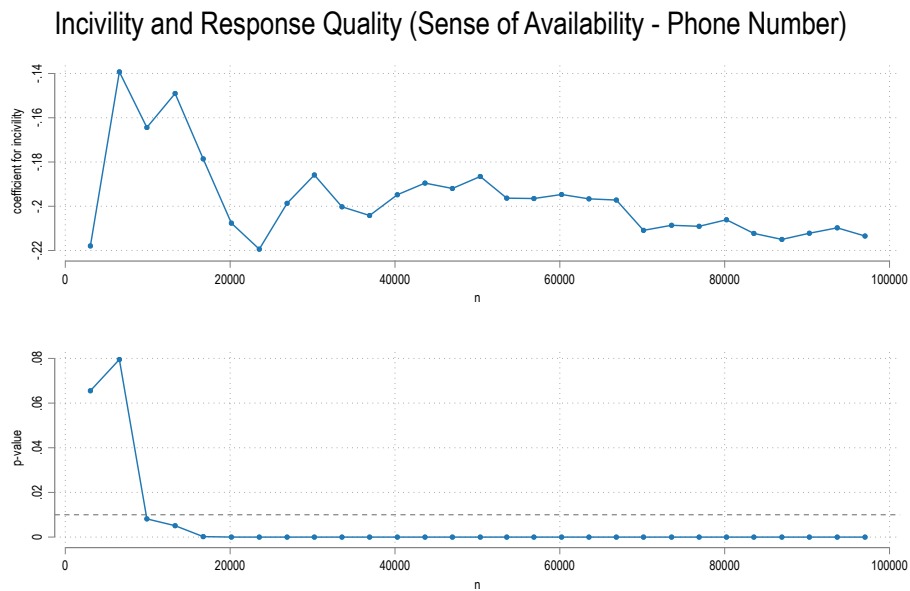
Notes: Zoomed in to $n < 150,000$ for illustration.

Figure 6 Incivility and Response on Due Date: Coefficient and p-value for different sample sizes



Notes: Zoomed in to $n < 100,000$ for illustration.

Figure 7 Incivility and Response Quality (Phone Number): Coefficient and p-value for different sample sizes



Notes: Zoomed in to $n < 100,000$ for illustration.

A3. Respondent-level Characteristics

Although the dataset does not contain a unique identifier for the civil servants, by exploiting the fact that two individuals are unlikely to be working in the same local government and the same division, respondents in each division in local governments can be identified. There are 165,499 unique local government division-respondents.

Table 26 Observations per Division-Respondent

	Mean	Min	P25	Median	P75	Max
Observations per division-respondent	4.1	1	1	2	3	1286

By identifying each respondent by name and the division he or she is in, it is possible account for individual-level effects. One might argue that the characteristics of each individual respondent affect the response time. Highly motivated civil servants would be able to deal with their job demands and prevent exhaustion (Bakker, 2015). Also, public service motivation to serve society and others may also affect how one reacts to incivility. Although it is not possible to measure the level of PSM of the civil servants in the dataset, controlling for respondent-level fixed effect may capture such effect, since public service motivation is a relatively stable concept that does not vary dramatically (Perry et al., 2008; Rainey & Steinbauer, 1999). Organizational culture, leadership, rules and structures, which are important

factors found in the literature on bureaucratic responsiveness (Bryer & Cooper, 2007) can also be considered by individual-level and year fixed effects. The result in Model 4 also shows a positive association between incivility and response time.

Table 27 Incivility and Response Time (Respondent FE)

	(1)	(2)	(3)	(4)
Incivility	0.0519*** (0.0152)	0.0960*** (0.0130)	0.0960*** (0.0129)	0.0723*** (0.0112)
Length of inquiry	0.00244*** (0.0000703)	0.00238*** (0.0000659)	0.00238*** (0.0000659)	0.00203*** (0.0000592)
Revision of CPTA	1.198*** (0.0368)	1.127*** (0.0750)	1.127*** (0.0750)	1.137*** (0.0809)
Law-related	0.260*** (0.0306)	0.167*** (0.0258)	0.167*** (0.0258)	0.116*** (0.0252)
Day of the week	Y	Y	Y	Y
Year FE		Y	Y	Y
Local government FE		Y	Y	
Policy areas		Y	Y	
Respondent FE				Y
Local tax per capita			-0.000242 (0.000282)	-0.000631 (0.000391)
Resident population per employee			-0.000574 (0.000388)	0.00106* (0.000516)
Number of inquiries per employee			-0.000621+ (0.000342)	-0.00175 (0.00142)
Financial autonomy			-0.00202 (0.00338)	-0.00875+ (0.00502)
Constant	4.711*** (0.0250)	0.688 (0.577)	1.026+ (0.624)	5.762*** (0.487)
N	671491	671481	671481	671491
adj. R-sq	0.036	0.086	0.086	0.026

Note: Standard errors, clustered by respondent, in parentheses;

+ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001;

Table 28 Incivility and Response on the Due Date (Respondent FE)

	(1)	(2)	(3)	(4)
Incivility	0.0596*** (0.0134)	0.0542*** (0.0141)	0.0311* (0.0156)	0.0310* (0.0156)
Length of inquiry	0.00105*** (0.0000518)	0.00102*** (0.0000530)	0.00113*** (0.0000606)	0.00113*** (0.0000606)
Revision of CPTA	2.504*** (0.163)	2.515*** (0.165)	2.871*** (0.185)	2.869*** (0.185)
Day of the week	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Local government FE	Y	Y		
Policy areas	Y	Y		
Respondent FE			Y	Y
Controls		Y		Y
Constant	-2.385*** (0.692)	-2.650*** (0.740)		
N	637721	574631	235758	235758

Note: Standard errors, clustered by respondent, in parentheses. Controls include local government-level variables including local tax per capita, resident population per employee, number of inquiries per employee, and financial autonomy. Logistic regression with dependent variable: whether the response was made on the due date.

+ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001

A4. Additional tables on satisfaction

Table 29 Number of Ratings by Respondent-Name/Alias Pairs

Variable	N	Mean	SD	Min	P25	Median	P75	Max
# of ratings by same dyad	55708	17.94	115.23	1	1	1	1	908

Table 30 Citizen Satisfaction by Policy Area

Policy Area	Citizen Satisfaction					Total
	1	2	3	4	5	
Public Safety	399	130	112	151	284	1,076
Science and Technology	1	0	1	2	0	4
Education	326	101	78	101	147	753
Defense	0	0	0	1	0	1
Agriculture, Forestry and Fishery	476	159	173	245	384	1,437
Culture and Tourism	699	213	242	343	526	2,023
Public Health	494	140	152	196	338	1,320
Social Welfare	676	162	182	210	425	1,655
Industry and SMEs	743	181	206	235	327	1,692
Traffic and Transportation	6,755	1,901	1,776	2,204	2,967	15,603
Towns and Villages	909	231	244	347	652	2,383
Public Administration	1,765	423	461	702	1,062	4,413
Regional Development	9,861	1,867	1,636	2,281	3,693	19,338
Telecommunications	55	19	24	36	66	200
Foreign Affairs	15	10	2	6	6	39
Environment Protection	2,708	698	626	921	1,441	6,394
Total	25,882	6,235	5,915	7,981	12,318	58,331

Table 31 Citizen Satisfaction by Policy Area (without duplicated pairs)

Policy Area	Citizen Satisfaction					Total
	1	2	3	4	5	
Public Safety	323	121	102	147	260	953
Science and Technology	1	0	1	2	0	4
Education	243	93	78	95	143	652
Defense	0	0	0	1	0	1
Agriculture, Forestry and Fishery	374	146	156	225	341	1,242
Culture and Tourism	568	205	232	318	468	1,791
Public Health	419	127	144	192	330	1,212
Social Welfare	522	149	170	204	362	1,407
Industry and SMEs	520	168	178	221	282	1,369
Traffic and Transportation	4,981	1,719	1,582	1,960	2,516	12,758
Towns and Villages	730	216	226	332	568	2,072
Public Administration	1,176	346	358	530	979	3,389
Regional Development	5,079	1,713	1,475	2,124	3,338	13,729
Telecommunications	49	19	24	36	60	188
Foreign Affairs	10	8	2	6	6	32
Environment Protection	1,828	660	599	883	1,364	5,334
Total	16,823	5,690	5,327	7,276	11,017	46,133

A5. Additional tables by provincial governments

Table 32 Summary Statistics (Gangwon-do)

Variable	N	Mean	SD	Median	Min	Max
Response time (days)	26938	5.04	3.28	5.04	0	58.35
Incivility	26938	0.31	0.46	0	0	1
Revision of CPTA	26938	0.12	0.32	0	0	1
Law-related	26938	0.05	0.23	0	0	1
Local tax per capita	26938	374.29	76.14	370	201	837
Resident population per employee	26938	199.42	80.09	231.39	60.72	301.82
Number of inquiries per employee	26938	0.09	0.17	0.03	0	1.09
Financial autonomy	26938	68.77	3.92	69.4	54.6	78.2
Sense of availability	26938	0.26	0.44	0	0	1
Phone number	26938	0.38	0.49	0	0	1
Length of inquiry	26938	127.92	125.82	95	1	3065
Length of response	26938	91.27	63.15	78	1	739
On due date	26938	0.06	0.24	0	0	1
Satisfaction rating	2364	3.03	1.57	3	1	5

Table 33 Summary Statistics (Gyeonggi-do)

Variable	N	Mean	SD	Median	Min	Max
Response time (days)	253083	5.85	3.88	5.95	0	59.99
Incivility	253083	0.3	0.46	0	0	1
Revision of CPTA	253083	0.19	0.4	0	0	1
Law-related	253083	0.06	0.23	0	0	1
Local tax per capita	253083	561.04	180.52	548	217	1408
Resident population per employee	253083	335.97	80.4	355.92	67.41	878.92
Number of inquiries per employee	253083	0.62	2.44	0.13	0	76.99
Financial autonomy	253083	71.51	6.37	71.1	53.7	92.8
Sense of availability	253083	0.61	0.49	1	0	1
Phone number	253083	0.77	0.42	1	0	1
Length of inquiry	253083	126.72	126.3	96	1	4946
Length of response	253083	102.81	66.59	87	1	1489
On due date	253083	0.08	0.27	0	0	1
Satisfaction rating	23450	2.49	1.6	2	1	5

Table 34 Summary Statistics (Gyeongsangnam-do)

Variable	N	Mean	SD	Median	Min	Max
Response time (days)	32400	5.29	3.06	5.66	0	59.18
Incivility	32400	0.29	0.45	0	0	1
Revision of CPTA	32400	0.15	0.36	0	0	1
Law-related	32400	0.05	0.22	0	0	1
Local tax per capita	32400	483.85	159.3	468	137	815
Resident population per employee	32400	284.4	111.71	308.15	62.9	459.65
Number of inquiries per employee	32400	0.18	0.34	0.04	0	3.55
Financial autonomy	32400	66.48	3.98	65.8	55.7	83
Sense of availability	32400	0.47	0.5	0	0	1
Phone number	32400	0.62	0.49	1	0	1
Length of inquiry	32400	121.99	114.62	93	1	2347
Length of response	32400	99.92	64.01	88	2	998
On due date	32400	0.07	0.25	0	0	1
Satisfaction rating	2087	2.75	1.64	3	1	5

Table 35 Summary Statistics (Gyeongsangbuk-do)

Variable	N	Mean	SD	Median	Min	Max
Response time (days)	30371	4.93	3.7	4.84	0	59.94
Incivility	30371	0.28	0.45	0	0	1
Revision of CPTA	30371	0.07	0.25	0	0	1
Law-related	30371	0.04	0.2	0	0	1
Local tax per capita	30371	400.7	118.55	404	135	745
Resident population per employee	30371	172.96	66.99	176.3	26.57	262.63
Number of inquiries per employee	30371	0.06	0.19	0.02	0	3.46
Financial autonomy	30371	67.66	4.05	66.8	56	78.7
Sense of availability	30371	0.37	0.48	0	0	1
Phone number	30371	0.56	0.5	1	0	1
Length of inquiry	30371	119.95	111.84	91	1	2275
Length of response	30371	82.95	56.9	70	1	762
On due date	30371	0.05	0.22	0	0	1
Satisfaction rating	2374	2.78	1.59	3	1	5

Table 36 Summary Statistics (Gwangju)

Variable	N	Mean	SD	Median	Min	Max
Response time (days)	4304	5.3	3.86	5.01	0.02	38.21
Incivility	4304	0.26	0.44	0	0	1
Revision of CPTA	4304	0.38	0.49	0	0	1
Law-related	4304	0.06	0.25	0	0	1
Local tax per capita	4304	140.97	36.91	134	78	267
Resident population per employee	4304	515.21	94.07	538.74	173.99	637.71
Number of inquiries per employee	4304	1.6	2.07	0.15	0.03	8.6
Financial autonomy	4304	34.8	3.04	34.8	28.3	41.4
Sense of availability	4304	0.63	0.48	1	0	1
Phone number	4304	0.75	0.43	1	0	1
Length of inquiry	4304	108.48	103.45	81	3	1733
Length of response	4304	86.38	55.27	73	2	868
On due date	4304	0.08	0.27	0	0	1
Satisfaction rating	280	2.69	1.74	2	1	5

Table 37 Summary Statistics (Daegu)

Variable	N	Mean	SD	Median	Min	Max
Response time (days)	28894	5.5	3.66	5.47	0	59.72
Incivility	28894	0.29	0.46	0	0	1
Revision of CPTA	28894	0.3	0.46	0	0	1
Law-related	28894	0.05	0.22	0	0	1
Local tax per capita	28894	189.26	158.58	134	35	693
Resident population per employee	28894	417.54	143.73	418.76	123.68	649.31
Number of inquiries per employee	28894	0.78	1.25	0.08	0	6.02
Financial autonomy	28894	45.27	10.82	41	31.2	74.2
Sense of availability	28894	0.72	0.45	1	0	1
Phone number	28894	0.83	0.38	1	0	1
Length of inquiry	28894	117.07	107.49	90	1	2669
Length of response	28894	101.01	63.61	85	1	885
On due date	28894	0.08	0.28	0	0	1
Satisfaction rating	2324	2.56	1.67	2	1	5

Table 38 Summary Statistics (Daejeon)

Variable	N	Mean	SD	Median	Min	Max
Response time (days)	8971	4.26	2.92	4.03	0.01	59.56
Incivility	8971	0.28	0.45	0	0	1
Revision of CPTA	8971	0.12	0.33	0	0	1
Law-related	8971	0.06	0.24	0	0	1
Local tax per capita	8971	155.94	66.47	142	41	274
Resident population per employee	8971	528.2	83.48	534.63	361.52	796.72
Number of inquiries per employee	8971	0.46	0.86	0.08	0	3.81
Financial autonomy	8971	42.54	6.81	42.5	30.1	61.8
Sense of availability	8971	0.67	0.47	1	0	1
Phone number	8971	0.79	0.41	1	0	1
Length of inquiry	8971	117.16	106.65	91	1	2046
Length of response	8971	91.84	52.9	80	2	1019
On due date	8971	0.03	0.16	0	0	1
Satisfaction rating	603	2.75	1.7	2	1	5

Table 39 Summary Statistics (Busan)

Variable	N	Mean	SD	Median	Min	Max
Response time (days)	68125	4.83	2.95	4.8	0	56.67
Incivility	68125	0.31	0.46	0	0	1
Revision of CPTA	68125	0.33	0.47	0	0	1
Law-related	68125	0.05	0.21	0	0	1
Local tax per capita	68125	194.57	186.6	136	27	940
Resident population per employee	68125	358.32	120.34	378.96	83.82	544.17
Number of inquiries per employee	68125	0.59	0.84	0.11	0	4.22
Financial autonomy	68125	44.47	9.45	41.7	29.2	74.6
Sense of availability	68125	0.57	0.49	1	0	1
Phone number	68125	0.76	0.43	1	0	1
Length of inquiry	68125	119.32	112.44	92	1	4256
Length of response	68125	93.58	57.81	80	1	1274
On due date	68125	0.07	0.25	0	0	1
Satisfaction rating	4655	2.59	1.62	2	1	5

Table 40 Summary Statistics (Seoul)

Variable	N	Mean	SD	Median	Min	Max
Response time (days)	88594	5.39	3.75	5.15	0	59.9
Incivility	88594	0.29	0.45	0	0	1
Revision of CPTA	88594	0.35	0.48	0	0	1
Law-related	88594	0.08	0.27	0	0	1
Local tax per capita	88594	255.97	174.08	195	47	1509
Resident population per employee	88594	317.63	82.44	312.83	99.96	489.49
Number of inquiries per employee	88594	7.02	67.4	0.05	0	1089.47
Financial autonomy	88594	66.24	11.74	65.5	45	91.7
Sense of availability	88594	0.66	0.47	1	0	1
Phone number	88594	0.76	0.43	1	0	1
Length of inquiry	88594	123.08	112.41	95	1	3490
Length of response	88594	120.6	66.22	107	2	1077
On due date	88594	0.08	0.26	0	0	1
Satisfaction rating	7867	2.41	1.66	1	1	5

Table 41 Summary Statistics (Ulsan)

Variable	N	Mean	SD	Median	Min	Max
Response time (days)	12889	5.37	4.42	5.07	0	58.14
Incivility	12889	0.28	0.45	0	0	1
Revision of CPTA	12889	0.08	0.26	0	0	1
Law-related	12889	0.04	0.2	0	0	1
Local tax per capita	12889	244.31	228.03	150	37	1109
Resident population per employee	12889	533.41	141.02	521.28	315.02	709.55
Number of inquiries per employee	12889	0.28	0.71	0.08	0	8.14
Financial autonomy	12889	59.92	6.63	61.1	44.2	74.7
Sense of availability	12889	0.47	0.5	0	0	1
Phone number	12889	0.59	0.49	1	0	1
Length of inquiry	12889	109.99	99.38	85	2	2247
Length of response	12889	85.23	54.87	73	2	779
On due date	12889	0.06	0.23	0	0	1
Satisfaction rating	815	2.68	1.63	2	1	5

Table 42 Summary Statistics (Incheon)

Variable	N	Mean	SD	Median	Min	Max
Response time (days)	36276	5.33	3.17	5.44	0.01	59.86
Incivility	36276	0.28	0.45	0	0	1
Revision of CPTA	36276	0.25	0.43	0	0	1
Law-related	36276	0.06	0.24	0	0	1
Local tax per capita	36276	215.49	157.95	170	42	1010
Resident population per employee	36276	586.38	237.25	658.18	36.26	895.04
Number of inquiries per employee	36276	0.84	1.57	0.17	0	16.34
Financial autonomy	36276	50.74	8.15	51.9	21.9	73.8
Sense of availability	36276	0.56	0.5	1	0	1
Phone number	36276	0.73	0.44	1	0	1
Length of inquiry	36276	111.14	108.32	84	1	3030
Length of response	36276	94.02	61.15	78	2	844
On due date	36276	0.08	0.27	0	0	1
Satisfaction rating	2539	2.59	1.64	2	1	5

Table 43 Summary Statistics (Jeollanam-do)

Variable	N	Mean	SD	Median	Min	Max
Response time (days)	16777	5.21	4.03	4.99	0	59.56
Incivility	16777	0.28	0.45	0	0	1
Revision of CPTA	16777	0.1	0.29	0	0	1
Law-related	16777	0.05	0.22	0	0	1
Local tax per capita	16777	421.69	196.36	364	113	901
Resident population per employee	16777	141.92	54.3	162.99	54.4	280.34
Number of inquiries per employee	16777	0.07	0.16	0.02	0	1.13
Financial autonomy	16777	63.84	5.09	64	46.7	81.2
Sense of availability	16777	0.3	0.46	0	0	1
Phone number	16777	0.49	0.5	0	0	1
Length of inquiry	16777	120.52	112.21	91	1	2009
Length of response	16777	87.46	56.23	77	1	762
On due date	16777	0.06	0.24	0	0	1
Satisfaction rating	1121	2.99	1.7	3	1	5

Table 44 Summary Statistics (Jeollabuk-do)

Variable	N	Mean	SD	Median	Min	Max
Response time (days)	12299	5.09	4.86	4.65	0	58.74
Incivility	12299	0.31	0.46	0	0	1
Revision of CPTA	12299	0.06	0.24	0	0	1
Law-related	12299	0.05	0.22	0	0	1
Local tax per capita	12299	309.87	89.42	292	138	831
Resident population per employee	12299	195.2	94.42	166.03	60.93	437.9
Number of inquiries per employee	12299	0.05	0.13	0.02	0	1.8
Financial autonomy	12299	61.91	3.97	62.5	50.4	69.3
Sense of availability	12299	0.43	0.5	0	0	1
Phone number	12299	0.54	0.5	1	0	1
Length of inquiry	12299	129.3	131.46	96	1	2720
Length of response	12299	85.46	58.32	73	1	910
On due date	12299	0.05	0.21	0	0	1
Satisfaction rating	896	2.69	1.7	2	1	5

Table 45 Summary Statistics (Chungcheongnam-do)

Variable	N	Mean	SD	Median	Min	Max
Response time (days)	37005	5.52	4.3	5.4	0	59.66
Incivility	37005	0.3	0.46	0	0	1
Revision of CPTA	37005	0.26	0.44	0	0	1
Law-related	37005	0.06	0.23	0	0	1
Local tax per capita	37005	587.38	233.85	552	160	1074
Resident population per employee	37005	237.17	102.07	232.71	56.86	413.37
Number of inquiries per employee	37005	0.33	0.62	0.06	0	5.58
Financial autonomy	37005	66.04	4.63	66.2	53.5	79
Sense of availability	37005	0.38	0.49	0	0	1
Phone number	37005	0.62	0.49	1	0	1
Length of inquiry	37005	123.54	117.8	93	1	2312
Length of response	37005	85.86	60.73	72	1	1032
On due date	37005	0.08	0.27	0	0	1
Satisfaction rating	2987	2.54	1.64	2	1	5

Table 46 Summary Statistics (Chungcheongbuk-do)

Variable	N	Mean	SD	Median	Min	Max
Response time (days)	13466	4.48	3.05	4.16	0	59.68
Incivility	13466	0.29	0.46	0	0	1
Revision of CPTA	13466	0.09	0.28	0	0	1
Law-related	13466	0.05	0.22	0	0	1
Local tax per capita	13466	399.58	130.8	376	163	897
Resident population per employee	13466	186.55	88.73	180.24	72.14	461.63
Number of inquiries per employee	13466	0.13	0.25	0.02	0	1.14
Financial autonomy	13466	65.62	3.41	65.4	57	75
Sense of availability	13466	0.37	0.48	0	0	1
Phone number	13466	0.56	0.5	1	0	1
Length of inquiry	13466	136.29	150.52	98	2	3356
Length of response	13466	89.5	59.58	77	1	991
On due date	13466	0.05	0.21	0	0	1
Satisfaction rating	1245	2.59	1.68	2	1	5

A6. Time trends

Figure 8 Average Incivility over Time

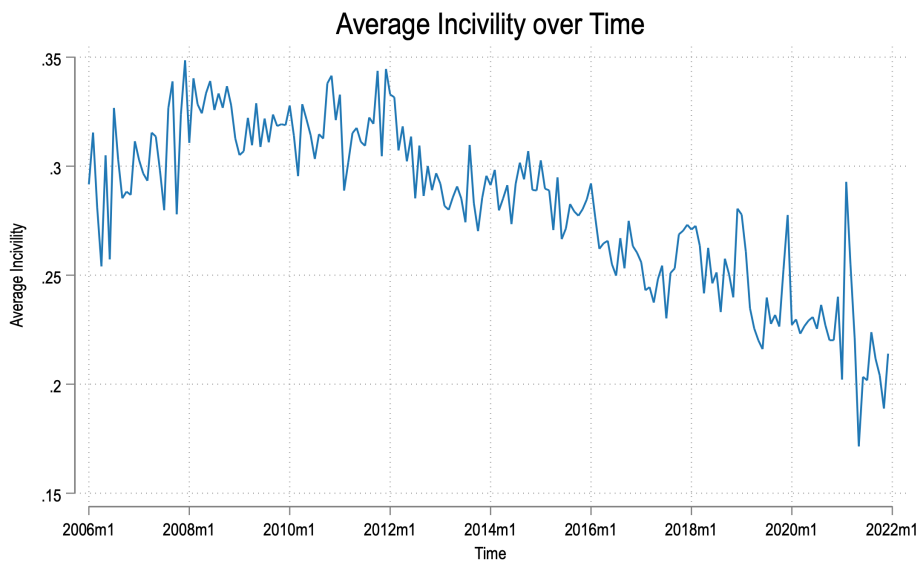
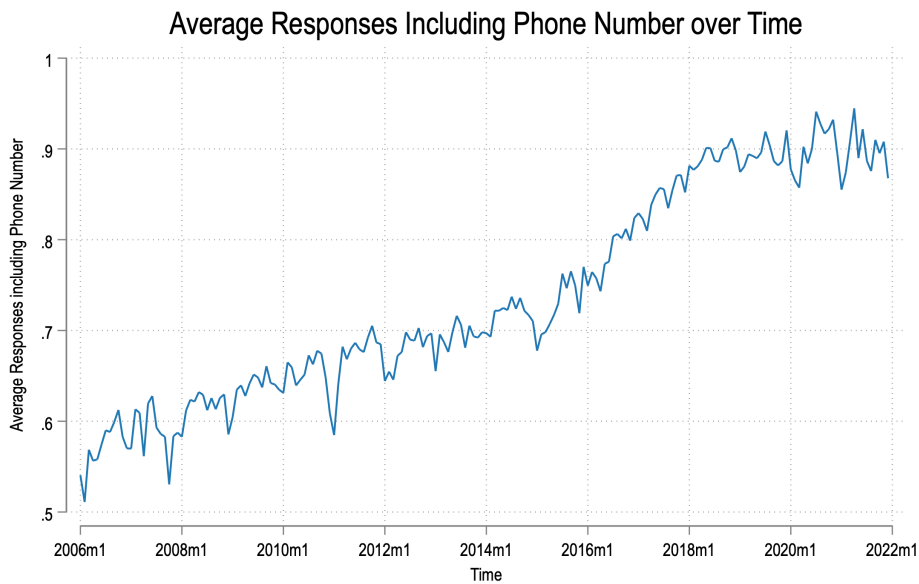


Figure 9 Average Responses Including Phone Number over Time



A7. Correlations

Table 47 Correlations

		A	B	C	D	E	F	G	H	I	J
A	Response time	1									
B	Incivility	0.0304	1								
C	Length of inquiry	0.0758	0.3866	1							
D	Length of response	0.0912	0.1133	0.2101	1						
E	Sense of availability	0.0421	-0.0157	-0.0059	0.2593	1					
F	Phone number	0.016	-0.0336	-0.0344	0.1562	0.3776	1				
G	Satisfaction rating	-0.1455	-0.1952	-0.1391	-0.1024	0.0581	0.0724	1			
H	Local tax per capita	0.108	-0.0159	0.0037	0.0004	0.0336	0.0883	-0.008	1		
I	Resident population per employee	-0.0111	0.0012	-0.0264	0.0354	0.0914	0.1267	-0.0324	-0.3146	1	
J	Number of inquiries per employee	0.0157	-0.0161	-0.0023	0.0177	0.0044	-0.0346	-0.0307	-0.0072	-0.003	1
K	Financial autonomy	0.0463	0.0203	0.0394	0.0197	-0.073	-0.1179	-0.0022	0.5548	-0.3024	-0.0375

A8. Sample of the words from output

공무원	담당_공무원
공무원	구청_직원
공무원	공무원_자세
공무원	공직자
공무원	공직
공무원	일선_공무원
공무원	공무
공무원	열심히_일하다_공무원
공무원	철_밥통
공무원	공무원_나리
공무원	세금_월급_받다
공무원	국민_세금_월급_받다
공무원	공무_수행하다
공무원	직원
공무원	공무원_자질
공무원	공무원_철_밥통
공무원	업무_임하다
공무원	공익_근무_요원
공무원	구청_직원
공무원	복지부동
공무원	나라_녹_먹다
공무원	공무_집행하다
공무원	공무원_월급
공무원	소속_공무원
공무원	소속_직원
공무원	공무원_신분
공무원	봉급_받다
공무원	공무원_나으리
공무원	행정원
공무원	철_밥통_공무원
공무원	국가_녹_먹다
공무원	국민_위하다_봉사하다
공무원	민원인_응대하다
공무원	공무원_욕_먹다

A9. Random sample of discourteous words in lexicon

직무유기 업무태만, 막무가내식, 공무원 직무유기 해당되다, 국민 세금 낭비하다, 아주 통명스럽다, 친일과 노릇, 아양 떨다, 심히 의심하다, 민원인 겁박하다, 신물 나다, 늑장 처리, 월급 축내다, 앵무새 되뇌다, 허위 날조, 뽀뽀 우기다, 임기응변식, 오히려 다그치다, 그냥 입 닥치다, 나라 녹 먹다, 알량한, 비아냥거리다, 태도 응대하다, 무사안일주의, 행복추구권 무시당하다, 세금 낭비하다, 국민 우롱하는 처사, 억압 태도, 말투 일관한, 복지부동, 대한민국 공무원 욕먹다, 후안무치하다, 소통 불통, 재량 일탈하다, 아깁다 생각 들다, 업체 두둔하다, 흥청망청, 슬쩍 넘기다, 뒷북치다, 녹 먹다, 짜증 섞이다 목소리, 직무유기 혐의, 한심한 따름, 억지 주장, 뻔뻔한 작태, 찾아가다 항의하다, 고압 태도, 나태하다 공무원, 머리 나쁘다, 속이다 기만하다, 왜곡 보도하다, 농락하다, 외면당하다, 권한 남용하다, 무시 멸시, 법 조항 들먹이다, 전형 관료주의, 하늘 노하다, 참내 원, 무시하다 깔보다, 신분 노출, 고발 운운하다, 조롱 조롱, 당장 파면하다, 사과 고사하고, 참 어이, 경솔하다 처사, 뇌물 수수한, 업무 미숙, 경거망동하다, 책임 떠넘기는 식, 전체 공무원 욕먹다, 서로 떠넘기다, 의구심 증폭되다, 그래서 어찌라고, 콧등 듣다, 편의 발상, 피 같다 세금 운영되다, 경도되다, 똥 퍼붓다, 태도 무척 불쾌한, 똑똑한 척하다, 무표정한, 귀머거리, 뇌물 먹다, 양심 불량, 썩다 정치인, 귀로 흘려보내다, 탁상공론하다, 불쾌감 모욕감, 직무유기 해당하다, 불가항력 개판 행정, 시민 혈세 축내다, 양심 팔다, 부정하다 방법, 현실 도외시하다, 우습다 여기다, 말투 툭툭, 귀싸대기, 건성건성 대충, 굉장히 언짢다, 기분 나쁘다 직원, 눈 감다 아웅, 혀 차다, 세금 봉급 받다, 불성실하다 태도 일관한, 태도 기생하다, 단단히 각오하다, 너무 안이한, 복지부동하다, 국가 녹봉 받다, 따듯한 사무실 앓다, 무사 안일하다, 비리 연관되다, 아전인수, 업무 해태하다, 월급 국민 세금, 재량 남용하다, 축소 은폐하다, 호의호식하다, 더럽다 놈, 밥그릇, 꼬투리 잡기, 행정력 낭비, 최소한 기본 예의, 졸속 행정, 오만 불손하다 태도, 인성 교육 필요하다, 잘못되다 관행, 시민 위 군림하다, 세금 축내다 공무원, 무능 공무원 퇴출

A10. Sample of words with sense of availability in administrative language

궁금하신, 답변하다, 더욱 상세히, 문의하다 소상히, 문의하다 정성껏, 보다 상세한, 상세하다, 상세한, 상세한 설명, 상세한 안내하다, 상세히, 상세히 답변하다, 상세히 설명하다, 상세히 안내하다, 성실히, 성심, 성실하다, 상심 성의껏, 성신 성의껏, 성심껏 답변하다, 성의껏 상담하다, 소상한, 소상히, 신속 정확히, 신속하다 처리하다, 신속히 조치하다, 신속히 처리하다, 신속히 해결하다, 안내하다, 연락, 연락 주시, 자세하다, 자세한 답하다, 자세한 설명, 자세히, 자세히 상담하다, 정성껏, 정성껏 답하다, 정상껏 응답하다, 충실하다, 친절하다, 친절하다 답하다, 친절하다 상세한, 친절하다 설명하다, 친절하다 성의, 친절하다 소상한, 친절하다 안내하다, 친절히, 친절히 답변하다, 친절히 답하다, 친절히 대답하다, 친절히 상담하다, 친절히 안내하다

A11. Validation

A limitation of a dictionary-based approach is that it calculates the proportion of words in a text without considering the consistent meaning of each word. This limitation can affect the validity of the analysis, as its applicability may depend on the domain to which the analysis is applied (Van Atteveldt et al., 2021). The custom dictionary used in this study is being validated with the *golden standards* (Van Atteveldt et al., 2021) manually coded by outside annotators to assess the performance of the dictionary. Three annotators independently classified 1,500 cases, and they identified 19.5% of cases involving client incivility.

An empirical evaluation of the performance of various sentiment analysis methods conducted by Zhu et al. (2022) revealed that the most effective lexicon-based approach has an accuracy of 0.733 and an F1-score of 0.616. These results are based on binary classifications with imbalanced classes, where the difference between the proportion of sentiment classes exceeds 20%. According to a meta-analysis of 272 datasets by Hartmann et al. (2023), the accuracy of binary classification can be as low as 50% and can reach a high of 72%.

The classification results presented in Table 48 suggest that the results are in line with those from other studies. Even though the accuracy

does not match that of machine-learning approaches, given the limitations inherent in dictionary-based approaches, the performance is not subpar.

Table 48 Classification Results

	Precision	Recall	F1-score	Support
Civility	0.89	0.77	0.83	1207
Incivility	0.39	0.59	0.47	293
Macro Avg	0.64	0.68	0.65	1500
Weighted Avg	0.79	0.74	0.76	1500
Accuracy			0.74	
Mean Absolute Error			0.26	
Root Mean Squared Error			0.51	

A12. Interview

Semi-structured interviews are conducted with six officials working in local government across three provinces, representing different levels of administrative division including a metropolitan city, a city (Si), and a district (Gu). These interviews took place either in person or over the phone and lasted between 35 minutes to an hour. The interviewees primarily held lower ranks and had experience in, or were currently responsible for, service provision in various policy areas such as traffic management, environmental affairs, and administration. The interviews were approved by Seoul National University IRB No. 2209/002-011.

Interviewee A: Municipal government, Rank 8, May 23, 2023

Interviewee B: Municipal government, Rank 8, May 24, 2023

Interviewee C: Municipal government, Rank 8, May 24, 2023

Interviewee D: Provincial government, Rank 6, May 26, 2023

Interviewee E: Provincial government, Rank 8, May 26, 2023

Interviewee F: Municipal government, Rank 9, May 30, 2023

Sample questions are provided on the following page. Please note that the actual questions asked during the interview may include these sample questions as well as additional ones.

Sample questions:

1. 귀하의 직급과 근무기간, 그리고 그동안 담당하셨던 민원 분야에 대해 간략히 말씀해주시요. 담당하셨던 분야가 다른 민원 분야보다 수월하거나 어렵다고 느끼십니까?
2. 실제 대면 업무와 온라인을 통한 민원 업무에는 어떠한 차이점이 있습니까?
 - 1) 둘 중 선호하시는 민원 방식이 있습니까? 어떠한 방식이 더 수월합니까?
 - 2) 업무 처리 순서의 측면에서 비교해주시요. 대면업무는 대기번호에 따라서 민원을 처리할텐데, 온라인으로 들어온 민원은 어떠한 순서로 처리됩니까?
3. 온라인에 공개되는 민원과 비공개 민원에는 어떠한 차이가 있습니까? 공개되는 민원에 답변하실 때 비공개 민원에 비해 추가로 고려하시는 사항이 있습니까?
4. 악성민원으로 분류하시는 민원은 무엇입니까?
 - 1) 계속 반복해서 제기하는 민원이나, 현행법상 불가능하지만 계속 처리해달라고 요구하는 민원은 어떻게 관리하십니까?
5. 민원에 실린 민원인의 감정에 따라 대응방식에 차이가 있습니까?
 - 1) 욕설이나 협박 등 매우 무례하거나 불쾌한 민원 내용이 귀하의 답변에 영향을 미칩니까? 만약 그렇다면 어떠한 방식으로 영향을 미칩니까?
 - 2) 정중하고 친절한 민원에 대해서도 말씀해주시요.
 - 3) 민원인이 처한 상황(절박한 상황 등)을 알게 되는 경우 고려하시는 사항이 있습니까?
 - 4) 대면이 아닌 온라인 민원에 대해서도 민원인의 태도 및 감정에 따라 대응방식에 차이가 있습니까?
6. 지나치게 감정적인 민원도 앞서(2-2) 말씀하셨던 업무처리 방식이나 순서가 동일하게 진행됩니까? 그렇다면, 또는 그렇지 않다면 왜 그렇습니까?

7. 귀하의 업무가 감정노동에 해당한다고 생각하십니까? 그렇다면, 또는 그렇지 않다면 왜 그렇게 생각하십니까?
8. 현재 일반적인 민원 처리 기한이 7일로 되어 있는데 적절한 처리 기한이며칠이라고 생각하십니까? 처리 기한이 필요하다고 생각하십니까?
 - 1) 처리 기한보다 늦으면 귀하께 불이익이 있습니까? 기한보다 늦는 경우가 잦은 민원은 어떠한 민원입니까?
 - 2) 처리 기한보다 빠르게 처리하면 돌아오는 별도의 혜택이 있습니까? 기한보다 빠르게 처리하시거나 기한에 맞추어 처리되는 민원은 어떠한 특성을 가지고 있습니까?
 - 3) 동일한 내용을 요구하는 민원이라도 우선 처리하시는 민원이 있습니까?
9. 시장이나 구청장에 따라서 민원 처리 방식이 달라집니까?
 - 1) 민원 업무에 대한 지원이나 매뉴얼에서 차이가 있습니까?
 - 2) 임기나 공약 등도 민원서비스 처리 업무에 영향을 미칩니까? 민원 업무를 특히 강조하는 시기가 있습니까?
 - 3) 민원 담당 과장이나 관리자에 따라서도 민원 처리 방식에 차이가 있습니까?
10. 민원인이 청찬계시관 등에서 특정 담당자를 지목하는 경우 기관에서 받는 혜택이 있습니까? 반대로 담당자에 대해 민원이 제기되는 경우 불이익이 있습니까?