

Before Virtuous Practice. Public and Private Sector-specific Preferences for Intuition and Deliberation in Decision-making

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Before Virtuous Practice. Public and Private Sector-specific Preferences for Intuition and Deliberation in Decision-making

Fast and intuitive thinking, as well as emotions play a large role in decision-making. The sociology of wise practice within public administration also suggests that thinking preferences like the use of intuition form a cornerstone of public administrators' virtuous practice. This contribution uses conceptual and theoretical resources from behavioral sciences and public administration to find out whether individual level differences between public and private sector employees exist with regard to thinking preferences. The article investigates variables that have been subject to extensive research, and integrates their clout with the discourse in public administration. Institutional frameworks and social structures may enable or impede the habituation of virtue. The contribution empirically analyses this assumption with respondents from North America (n=247) and the European Union (n=1532) with regard to the thinking styles preference for intuition and preference for deliberation. The public and private sector differ significantly in terms of preference for deliberative as well as intuitive thinking. A surprising result is that private sector employees rank higher than public sector employees on both scales. Differences in deliberation show a small effect whereas the effect size with regard to intuitive thinking is negligible. The discussion explores possible explanations for such differences and similarities.

Keywords: intuition; deliberation; decision style; virtue; wisdom; public-private-sector comparisons

Introduction

The best craftsmen are aware of the fact that their efforts are adventurous, lack any clear blueprint, and require skilled *intuition* or ‘tacit knowledge’ (Polanyi & Sen, 2010) – i.e., implicit or unarticulated knowledge that can only be acquired through personal experience, continuous learning and on-the-job tenure (emphasis added van Steden, 2020, 241).

Public administration’s discussion of ethics has been influenced by interpretations of Aristotle’s virtue ethics as a path to make good decisions (for a summary see Overeem and Tholen (2011), Rooney and McKenna (2008), and van Steden (2020). Business administration in the private sector also builds on Aristotle to bring about good decisions through virtue, for a perspective from organization studies see Massingham (2019) and McKenna, Rooney, and Liesch (2006). The cognitive grid separating public and private sector (Haldén, 2013) is an established field of inquiry (Andersen, 2010; Bullock, Stritch & Rainey, 2015; Meier & O’Toole, 2011). While there is a consensus in the literature that public-sector organizations operate on different base assumptions than private-sector organizations, individual level sector differences with regard to decision-making are hardly documented (Baarspul & Wilderom, 2011). Given the rising interest in wisdom studies of organizations more broadly and behavioral public administration more specifically (Grimmelikhuijsen, Jilke, Olsen & Tummers, 2017), the dimensions of intuitive decision-making remain to be further investigated (Nørgaard, 2018). Investigating whether employees in public administration differ from employees in the private sector in terms of decision-making promises further insight into the sector’s potential for wise practice. This article contributes to psychology-informed public administration research (Grimmelikhuijsen et al. 2017), through specifically building on the study of intuition (see e.g., Sadler-Smith, 2012), and thereby contributing to behavioral public administration. To do so, this contribution links virtue

to thinking processes researched in cognitive psychology in order to explore prudence of public administrators.

For Aristotle, practical knowledge and moral virtues go hand in hand: it is impossible to be practically wise without being good (van de Ven & Johnson, 2006). Eikeland (2008, 53) remarks that *phronesis* has ‘both an intellectual virtue and an ethical virtue’; for Overeem and Tholen (2011) *phronesis* is prudence of public administrators; Van Steden (2020) suggests that public administration can learn from Aristotle to study virtues instead of values (see also de Vries & Kim, 2011).

To study virtue, we draw on the dual thinking processes established in the psychology of decision-making (Sadler-Smith, 2012, 373): System 1 (intuition and affect) and System 2 (analysis and reason) (Kruglanski, 2013). Public administration professionals’ wise practice has been highlighted in the work of Newman, Guy, and Mastracci (2009), who distinguished between skills of analysis and reason (System 2) and emotion work skills (System 1). Wise decision-making has also been associated with an interplay of System 1 and System 2 (Sadler-Smith, 2012, 373). The overall importance of the two thinking processes and their relationship to decision-making has been recognized across public service policy fields as well as different countries and continents (Guy, Mastracci & Yang, 2019).

Researchers reconstructing the cognitive processes that foster *practical* wisdom refer to intuition, when they describe virtuous practice or practical wisdom from a practitioners’ point of view (Paanakker, 2019; Rooney & McKenna, 2008; van Putten, 2020; van Steden, 2020) and to cognitive psychology to draw more nuanced pictures of decision-making around bureaucracies (Nørgaard, 2018).

However, even though these studies unearth research favoring an additional focus on intuition, their work is only loosely connected to classical research on

intuition. Repeatedly, the community of behavioral public administration scholars call for diverse theoretical and methodological contributions to improve research on public organizations (Davis & Stazyk, 2017; Hou, Ni, Poocharoen, Yang, & Zhao, 2011; Jankowski, Prokop, & Tepe, 2020; Kasdan, 2020). Intuition and fast thinking in particular should be featured more prominently in behavioral public administration research (Nørgaard, 2018). A guiding principle of this school is to consistently build on psychological research to examine the applicability to public organizations. Only after finding psychological characteristics specific to public sector, the development of new domain-specific constructs begins (Kim et al., 2013; Nørgaard, 2018). In spite of multi-method inquiries in public administration (for an overview see Raimondo & Newcomer, 2017; Yang, 2021), the bridges between qualitative methodology (e.g., interviews or ethnography Massingham, 2019) and quantitative methodology (e.g., Rooney & McKenna, 2008) leave room for development. This contribution takes well established constructs from psychology and applies them to a diverse sample, in order to ascertain the assumed specificities of the public sector. Moderating between adjacent scholarly debates, the paper therewith adds a missing quantitative sample in work on wisdom in public administration to facilitate an integration of practice-based approaches of sociological wisdom research.

Before Virtue Come Thinking Preferences

The conversation about potential blind spots in wisdom research continues both in public administration (van Steden, 2020) and business research (Nonaka, Chia, Holt, & Peltokorpi, 2014). Thinking preferences and wisdom research are based in cognitive psychology. Virtues are universal and apply in both public (Koliba, Mills, & Zia, 2011) and private sectors (Horwitz, 2010). They may surface, become consciously aware, and draw wide attention when disaster strikes, e.g., during emergency management

practices. Wise decisions are needed in every sector (McKenna, Rooney, & Liesch 2006; Wittmer, 2000). The proliferation of wisdom research applied in the private sector (Bachmann, Sasse, & Habisch, 2018; Rooney, Küpers, Pauleen, & Zhuravleva, 2021) appears applicable to the public administration discourse. Given that public services are carried out by the private sector as well, the line between public and private service provision may become blurred (Jilke, Van Dooren, & Rys, 2018). The sociology of wisdom research program suggests that excellence in public and private sector practices exemplifies *phronesis* along the lines of Aristotle's ethical philosophy (2000, 1218b37-1219a1), understood as prudence, practical virtue, and practical wisdom. Intuition scholars like Sadler-Smith (2012) suggest that using both thinking processes may account for *phronesis*. An instance of wise practice could be, e.g., knowing when a situation needs more emotional labour, rather than rational-scientific conduct (Newman et al. 2009; Vigoda-Gadot & Meisler, 2010; Volckmar-Eeg & Vassenden, 2021). The practice-based approaches of sociological wisdom research lay an emphasis on intuition (van Putten, 2020). Paanakker (2019, 893) for example, draws propositions from ethnographic research in the public sector, highlighting the generally opposing frames of using intuition and the application of formalized, institutionalized tools and metrics. This article contributes towards the overarching question raised explicitly in behavioral public administration (Nørgaard, 2018): Is there a propensity of public administrators to use intuitive (System 1) rather than deliberative thinking (System 2)?

The findings can be used to gauge whether public administrators display thinking preferences of "virtuous agents" (Beadle & Moore, 2006). Based on this contribution, future research can highlight how decision-making of public administrators can become wiser (Rooney & McKenna, 2008) from a multidisciplinary perspective including biological, brain, and behavioral sciences drawing on

explanations of virtue ethics (Hodgkinson & Sadler-Smith, 2018; Sadler-Smith, 2012). Assumptions about thinking preferences relevant to virtue ethics, are tested with methods from decision-making research (Betsch, 2004, 2008). The following is set to briefly outline the main takeaway from the field of intuition that sees an increasing interest from public administration scholars, before the article reporting empirical approach.

Explaining Intuition

Intuitions are “affectively charged judgments that arise through rapid, non-conscious and holistic associations” (Dane & Pratt, 2007, 33). Simon (1997) states that pattern recognition is the key process in intuitive decision-making, because it allows experts a rapid access to their tacit knowledge base to make quick and successful decisions. Simon (1997) regards decisions as a desirable research theme for the entire field of public administration. Effectively managing intuition is presumably a base skill for wiser decision outcomes. Overall, many scholars have endorsed intuition from a dual process perspective. Dual-process theory (e.g., Epstein, 1994; Evans, 2011; Sloman, 1996; Stanovich & West, 2000;) holds that there are two types of cognitive processes underlying judgments, decisions, and problem solving. People use both thinking processes, but tend to display a preference for either one thinking style (Betsch, 2004), even though both processes compete for guiding decision-makers (Hodgkinson & Sadler-Smith, 2018).

System 1 processes are automatic, fast, unconscious, and referred to as the heuristic, intuitive processes. System 2 processes on the other hand are slower, conscious, deliberative, and referred to as rational, analytical, or deliberate processes. In this context, default-interventionist accounts of dual processes imply that judgments come to the mind fast and without effort from System 1 processing (Kruglanski, 2013).

The interplay of System 1 (intuition and affect) and System 2 (analysis and deliberation) allows people to become virtuous (Sadler-Smith, 2012, 373). Therefore, respondents with a high score on both scales are assumed to display the thinking processes indicative of wisdom. Sadler-Smith (2012, 357) suggests that to leverage virtue more effectively, psychological inquiry like the dual process theory of thinking can be fruitfully applied within research programmes that focus on moral learning as a socially-situated phenomenon (e.g., Kaptein, 2008; Solomon, 2004).

The lack of development and integration of dual process perspective within the public administration research is somewhat surprising since several connections to ongoing work can be observed: Filiz and Battaglio, Jr (2015) treat intuitive decision-making of public administrators, as well as Nørgaard (2018). Battaglio, Jr., Belardinelli, Bellé, and Cantarelli (2019) provide a comprehensive overview of the linkages between behavioral science and public administration, focussing on the works of intuition scholars. However, no connections to wisdom theory, wise practice, or virtue are highlighted.

Even though, wisdom theory based on cognitive frameworks using quantitative methodologies is used (e.g. Ermasova, Clark, Nguyen, & Ermasov, 2018), little integration of the dual process theory of thinking (e.g., Epstein, 1994; Evans, 2011; Glöckner & Witteman, 2010; Sloman, 1996; Stanovich & West, 2000;) may be seen. Two rare examples are the work of Moseley and Thomann (2021) looking into the use of intuition in administrative decision-making and Volckmar-Eeg & Vassenden (2021) focussing the usage of intuition among street-level bureaucrats. Different sub-fields acknowledge the relevance of the use of intuition and the practice of wise management, or *phronesis*. However, these contributions are dispersed (for an overview, see Ames, Serafim & Zappellini, 2020).

Rooney and McKenna (2008) suggest a liminal space for quantitative research in a cognitive tradition in support of wisdom theory. This liminal space between behavioral public administration reveals that the reality and everyday decisions of public servants remain to be explored. The preference to make quick and automatic decisions may be reduced by well-defined institutional roles and regulations in the public sector (Meier & O'Toole, 2011). Empirical research into wisdom should account for the preferred decision-making style in the public sector and in the private sector, since the perceived discretion to act indicates everyday behaviors (Roman, 2015) with potentially wider implications for administrative theory and practice (Nørgaard, 2018).

Assumptions about Public-Private Sector Differences

Some studies have addressed issues of restrictions on public employees' decision-making (Connor & Becker, 2003; Fallman, Jutengren, & Dellve, 2019; Turaga & Bozeman, 2005; Villadsen, Hansen, & Mols, 2010). In their article on administrative discretion and street-level bureaucracy Volckmar-Eeg and Vassenden (2021) point out that the research barely looked into emotions in decision-making (see also Zhang, Yang, Walker & Wang, 2022). Mostly, the works in this domain are addressing personal bias (e.g., Battaglio, Belardinelli, Bellé & Cantarelli, 2019; Moseley & Thomann, 2021; Nagtegaal, Tummers, Noordegraaf & Bekkers, 2020; Resh, Wilkes & Mooradian, 2020;). Restrictions on decision-making in the sense of a limited discretion to act (Meier & O'Toole, 2011) are considered higher inside public sector organizations in comparison to private sector organisations (Wangrow, Schepker, & Barker III, 2015). The theoretical basis is already thoroughly laid out. Ritz and Thom (2019) summarize the work of Meier and O'Toole (2011), showing a weaker influence of management actions in public organizations compared to private organizations; private organizations are comparatively better at using advantageous situations in the external organizational

environment because they have learned to adjust to such situations. Turbulent organizational environments offer more opportunities for this. Due to the more structured organizational environment, public organizations place more value on internally rather than externally oriented management actions. Public managers operate on more stable assumptions about the environment than private managers, while private managers appear more exposed to volatility, uncertainty, complexity, and ambiguity (Wangrow et al. 2015; Karlsson, 2019). Therefore, this contribution builds upon three selected assumptions in prior literature that are pertinent to decision-making styles:

First, the range or the variance in actions that management can take inside the organization in the public sector is more limited than the range of actions that managers can take in the private sector (Meier & O'Toole, 2011, 288). Second, individuals in the public sector have a stronger preference for deliberation that maintains the range of available actions, compared to individuals in the private sector. Third, individuals in the public sector could be more obliged to justify and reason their decisions towards others.

Overall, the sizeable number of rules and regulations may lead public employees to train a preference for deliberation and to reduce potential distortions in decision-making (Nørgaard, 2018). By extension, it is assumed that in public service provision people learn more rules and regulations, resulting in a preference for deliberation being a learned preference in the public sector. Likewise, people with a prior disposition for deliberation might rather choose a career in public service, as person-organization fit would presume (O'Reilly, Chatman & Caldwell, 1991). People with an orientation toward intuition and a looser rules-based framework might prefer work in the private sector. Here the range of managerial options in terms of exploiting the environment is greater than the range of options in the public sector (Meier & O'Toole, 2011). Private

sector employees could have a stronger preference for intuition since the range of options during decision-making is greater than the range of options in the public sector.

Two pure organizational types will be covered referring to a governmental agency as a public sector organization and to the for-profit business firm as the prototypical private sector organization. These definitions of archetypical public and private sector organizations are similar to the ones used by other authors in the field (e.g., Hooijberg & Choi, 2001; Wamsley & Zald, 1973).

A decade ago, Baarspul and Wilderom (2011) found that there is no obvious pattern of irrefutable factual data to support the idea that employees behave differently across industries.

The research question of this contribution is: Do public and private sector employees differ in their decision-making preference?

Methods

Testing specific hypotheses using multi-country statistical data is common in public administration (see Pollitt, 2011). The hypotheses to be tested are: H1: “Public and private sector employees differ in their preference for deliberation” and H2: “Public and private sector employees differ in their preference for intuition”. The hypotheses only refer to differences because no former studies exist that could imply a relationship of any kind and this research firstly investigates private and public sector employees’ preference for deliberation or intuition.

Sample and Data Collection

The data was collected as part of a larger online questionnaire on intuition and digital trust at the workplace between March and August 2020. The participants filled in the online survey after invitations via a participant recruitment agency via snowball

sampling through social media in professional and private networks. An overall response rate cannot be given because it is unknown how many potential respondents received the questionnaire. Considering all respondents who started the questionnaire 55.7 % submitted a fully answered survey. This data was analyzed using SPSS V26. The final sample for this study consisted of 1679 participants ($n_{female} = 722$, $n_{male} = 978$ male, and not indicating their gender: $n = 79$). Women were underrepresented in both sectors (private sector: $n_{female} = 529$, 43.33%; public sector: $n_{female} = 133$, 35.09%) Most participants were from the EU ($n = 1532$) with respondents from 9 European countries (Austria, Czech Republic, Germany, Poland, Portugal, Romania, Slovakia, Spain, and Sweden). Most respondents ($n = 893$; 53.13%) are between 39-58 years old. Table 1 indicates the distribution of the sample by age and sector.

Shapiro-Wilk and Kolmogorov-Smirnov tests designate that the data is not normally distributed. No claim is made that the samples investigated are representative for all public and all private sector employees in the European Union or North America. The aim of this study is to examine an independent variable with two levels and a dependent interval variable in a skewed sample. Therefore, a Mann-Whitney-U analysis of difference was conducted to test the hypothesis (Nachar, 2008). It is the most appropriate test for this study because it is more conservative and less prone to Type I errors (Gibbons & Chakraborti, 1991).

Instruments

To measure the preference for deliberation and intuition in decision-making the PID-inventory by Betsch (2004, 2008) was used. Thirteen self-disclosure items were translated into the respective national language. The PID is a valid and reliable test of decision-making preference consisting of two scales: one measuring preference for rational decision-making (5 items, e.g., “I tend to be a rational thinker.”; Cronbach’s

Alpha .892) and second scale measuring preference for intuitive thinking (6 items, e.g., “I am an intuitive individual.”; Cronbach’s Alpha .867). Items were assessed on a 4-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree).

Results

Descriptive Statistics

Enter Table 1 here

Propensity of Public Servants to Use Intuition or Deliberation

Enter Table 2 here

Mann-Whitney-Analysis of difference revealed that employees in the private sector significantly preferred deliberate as well as intuitive thinking styles.

For the first hypothesis concerning the preference for deliberation (rational thinking style), a statistically significant difference was measured between the private and public sector, although the effect size is small. For the second hypothesis concerning the preference for intuition (intuitive thinking style), a significant difference was observed between the private and the public sector employees again, but the effect size is to be neglected (see table 2). A total of 668 people scored high on both scales (System 1 and System 2). There are 528 in the private sector and 140 in the public sector.

Conclusion

The results do not hold up to the assumption that private sector employees are the ones, who are more intuitive, meaning that they have a more pronounced preference for the use of intuition. The results can be interpreted along these lines; however, the data does

not show strong effects. Overall, the effect is weakly demonstrable, but the private sector has higher scores on both scales, i.e. private employees declare to have a stronger tendency to use deliberation, but also to use intuition. The public sector shows lower mean scores on both scales, meaning that their preference for intuition and deliberation is not as pronounced as in the private sector. What exactly that means for wisdom studies of organizations has to be derived theoretically.

Discussion

The brain has the capability to carry out unconscious thinking (Dijksterhuis & Nordgren, 2006). People are sometimes unaware that they are making conscious decisions, e.g., experts do not perceive decision necessities because for them solutions are spontaneously obvious and emerge intuitively (Gruber & Harteis; 2018; Svenson, Ballová Mikušková & Launer, 2022). There is a growing focus on the scope and application of discretion, with many people assuming that it is values that guide administrators' decisions when they employ discretion. (McCandless, 2021). This article supplements such perspectives focusing on virtues rather than values (Overeem & Tholen, 2011).

In the results section it could be seen that private sector employees tend to rate themselves higher on both thinking styles. Even in such a heterogeneous sample like the one that was used for this study, individuals in the public sector display thinking preferences different from their private sector counterparts. One interpretation could be that private sector employees appear to be more aware of their choices, their own decision-making, and their action in a high discretion industry (Meier & O'Toole, 2011; Wangrow et al., 2015). Public sector employees might not share the same level of awareness and consciousness regarding their decision-making style in a low discretion industry (Karlsson, 2019; Meier & O'Toole, 2011; Wangrow et al., 2015). Meier and

O'Toole (2011) suggest that the peculiarities of the public sector matter, if they impact organizational effectiveness in terms of performance. The relevant organizational outcomes targeted at the outset of this article are virtues (see, Overeem & Tholen, 2011). This study advances the descriptive claim that the thinking preferences people actually prefer matter before virtues can manifest. In other words, we point out the thinking preferences that *becoming* virtuous practitioners display. This finding helps to understand a current puzzle in behavioral public administration about the relation between fast and slow thinking (Nørgaard, 2018). From the interesting finding that public sector employees report lower scores for both thinking styles, future work can then link thinking styles to performance and outcomes of public administrators, building on the conception that sees these dual processes of cognition as competing for a path of action (see Hodgkinson & Sadler-Smith, 2018; Sadler-Smith, 2012).

Aristotle's virtue ethics remain an inspiration for many scholars of administration. *Phronesis*, can be linked to the interplay of System 1 and System 2 thinking. The theoretical contributions on virtue ethics take this duality into account (Rooney & McKenna, 2008; van Steden, 2020), but there has been little empirical work highlighting this. The slow and effortful System 2 thinking processes have to be conceived as an equal partner besides fast System 1 thinking processes in future studies.

Managerial Implications

To further support prudential administration, it is suggested that public administrators' use of intuition can be trained. For instance, through raising awareness for competition and interplay between System 1 and System 2 thinking, moral and professional excellence can be further developed. Such initiatives can play a role in building communities to realize virtue ethics in action (Overeem & Tholen, 2011, 740).

A prolific partnership between behavioral public administration and virtue ethics suggests that after analysing thinking in action (Nørgaard, 2018) the perceived latitude of decision-makers (Karlsson, 2019) should be taken into account when developing trainings with practitioners (Overeem & Tholen, 2011). Organizations need to find ways to enable their members to use intuition and deliberation in order to develop wise practice. Intuitive thinking is acknowledged in specialist domains, but potentially less consciously embraced as a base for decision-making in all organizations. When public sector organizations intend to follow virtue ethics, provisions have to ensure that people can use their intuition as a resource. Overeem and Tholen (2011) summarize work supporting practitioners to make wiser decisions, where practitioners work on prioritizing virtues in their daily practices. In addition, Sadler-Smith (2012) highlights the advantages of involvement in communities of practice to shape actors' moral development (for an empirical illustration see Mailloux & Lacharité, 2020).

When intuition is understood as the capability to recognize situational cues and to retrieve relevant knowledge structures (Simon, 1997) it successfully supports professionals' problem solving and decision-making under time pressure (Kappes & Morewedge, 2016). To develop expertise and intuition, the usage of mental simulation is a promising approach (Klein, 2008; Steffen, Goller, & Harteis, 2020) understood as the mental and imagined rehearsal of difficult scenarios in which potential courses of action are evaluated (Klein, 2008). This cognitive strategy enables professionals to prepare for challenging future tasks, i.e. tasks and problems they have not yet faced before. Consequently, this mental training allows individuals to come to appropriate and successful solutions within complex and suddenly emerging situations (Steffen et al., 2020). Public servants should be encouraged to implement the use of mental simulation

strategies within their professional learning environment to support prudential administration.

Limitations

Limitations stem from the conceptualization of a relatively homogenous public and private sector, as summarized by Baarspul and Wilderom (2011). The type of public sector organization did not form part of the study's rationale as in Andersen (2010). The skewed nature of the sample (concerning age and gender distribution) may also be seen as a limitation of this study. Although the sample consists of a high number of participants, some groups were overrepresented. Another limitation concerning the sample may be seen in the heterogeneity of different countries and, as a result, over different cultures of professional working life, including historical, social, and political aspects. Yet, decision-makers in North America (including the U.S.A. and Canada) may be considered heterogeneous like decision-makers in the EU. Despite these differences, the underlying similarities allow to compare decision-makers from the two continents.

In addition, the authors are aware that there are scales that specifically measure field-specific decision-making. Across the social sciences, scales like these have come under attack for inevitably guiding survey respondents towards answers that trigger socially desirable responses (Krumpal, 2013). Prior work shows that an instrument that investigates decision-making in general, building on general theories of behavior, rather than e.g., *ethical* decision-making bypasses these perils to some extent. The scales are all based on self-disclosure, i.e. professional's decision-making style in practice has not been measured.

Future Research

Research on public and private sector-specific preferences for intuition and deliberation in decision-making can benefit from a discussion of which cognitive factors complement and substitute each other and under which conditions (Nørgaard, 2018), empirical research on wisdom should account for historicity, linking place, and geography to intellection (Rooney & McKenna, 2008). This follows the aim to elicit taken-for-granted truths within organizations through qualitative research methods like ethnography (Svenson & Freiling, 2019), of which there is a dearth in public administration research (see, Ospina, Esteve, Lee, 2018). Future expertise research in public administration may consider the work experience people have within their specialised profession. Expertise research shows that more experienced professionals tend to rely on their intuition when making decisions rather than on rational reasoning (Gruber & Harteis, 2018). Future research could gather more data on the impact of further aspects, such as age, gender, and culture.

The current study indicates converging research streams. Undoubtedly, more research is required to fully comprehend how, when, and why System 1 and System 2 processes influence decisions of public sector employees. Further diverse and promising contributions will undoubtedly be made in the decades ahead.

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References

- Ames, M. C. F. D. C., Serafim, M. C., & Zappellini, M. B. (2020). Phronesis in Administration and Organizations: A Literature Review and Future Research Agenda. *Business Ethics: A European Review*, 29, 65-83.
- Andersen, J. A. (2010). Public versus Private Managers: How Public and Private Managers Differ in Leadership Behavior. *Public Administration Review*, 70(1), 131–141. <https://doi.org/10.1111/j.1540-6210.2009.02117.x>
- Aristotle. (2000). *Nicomachean Ethics* (R. Crisp, trans.). Cambridge, UK: Cambridge University Press.
- Baarspul, H. C., & Wilderom, C. P.M. (2011). Do Employees Behave Differently In Public- Vs Private-Sector Organizations? A State-of-the-Art Review. *Public Management Review*, 13(7), 967–1002. <https://doi.org/10.1080/14719037.2011.589614>
- Bachmann, C., Sasse, L., & Habisch, A. (2018). Applying the Practical Wisdom Lenses in Decision-Making: An Integrative Approach to Humanistic Management.

- Humanistic Management Journal*, 2(2), 125–150. <https://doi.org/10.1007/s41463-017-0026-6>
- Battaglio, R. P., Belardinelli, P., Bellé, N., & Cantarelli, P. (2019). Behavioral Public Administration ad fontes: A Synthesis of Research on Bounded Rationality, Cognitive Biases, and Nudging in Public Organizations. *Public Administration Review*, 79(3), 304–320. <https://doi.org/10.1111/puar.12994>
- Beadle, R., & Moore, G. (2006). MacIntyre on Virtue and Organization. *Organization Studies*, 27(3), 323–340. <https://doi.org/10.1177/0170840606062425>
- Betsch, C. (2008). Chronic Preferences for Intuition and Deliberation in Decision Making: Lessons Learned about Intuition from an Individual Differences Approach. In H. Plessner, C. Betsch, & Betsch T. (Eds.), *Intuition in Judgment and Decision Making* (p. 231–248). Lawrence Erlbaum Associates Publishers.
- Betsch, C. (2004). Preference for Intuition and Deliberation (PID): An Inventory for Assessing Affect- and Cognition-Based Decision-Making *Journal of Individual Differences*, 25(4), 179–197. <https://doi.org/10.1024/0170-1789.25.4.179>
- Billett, S. (2004). Workplace Participatory Practices. *Journal of Workplace Learning*, 16(6), 312–324. <https://doi.org/10.1108/13665620410550295>
- Bullock, J. B., Stritch, J. M., & Rainey, H. G. (2015). International Comparison of Public and Private Employees' Work Motives, Attitudes, and Perceived Rewards. *Public Administration Review*, 75(3), 479-489.
- Connor, P. E., & Becker, B. W. (2003). Personal Value Systems and Decision-Making Styles of Public Managers. *Public Personnel Management*, 32(1), 155–180. <https://doi.org/10.1177/009102600303200109>

- Dane, E., & Pratt, M. G. (2007). Exploring Intuition and its Role in Managerial Decision Making. *Academy of Management Review*, 32(1), 33–54.
<https://doi.org/10.5465/amr.2007.23463682>
- Davis, R. S., & Stazyk, E. C. (2017). Putting the Methodological Cart Before the Theoretical Horse? Examining the Application of SEM to Connect Theory and Method in Public Administration Research. *Review of Public Personnel Administration*, 37(2), 202–218. <https://doi.org/10.1177/0734371X17704268>
- De Vries, M., & Kim, P. (2011). Introduction to Value and Virtue in Public Administration. In M. S. de Vries & P. S. Kim (Eds.), *IIAS Series: Governance and Public Management. Value and Virtue in Public Administration: A Comparative Perspective* (pp. 1–17). London: Palgrave Macmillan UK; Imprint; Palgrave Macmillan.
- Dijksterhuis, A., & Nordgren, L. F. (2006). A Theory of Unconscious Thought. *Perspectives on Psychological Science: A Journal of the Association for Psychological Science*, 1(2), 95–109. <https://doi.org/10.1111/j.1745-6916.2006.00007.x>
- Eikeland, O. (2008). *The Ways of Aristotle: Aristotelian phrónêsis, Aristotelian Philosophy of Dialogue, and Action Research. Studien zur Berufs- und Weiterbildung: Vol. 5*. Bern: Lang.
- Epstein, S. (1994). Integration of the Cognitive and Psychodynamic Unconscious. *American Psychologist*. (49), 709–724.
- Ermasova, N., Clark, D., Nguyen, L., & Ermasov, S. (2018). Russian Public Sector Employees' Reasoning of Ethical Behavior: An Empirical Study. *International Journal of Public Administration*, 41(5-6), 357–376.
<https://doi.org/10.1080/01900692.2017.1423329>

- Evans, J. 2011. Dual-Process Theories of Reasoning: Contemporary Issues and Developmental Applications. *Developmental Review*, 31(2-3): 86–102.
- Gibbons, J. D., & Chakraborti, S. (1991). Comparisons of the Mann-Whitney, Student's t, and alternate t tests for means of normal distributions. *The Journal of Experimental Education*, 59(3), 258-267. <https://www.jstor.org/stable/20152290>
- Gruber, H., & Harteis, C. (2018). *Individual and social influences on professional learning. Supporting the acquisition and maintenance of expertise*. Cham: Springer. <https://doi.org/10.1007/978-3-319-97041-7>
- Fallman, S. L., Jutengren, G., & Dellve, L. (2019). The Impact of Restricted Decision-Making Autonomy on Health Care Managers' Health and Work Performance. *Journal of Nursing Management*, 27(4), 706–714. <https://doi.org/10.1111/jonm.12741>
- Filiz, E., & Battaglio Jr, R. P. (2017). Personality and Decision-Making in Public Administration: The Five-Factor Model in Cultural Perspective. *International Review of Administrative Sciences*, 83(1_suppl), 3-22.
- Glöckner, A., & Wittman, C. 2010. Beyond Dual-Process Models: A Categorisation of Processes Underlying Intuitive Judgement and Decision Making. *Thinking & Reasoning*, 16(1): 1–25.
- Grimmelikhuijsen, S., Jilke, S., Olsen, A. L., & Tummers, L. (2017). Behavioral Public Administration: Combining Insights from Public Administration and Psychology. *Public Administration Review*, 77(1), 45-56. <https://doi.org/10.1111/puar.12609>
- Guy M.E., Mastracci S.H. & Yang S.B. (2019). Looking for Patterns Across Nations. In: Guy M., Mastracci S., Yang SB. (eds) *The Palgrave Handbook of Global Perspectives on Emotional Labor in Public Service*. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-24823-9_21

- Haldén P. (2013). Fundamental but not Eternal: The Public–Private distinction, from Normative Projects to Cognitive Grid in Western Political Thought, *Small Wars & Insurgencies*, 24:2, 211-223, DOI: 10.1080/09592318.2013.778020
- Hodgkinson, G. P., & Sadler-Smith, E. (2018). The Dynamics of Intuition and Analysis in Managerial and Organizational Decision Making. *Academy of Management Perspectives*, 32(4), 473–492. <https://doi.org/10.5465/amp.2016.0140>
- Hooijberg, R., & Choi, J. (2001). The Impact of Organizational Characteristics on Leadership Effectiveness Models. *Administration & Society*, 33(4), 403–431. <https://doi.org/10.1177/0095399701334002>
- Horwitz, S. (2010). Doing the right things: The private sector response to hurricane Katrina as a case study in the bourgeois virtues. In *Accepting the Invisible Hand* (pp. 169-190). Palgrave Macmillan, New York.
- Hou, Y., Ni, A. Y., Poocharoen, O.-o., Yang, K., & Zhao, Z. J. (2011). The Case for Public Administration with a Global Perspective. *Journal of Public Administration Research and Theory*, 21(Supplement 1), i45-i51. <https://doi.org/10.1093/jopart/muq070>
- Jankowski, M., Prokop, C., & Tepe, M. (2020). Representative Bureaucracy and Public Hiring Preferences: Evidence from a Conjoint Experiment Among German Municipal Civil Servants and Private Sector Employees. *Journal of Public Administration Research and Theory*, 30(4), 596-618.
- Jilke, S., Van Dooren, W., & Rys, S. (2018). Discrimination and Administrative Burden in Public Service Markets: Does a Public–Private Difference Exist?. *Journal of Public Administration Research and Theory*, 28(3), 423-439.
- Kahneman, D. S. (2011). *Thinking, Fast and Slow*. London: Lane.

- Kappes, H. B., & Morewedge, C. K. (2016). Mental Simulation as Substitute for Experience. *Social and Personality Psychology Compass*, *10*(7), 405–420.
<https://doi.org/10.1111/spc3.12257>
- Kaptein, M. (2008). Developing and Testing a Measure for the Ethical Culture of Organizations: The Corporate Ethical Virtues Model. *Journal of Organizational Behavior*, *29*(7), 923–947. <https://doi.org/10.1002/job.520>
- Karlsson, T. S. (2019). Searching for Managerial Discretion: How Public Managers Engage Managerialism as a Rationalization for Increased Latitude of Action. *Public Management Review*, *21*(3), 315-333.
- Kasdan, D. O. (2020). Toward a Theory of Behavioral Public Administration. *International Review of Administrative Sciences*, *86*(4), 605-621.
- Kim, S., Vandenabeele, W., Wright, B. E., Bøgh Andersen, L., Cerase, F. P., Christensen, R. K., et al. (2013). Investigating the Structure and Meaning of Public Service Motivation across Populations: Developing an International Instrument and Addressing Issues of Measurement Invariance. *Journal of Public Administration Research and Theory*, Volume 23, Issue 1, January 2013, Pages 79–102,
<https://doi.org/10.1093/jopart/mus027>
- Klein, G. A. (2008). Naturalistic Decision Making. *Human Factors*, *50*(3), 456–460.
<https://doi.org/10.1518/001872008X288385>
- Koliba, C. J., Mills, R. M., & Zia, A. (2011). Accountability in governance networks: An assessment of public, private, and nonprofit emergency management practices following Hurricane Katrina. *Public Administration Review*, *71*(2), 210-220.
- Kruglanski, A. W. (2013). Only One? The Default Interventionist Perspective as a Unimodel-Commentary on Evans & Stanovich (2013). *Perspectives on*

Psychological Science: A Journal of the Association for Psychological Science, 8(3), 242–247. <https://doi.org/10.1177/1745691613483477>

Krumpal, I. (2013). Determinants of Social Desirability Bias in Sensitive Surveys: A Literature Review. *Quality & Quantity*, 47(4), 2025–2047. <https://doi.org/10.1007/s11135-011-9640-9>

Mailloux, D., & Lacharité, C. (2020). Beyond New Public Management: Empowering Community-Based Organisations. *Journal of Community Psychology*, 48(8), 2571–2588. <https://doi.org/10.1002/jcop.22435>

Massingham, P. (2019). An Aristotelian Interpretation of Practical Wisdom: The Case of Retirees. *Palgrave Communications*, 5(1). <https://doi.org/10.1057/s41599-019-0331-9>

Kenneth J. Meier, Laurence J. O'Toole, Jr., Comparing Public and Private Management: Theoretical Expectations, *Journal of Public Administration Research and Theory*, Volume 21, Issue suppl_3, July 2011, Pages i283–i299, <https://doi.org/10.1093/jopart/mur027>

McCandless, S. (2021). Ethics for Contemporary Bureaucrats: Navigating Constitutional Crossroads. *Public Integrity*, 1–6. <https://doi.org/10.1080/10999922.2021.1886754>

McKenna, B., Rooney, D., & Liesch, P. W. (2006). Beyond Knowledge to Wisdom in International Business Strategy. *Prometheus*, 24(3), 283–300. <https://doi.org/10.1080/08109020600877576>

Moseley, A., & Thomann, E. (2021). A Behavioural Model of Heuristics and Biases in Frontline Policy Implementation. *Policy & Politics*, 49(1), 49–67.

Nadim Nachar: The Mann-Whitney U: A Test for Assessing Whether Two Independent Samples Come from the Same Distribution.

DOI: 10.20982/tqmp.04.1.p013

Nagtegaal, R., Tummers, L., Noordegraaf, M., & Bekkers, V. (2020). Designing to Debias: Measuring and Reducing Public Managers' Anchoring Bias. *Public Administration Review*, 80(4), 565-576.

Newman, M. A., Guy, M. E., & Mastracci, S. H. (2009). Beyond Cognition: Affective Leadership and Emotional Labor. *Public Administration Review*, 69(1), 6-20.

Nonaka, I., Chia, R., Holt, R., & Peltokorpi, V. (2014). Wisdom, Management and Organization. *Management Learning*, 45(4), 365–376.
<https://doi.org/10.1177/1350507614542901>

Nørgaard, A. S. (2018). Human Behavior Inside and Outside Bureaucracy: Lessons from Psychology. *Journal of Behavioral Public Administration*, 1(1).

O'Reilly, Charles A., III, Jennifer Chatman, and David F. Caldwell. 1991. People and Organizational Culture: A Profile Comparison Approach to Assessing Person-Organization Fit. *Academy of Management Journal* 34(3): 487–516.

Ospina, S. M., Esteve, M., & Lee, S. (2018). Assessing Qualitative Studies in Public Administration Research. *Public Administration Review*, 78(4), 593-605.

Overeem, P., & Tholen, B. (2011). After Managerialism: MacIntyre's Lessons for the Study of Public Administration. *Administration & Society*, 43(7), 722–748.
<https://doi.org/10.1177/0095399711413728>

Paanakker, H. L. (2019). Values of Public Craftsmanship: The Mismatch Between Street-Level Ideals and Institutional Facilitation in the Prison Sector. *The American*

Review of Public Administration, 49(8), 884–896.

<https://doi.org/10.1177/0275074019859944>

Polanyi, M., & Sen, A. (2010). *The Tacit Dimension*. Chicago, Ill.: Univ. of Chicago Press.

Pollitt, C. (2011). Not Odious but Onerous: Comparative Public Administration. *Public Administration*, 89(1), 114–127. <https://doi.org/10.1111/j.1467-9299.2011.01904.x>

Raadschelders, J. (2008). Understanding Government: Four Intellectual Traditions in the Study of Public Administration. *Public Administration*, 86(4), 925–949. <https://doi.org/10.1111/j.1467-9299.2008.00742.x>

Raimondo, E., & Newcomer, K. E. (2017). Mixed-Methods Inquiry in Public Administration: The Interaction of Theory, Methodology, and Praxis. *Review of Public Personnel Administration*, 37(2), 183-201.

Resh, W. G., Wilkes, C., & Mooradian, C. (2020). Emotional Labor Assessments and Episodic Recall Bias in Public Engagement. *Journal of Behavioral Public Administration*, 3(2).

Ritz A., Thom N. (2019) Kontexte des Public Managements [Contexts of Public Management]. In: Public Management. uniscope. Publikationen der SGO Stiftung. Springer Gabler, Wiesbaden. https://doi.org/10.1007/978-3-658-25875-7_3

Roman, A. (2015). The Roles Assumed by Public Administrators: The Link Between Administrative Discretion and Representation. *Public Administration Quarterly*, 39(4) 595–644.

Rooney, D., Küpers, W., Pauleen, D., & Zhuravleva, E. (2021). A Developmental Model for Educating Wise Leaders: The Role of Mindfulness and Habitus in

- Creating Time for Embodying Wisdom. *Journal of Business Ethics*, 170(1), 181–194. <https://doi.org/10.1007/s10551-019-04335-0>
- Rooney, D., & McKenna, B. (2008). Wisdom in Public Administration: Looking for a Sociology of Wise Practice. *Public Administration Review*, 68(4), 709–721. <https://doi.org/10.1111/j.1540-6210.2008.00909.x>
- Sadler-Smith, E. (2012). Before Virtue: Biology, Brain, Behavior, and the “Moral Sense”. *Business Ethics Quarterly*, 22(2), 351–376. <https://doi.org/10.5840/beq201222223>
- Simon, H. (1997). *Administrative Behavior* (4th ed.). New York: Free Press.
- Sloman, S. A. (1996). The Empirical Case for Two Systems of Reasoning. *Psychological Bulletin*, 119(1), 3–22. <https://doi.org/10.1037/0033-2909.119.1.3>
- Solomon, R. C. (2004). Aristotle, Ethics and Business Organizations. *Organization Studies*, 25(6), 1021–1043. <https://doi.org/10.1177/0170840604042409>
- Stanovich, K. E., & West, R. F. (2000). Individual Differences in Reasoning: Implications for the Rationality Debate? *The Behavioral and Brain Sciences*, 23(5), 645–65; Discussion 665–726. <https://doi.org/10.1017/S0140525X00003435>
- Stazyk, E. C., & Davis, R. S. (2015). Taking the ‘High Road’: Does Public Service Motivation Alter Ethical Decision Making Processes? *Public Administration*, 93(3), 627–645. <https://doi.org/10.1111/padm.12158>
- Steffen, B., Goller, M., & Harteis, C. (2020). The contribution of mental simulation to the development of intuition. In M. Sinclair (Ed.), *Intuition handbook: Bridging research and practice* (pp. 241–254). Edgar Elgar.
- Svenson, F., Ballová Mikušková, E. & Launer, M. A. (2022) "Credibility and Trust of Information Privacy at the Workplace in Slovakia. The use of Intuition" *Journal of*

Information, Communication & Ethics in Society 10.1108/JICES-02-2022-0011 (in production)

- Svenson, F., & Freiling, J. (2019). Symbolic interactionism as a methodology for process organization studies: Grounding the enactment of competences in organizational life. *Journal of Competences, Strategy & Management*, 10, 139-161.
- Gibbons, J. D., & Chakraborti, S. (1991). Comparisons of the Mann-Whitney, Student's t, and alternate t tests for means of normal distributions. *The Journal of Experimental Education*, 59(3), 258-267. DOI: 10.1080/00220973.1991.10806565
- Nachar, N. (2008). The Mann-Whitney U: A test for assessing whether two independent samples come from the same distribution. *Tutorials in Quantitative Methods for Psychology*, 4(1), 13-20. DOI: 10.20982/tqmp.04.1.p013
- Turaga, R. M. R., & Bozeman, B. (2005). Red Tape and Public Managers' Decision Making. *The American Review of Public Administration*, 35(4), 363–379. <https://doi.org/10.1177/0275074005278503>
- Van de Ven, A. H., & Johnson, P. E. (2006). Knowledge for Theory and Practice. *Academy of Management Review*, 31(4), 802–821.
- Van der Wal, Z., & Huberts, L. (2008). Value Solidity in Government and Business. *The American Review of Public Administration*, 38(3), 264–285. <https://doi.org/10.1177/0275074007309154>
- Van Putten, R. J. (2020). *De ban van beheersing: Naar een reflexieve bestuurskunst. Boom bestuurskunde* [The Spell of Control: Governance as Reflexive Art]. *PhD-dissertation, Free University of Amsterdam*
- Van Steden, R. (2020). Blind Spots in Public Ethics and Integrity Research: What Public Administration Scholars Can Learn from Aristotle. *Public Integrity*, 22(3), 236–244. <https://doi.org/10.1080/10999922.2020.1714412>

- Vigoda-Gadot, E., & Meisler, G. (2010). Emotions in Management and the Management of Emotions: The Impact of Emotional Intelligence and Organizational Politics on Public Sector Employees. *Public Administration Review*, 70(1), 72-86.
- Villadsen, A. R., Hansen, J. R., & Mols, N. P. (2010). When do Public Managers Imitate Each Other? Mimetic Decision Making in Contracting Decisions of Danish Municipalities. *Public Organization Review*, 10(4), 357–376.
<https://doi.org/10.1007/s11115-010-0111-x>
- Volckmar-Eeg, M. G., & Vassenden, A. (2021). Emotional Creaming: Street-Level Bureaucrats' Prioritisation of Migrant Clients 'Likely to Succeed' in Labour Market Integration. *International Journal of Social Welfare*.
- Wamsley, G. L., & Zald, M. N. (1973). The political economy of public organizations. *Public Administration Review*, 33(1), 62–73.
- Wangrow, D. B., Schepker, D. J., & Barker III, V. L. (2015). Managerial Discretion: An Empirical Review and Focus on Future Research Directions. *Journal of Management*, 41(1), 99-135.
- Wittmer, D. (2000). Individual Moral Development: An Empirical Exploration of Public-and Private-Sector Differences. *Public Integrity*, 2(3), 181-194
- Yang, K. (2021). Methodologies Toward a New Era of Public Administration: Diversity and Advancement. *Public Performance & Management Review*, 44(5), 961-974.
- Zhang, H., Yang, L., Walker, R., & Wang, Y. (2022). How to Influence the Professional Discretion of Street-Level Bureaucrats: Transformational Leadership, Organizational Learning, and Professionalization Strategies in the Delivery of Social Assistance. *Public Management Review*, 24(2), 208-232.
<https://doi.org/10.1080/14719037.2020.1805919>

Tables

Table 1: Sample: Age distribution by sector

		America		Europe		Total
		Private Sector	Governmental Sector	Private Sector	Governmental Sector	
Age Group	18 or younger	0	0	19	5	24
	19-28	17	3	283	84	387
	29-38	77	26	181	38	322
	39-48	70	17	287	69	443
	49-58	20	6	265	158	449
	59 and older	7	4	24	19	54
Total		191	56	1059	373	1679

Table 2: Summary of Mann-Whitney Test for Sector on Deliberation for Decision Making

		<i>n</i>	<i>Mean</i>		<i>Sum of Ranks</i>	<i>Z</i>	<i>Asymptotic significance (2-sided)</i> <i>(Effect size Cohen's d)</i>
<i>Organizational Sector</i>	<i>(Standard Deviation)</i>		<i>Mean Rank</i>	<i>Sum of Ranks</i>			
PID Rational	Private Sector	1240	2.9668 (.82503)	854.17	1059176.50	-3.009	.003 (0.203)
	Governmental Sector	426	2.7934 (.93836)	773.32	329434.50		
	Missing	13					
PID Intuitive	Private Sector	1226	2.5015 (.80256)	836.90	1026034.50	-2.498	.012 (0.146)
	Governmental Sector	413	2.3834 (.83223)	769.84	317945.50		
	Missing	40					