MIXING QUALITATIVE AND QUANTITATIVE METHODS IN PURSUIT OF RICHER ANSWERS TO REAL-WORLD QUESTIONS

Sharon Gilad

sharon.gilad@mail.huji.ac.il

ABSTRACT

Qualitative methods are relatively scarce in public administration research. This imbalance between qualitative and quantitative methods poses three significant concerns. First, there is a risk that measurement hurdles, coupled with the distance that quantitative methodology fosters between academics and administrative practice and practitioners, undermines our inclination and capacity to study policy-meaningful research questions that matter in the real world. Second, and related, the causality underlying the real problems that policymakers and public organizations face is often much too complex to be captured by one type of methodology, whether quantitative or qualitative. Third, quantitative methodology is most conducive to testing already available theories and hypotheses, as opposed to theory building. I propose that the answer to these concerns lays in denouncing commitment to abstract philosophical divisions and advancing collaboration between qualitative and quantitative researchers and versions of mixed methods that transcend mere triangulation. These arguments are illustrated in relation to the study of bureaucratic discrimination of minorities.

INTRODUCTION

Social-science methodology textbooks, and research-methods courses, commonly mirror the taken-for-granted division between qualitative and quantitative research. This division is said to embody not only different technical tools for data collection and analysis, but incommensurable, that is logically incompatible, philosophical traditions, pertaining to divergent beliefs about ontology and epistemology. Crudely stated, these textbook distinctions associate quantitative research with a positivist paradigm that conceives of reality as consisting of generalizable patterns of cause and effect, which can be objectively known through deductive hypotheses generation and their empirical verification. A related philosophical approach, post-positivism, which is amenable to both qualitative and quantitative methods, is associated with a commitment to objectivity, alongside recognition of the difficulties to fully access and explain the objective reality, and thereby with a preference for hypotheses falsification over verification. Still, qualitative research is most often associated with a constructivist paradigm, which stresses the multiplicity in social constructions of reality, and the limitations and subjectivity of coming to know them. Constructivists aim to inductively unpack participants' actions based on their situated, shared, interpretations of their social environment, which the researcher investigates and construes, employing her distinct, non-replicable, vantage point.[1]

Reiterating and espousing the rationale of the above institutionalized distinctions, a recent systematic review of the state of qualitative methodology in public administration (PA), published in Public Administration Review, cautions qualitative researchers to pay closer and careful attention to where they stand on the postpositivist-interpretivist divide (Ospina et al.,

[1] See Riccuci (2008, 2010) for a nuanced depiction of alternative paradigms and their implications for the study public administration.

2018: 2). The authors go on to criticize qualitative researchers, in public administration, for their failure to explicitly self-define their orientation and commitment to the interpretivist versus post-positivist traditions (ibid, 6). Their analysis of 129 qualitative papers, published between 2010 and 2014, in six key public administration journals, indicated that most authors did not signal their fundamental ontological and epistemological convictions, and that only 24% adopted what the authors coded as an interpretivist approach. The authors acknowledge both issues with lament, offering that this omission may be a function of ignorance or carelessness among the community of qualitative public administration researchers.

The above paper, by Ospina et al's (2018) provides us with important systematic mapping of the state of qualitative methodology in our field, as elaborated below. However, some of their guidance regarding future research requires further consideration. Contrary to the above criticism and lament, I offer that in today's public administration research, which is dominated by quantitative studies, it would be artificial and unwarranted for qualitative researchers to avow decisive allegiance to abstract notions of ontology and epistemology and to distinct methodological camps. Instead, drawing on Morgan (2007), I propose that the choice of research methods, in PA, should be led by the epistemological challenges that are posed by concrete policy-relevant research questions, as opposed to general philosophical assumptions about the nature of reality and how to know it. This approach, which questions the very usefulness of the linkage between methodological choices and overarching philosophical paradigms, differs from that of Yang et al. (2008) who offer that research methods, in public administration, may draw upon alternative paradigms, so long as researchers appreciate the distinct ontological and epistemological underpinnings of different methods.

I further contend that the problem to be addressed, in current PA, is not qualitative researchers' failure to signals their ontological and epistemological convictions, but the near exclusivity of quantitative research in our leading journals. This scarcity of qualitative research likely undermines our collective endeavor to address real-world problems that governments face (Milward et al, 2016; Moynihan, 2017; 2018; Roberts, 2018), and may lead to our provision of overly reductionist explanations for what are often complex, wicked, problems. Moreover, it hinders theoretical innovation in our field, leading us to focus on more of the same, relying on existing indices and datasets. Drawing on the developments in adjacent fields and promising changes in ours (Hendren et al. 2018; Honig, 2018; Mele and Belardinelli, 2018) this paper offers versions of mixed-methods that transcend mere triangulation as having the greatest potential to ameliorate these concerns. I start, however, with some building blocks, conceptualizing what I mean by qualitative, quantitative and mixed methods.

CONCEPUTALIZING QUALITATIVE, QUANTITATIVE AND MIXED METHODS

Qualitative and quantitative research methods both involve an array of data types and techniques of analysis. Qualitative methods are associated with case studies, which may be historically and geographically bound events, organizational units or individuals, among others. Data regarding these cases may be drawn from participant or non-participant observations, from semi-structured interviews, focus groups or from narrative analysis of text. Quantitative data collection and analysis comprises observational data, indexing human behavior or non-human factors, survey data reflecting human perceptions, and experiments, with the latter involving a variety of laboratory, survey-based, field-based and natural designs.

Still, the above assortment of research techniques does not tell us how qualitative and quantitative methods fundamentally differ. An illuminating distinction, suggested by Gerring (2017), rests on the comparability of data observations. Qualitative observations are heterogenous or non-standardized, and therefore non-comparable. In quantitative data, conversely, heterogeneity is reduced, by construction, to facilitate comparability. Thus, while the differences and similarity between qualitative unit of analyses – countries, organizations, individuals, historical events – can be analyzed, the observations themselves are non-standardized, since they are embedded in context, and their comparison therefore calls for interpretation. Moreover, whereas qualitative data can be converted, through standardization and reduction, into quantitative data, the opposite cannot be done. What this means, for this paper, is that qualitative data, by definition and construction, provides a richer, yet not easily comparable, depiction of cases in context.

The above conceptualization, and the aim of this paper, leads me to adopt a conceptualization of mixed methods as a "type of research in which a researcher or a team of researchers combines elements of qualitative and quantitative research approaches" (Johnson et al. 2007). The mixing of methods can take place at the stage of data collection or data analysis (Small, 2011), although what I have in mind, in this article, are projects in which mixing occurs at both stages, resulting in a combination of methods within the same research program or even the same paper.

Drawing on the above distinctions, the following section offers that current public administration scholarship has reached an unhealthy balance that needs to be recalibrated towards more qualitative research, and that mixed methods is the means to do so without losing the advantages afforded by quantitative research.

SIDELINING ARTIFICIAL DIVISIONS IN PUBLIC ADMINISTRATION

A widespread understanding of our community is that public administration is an applied field that should be driven by our shared commitment to the pursuit of policy-relevant research questions, important due to their practical consequences over and above their theoretical significance (Riccuci, 2008, 2010). Reflecting this concern with real-world concerns, and their embeddedness in unstable political environments, Riccuci (2010) writes:

> "[P]ublic administration is an applied field … concerned with applying scientific knowledge to solve practical problems in highly politicized environments. The real world of government and nonprofits is our laboratory; we do not bring subjects and specimens into the lab as the physical sciences do. Most of our research is conducted in the "field", and it is aimed at improving government or, more specifically, arriving at a better understanding of it so we can seek to improve governing operations in this country and beyond. But because politics drives performance in public agencies, our understanding of government and how it operates in practice are in a constant state of flux …the task of public administration will always revolve around practical applications of solving problems in the real world, which is highly political, fragmented, and transitory" (ibid, 25).

A logical implication of the normative commitment to study real-world problems, and of the unruly nature of the phenomena that we study, is that our research needs to account for the variation in political, cultural and institutional factors, within which actual policy takes shape and public organizations operate. This, in turn, entails that the research objects that we study are relatively complex, calling for methodological tools that match this complexity and are sensitive to contextual variation. Yet, despite the complex and contextual nature of the research

phenomena that we study, pure quantitative research is by far the dominant practice in contemporary public administration studies. Ospina et al. (2018) find that between 2010 and 2014 less than 8% of articles published in the discipline's six leading journals employed qualitative methods. Namely, qualitative research, whether on its own or within mixed-methods projects, is either seldom carried out, or relegated to less prestigious journals. Consequently, whether qualitative research, in public administration, adequately represents the interpretative versus postpositivist traditions is hardly the issue at stake. Our full attention should be directed to the scarcity of qualitative data collection, and how it might be abated without losing the significant advantages of quantitative research.

Moreover, the findings of Ospina et al. (2018) indicate that the few qualitative studies that are published in the key journals of public administration are almost uniformly of high quality. The authors find that of the 129 qualitative studies that they reviewed "most studies (119; 92.2 percent) articulated an explicit research question … [and] connected well to theory, both in terms of study motivation and implications" (ibid, 6). Hence, qualitative research in our field, at least that which survives the review process of the key journals, is of fine quality yet in short supply. The way to invigorate it, in my opinion, is not by calling on qualitative researchers to adopt strong commitments to abstract ontological and epistemological notions and methodological camps. Rather, it is by challenging those of us who carry mostly or purely quantitative studies to consider the limitations of our research, and the qualities and advantages afforded by incorporating qualitative research components and collaboration across methodological divides.

My belief that mixed methods, and its achievement via collaboration, is most pertinent to public administration is further reinforced by two additional points. First, I suspect that the reign

of quantitative methods, in public administration, is not a reflection of our abstract ontological and epistemological assumptions as to the singularity of reality and our capacity to objectively know it (cf. Morgan, 2007). Rather, the preference for quantitative methods is shaped by our membership in a scholarly community that implicitly guides us to privilege statistical data and methods and provides us with limited tools for rigorous qualitative research. This guidance is reflected, inter alia, in the biases of public administration research training, where PhD programs, in leading public affairs schools, put their emphasis on quantitative methods, whilst relegating qualitative methods to electives (Durant in Milward et al, 2016). In these circumstances, inducing quantitative and qualitative researchers' polar commitments to distinct philosophical traditions may only legitimize the current imbalance in research methods and teaching programs. Instead, I feel that what is needed is profound appreciation and signaling, by leading journals, schools and researchers, that the field is appreciative of methodological diversity and of mixed-methods specifically.

Second, in line with the above, those of us who carry quantitative research, in public administration, do not seem to discount the importance of humans' subjective perceptions. Rather, we often seek to unravel the variation in citizens' attitudes and in civil servants' values and beliefs, and we acknowledge that these attitudes and beliefs likely vary across cultures. Thus, the ontological and epistemological assumptions of qualitative and quantitative public-administration researchers are not necessarily different. The problem is that as quantitative researchers we often seek to penetrate individuals' socially constructed realties without direct access to their unstructured accounts and experiences. This, again, stresses that commitment to methodological tools, as opposed to philosophical assumptions, currently drives much of our research design. Yet, given our common theoretical goals and normative commitment,

qualitative and quantitative public administration researchers can both benefit from working together and pooling our mutual capacities.

In other domains of social science, such as comparative political science, international relations and sociology, for example, mixed-methods, combining quantitative and qualitative tools, is increasingly seen as the gold standard for high-quality research (Lieberman, 2005; Seawright, 2016; Small, 2011; Tarrow, 2010; but see Ahmed and Sil, 2010 for critic). In PA, studies employing mixed-methods are still uncommon, albeit increasing. Mele and Belardinelli (2018) identified 104 such articles out of 2,147 papers (5%), published in six key public administration journals between 2011 and 2017. Hendren et al. (2018), analyzing three key public administration and three public policy journals, report a much lower rate of 1.82% in the 2010s, which is nonetheless 3.6 time as high as the rate of such studies in the 2000s.

Thus, qualitative research is scarce in public administration, whereas the espousal of mixed methods in PA is still at a nascent stage. In what follows I seek to persuade that a pragmatic approach to methodological choices, exploiting qualitative and quantitative research tools as far as demanded by the challenges posed by concrete research questions, should become the norm, since it is not only applicable, but vital for public administration.

WHAT'S WRONG WITH THE NEAR EXCLUSIVITY OF QUANTITATIVE RESEARCH IN PUBLIC ADMINISTRATION?

Research pluralism is not an end in and of itself, and this paper is not purporting that we need to expand our methodological toolkits, and to engage in collaborations that enable rigorous mixed methods, just for the sake of a more interesting and diverse research field. Rather, in this

section I point at three linked detrimental consequences of the unbalanced present circumstances in our field.

Methods Driving Research Questions

Public administration took off, as field of study, in the 1930s and 1940s. Its founders, influenced by the 1930s Great Depression, were concerned with the capacity of the state to cater for citizens' needs, amidst economic and social turbulence, as well as with human rights and freedoms vis-à-vis the state. Their resultant analytical focus was on the development and functioning of administrative systems, and the research that they sought was strongly connected to related fields, most notably political science and international relations (Roberts, 2018).

The historical roots of the field as one that is committed to solving real-world problems in the US and beyond still reflects how we think about and promulgate the importance of public administration research (Riccuci, 2010). However, it is debatable whether this depiction of the field as deeply rooted in practice, and as sensitive to political context, in fact reflects its contemporary reality. Several prominent commentators (Milward et al, 2016; Moynihan, 2017, 2018; Roberts, 2018) have recently noted that public administration has with time retreated from a focus on the macro-level functioning and historical development of the administrative state towards decontextualized micro-level analyses, involving agencies or the individual attitudes of citizens and civil servants. While these foci are all important, we need to further understand their embeddedness in macro-level factors. They further criticize current public administration research for neglecting no less than the effect of politics and power relations. Moreover, these commentators have pointed to public administration scholarship's almost exclusive focus on the study of developed economies and democracies, and the irrelevance of most of its finding for developing countries.

Milward et al. (2016), Roberts (2018) and Moynihan (2018) all point their finger at the Public Management movement, which sought to reform public administration research, as a major culprit for its depoliticization and decontextualization. No less important, I believe, is the hegemonic standing of American academia in shaping our conceptualization of "relevant" research questions, rendering local concerns and variation into background "noise". Still, it would seem safe to propose that methodological preferences have also contributed to these alleged changes. The types of methods that we, as a community, employ shape the questions that we choose and can address and their potential significance for the real world. Consider, for example, James Perry's (1996) influential conceptualization and operationalization of Public Service Motivation (PSM). The development of the PSM index, as we well know, instigated a proliferous transnational research agenda (see Ritz et al. 2016 for systematic review). The successful application of the PSM index to multiple research questions, across national contexts, attests that it captures a relevant and important feature of people's attraction to and performance in the public sector. Namely, that it adequately estimates the extent to which civil servants, across countries, vary in their level of a universal latent factor underlying the index. Yet, the proliferation of PSM-related research also reflects our quest for universal, verified, indices at the cost of context-specific understanding of civil servants' motivations given variation in political, cultural and institutional settings. The loss incurred is that such analysis cannot make sense of the differential meaning that citizens and civil servants attribute to working in the public service, given the political and cultural realities within which they operate, which entails collection of non-standardized, qualitative, data.

Moreover, some research objects lend themselves more easily than others to quantification. Informal institutions and their variation across and within countries (e.g. levels of

politicization, beyond overt political nominations at the organizational apex) are much more difficult to validly measure compared with formal rules (e.g. civil service recruitment and promotion rules). It is therefore understandable that we often choose to focus on things that can be more easily measured, or to rely on existing, publicly-available, datasets, even when their validity is doubtful, over laborious data collection and qualitative coding. So long as we employ meaningful proxies for difficult-to-measure factors, then our decision to forgo time consuming qualitative data collection is merited. When this is not the case, we may be ignoring factors that have important consequences for governments' performance and its impact on citizens. Moynihan (2018) makes this point with regards to the limitation of experimental research to unravel the political underpinning of "administrative burdens", that is the costs imposed upon vulnerable social groups when interacting with the state, thus:

> "Within public administration, many topics raise important questions that do not lend themselves to experiments … the subject [of administrative burdens] yields many relevant behavioral questions about how psychological factors affect citizen-state interactions but also highlights issues that can best be narrated using an observational approach, such as the role of politics and power in the deliberate creation of these burdens in real policy settings" (Moynihan, 2018: 4).

Additionally, as noted by Mauricio Dussauge-Laguna (in Milward et al, 2016), the privileged status of quantitative data and methods explains why current public administration research tends to focus on few countries for which such data is most conveniently available. In turn, it is not surprising that public administration is predominantly the study of public organizations in economically advanced democracies. Still, even in the US and Europe, data on the inner workings of the state, such as bureaucrats' intricate relationships with populist heads of

state for example, is not openly available and calls for access negotiations and laborious qualitative research. Conducting such research requires motivation and skills, both of which entail a supportive institutional and research community that values qualitative studies.

Last, but possibly most important, is the apparent consequence of advances in statistical methodology for public administration researchers' aloofness from practitioners and citizens. Bibliometric analysis of Public Administration Review, by Ni et al. (2017), reveals a sea change in the discipline. Whereas in the 1940s 60% of the articles published in PAR were written by practitioners, mostly as solo authors, by the 2010s only 6% of articles involved some contribution by non-academics mainly as joint authors with academics. Again, the dominance of quantitative methods is unlikely to be the sole culprit. Still, sole reliance on quantitative data, over interviews and observation, distances researchers from direct interaction with practitioners and citizens. At the same time, the reliance on highly sophisticated statistical methods imposes a high barrier for practitioners' contribution to academic dialogue. Practitioners and citizens' views, when sought, are delimited to pre-determined questions, most notably via structured surveys, leaving little space for their experience-based ideas. The result is that contemporary public administration researchers are seldom exposed to practitioners' input as to the practical problems that they face, and that academics might want to help them address. Distance from practitioners, and the widening divide between academia and practice, may even lead some public administration academics to believe that practitioners' views have little to instruct them. Yet, as suggested by Donald Kettle, if one wants to have an impact in the real world, then "there is great value in listening carefully to policymakers about the questions to which they most need answers, and in trying to provide insights on the struggles that are most important" (Milward et al. 2016: 329).

The above does not in any way entail that we should relinquish quantitative data and analysis, and forgo the significant advancements made in methodological rigor that we value. Still, we may want to challenge ourselves to think whether and to what extent do research methods, most notably the preference for validated indices, methodological fashions and the distance imposed by quantitative tools, constrain our inclination and capacity to tackle significant concerns for our diverse nations and societies and to meaningfully capture the realities of public administration in context.

Providing Reductionist Answers to Complex Questions

The problems that policymakers confront are often very complex. Take, for example, governments' current need to enable social and economic integration of distrustful and vulnerable immigrant communities, amidst rising public xenophobia and populist parties' successful ascendance to power. Such issues involve ambiguity as to the prioritization and definition of problems to be addressed, uncertainty as to the efficacy of the solutions at hand and need for careful management of the opportunities and constraints posed by institutions, contradictory political pressures, and unexpected events.

Public administration scholars, who seek to make sense of governments' handling of such highly complex problems, need to be able to provide a convincing causal story about the relationships between path-dependent structural and institutional macro-level factors, changing external contingencies, individual-level beliefs and strategies, and their association with processes, outputs and ultimately outcomes. The latter likely involve a mixed bag of part failures and part successes, as interpreted by those involved and the researcher. A valid explanation is likely to be context specific, relating to actors' interpretations of changing political

constellations and events. Consequently, the prospects for theoretical generalization to be drawn from such analysis, despite its policy significance, is, unfortunately, likely to be limited. In the best-case scenario, as suggested by qualitative set-theoretic approaches (Ragin, 2009), generalizations, adequately carried out, would depict how different factorial configurations lead to similar outcomes.

The quantitative alternative to such complex, context-rich, analyses, is to focus on some reduced proxies for a limited number of hypothesized factors, to account for complexity via interactions among these factors, and to assess the association of the latter with a proxy for the studied outcome. Yet, as far as the reality that the researcher seeks to explain involves difficult to measure factors and diverse outcomes, and multiple, independent, causal chains, then the reduction of factors, and a statistically parsimonious model solution, would provide us with a distorted, immaterial, picture. Whatever explanation it would yield, would account for very little of the variation in the real, multidimensional, outcome, as opposed to its reduced proxy (cf. Robert Durant in Milward et al. 2016: 331).

Consequently, the more we seek to address real-world, complex, problems, and to provide valid and useful answers that practitioners would also value, the more we are bound to transcend statistical data collection and analysis, alone, in pursuit of better understanding of human behavior, in context. Still, this does not entail that quantitative methodologies have no role to play. Within such multifaceted research projects, it would be useful, and meaningful, to quantify and isolate the effect of some factors, while employing qualitative analysis in relation to other factors and their effect.

Moreover, policy and administrative issues are not all complex, wicked, problems, which call for context-specific explanations. The nature of the problems that governments confront is

an ontological question, which has epistemological and thereby methodological implications. However, since the nature of problems (ontology) and how they might be studied (epistemology) are not universal, one cannot derive guidance from abstract philosophical paradigms. Rather, a pragmatist approach, as elaborated further below, suggests that we need to make informed choices, and to tailor methodological tools, and the possible mix of quantitative and qualitative tools, based on our understanding of the problems at hand.

Missing Opportunities for Theory Building and Research Innovation

The above points, regarding the need to tailor methodology to the study of real-world problems and their complexity, seem particularly pertinent to public administration. My last point applies more generally and regards the hindering consequences of the exclusivity of quantitative research for theory building and research innovation. Observational quantitative data analysis may point at potentially important empirical patterns. However, statistical analysis, alone, specifically that which relates to behavioral or material indices (e.g. students' performance in tests, or class size, respectively), as opposed to perceptional indices (e.g. students' beliefs about their ability to succeed), cannot account for the micro-mechanisms that underlie observed empirical patterns. This is an obvious case where other methodologies are called for to supplement and advance our understanding of the statistical findings. In public administration, specifically, what is also called for is practitioners' unstructured "practical theories" as to the possible mechanisms at play, and citizens' account of their interaction with the state.

One way to unravel the micro-mechanisms underlying opaque statistical associations is to carry out quantitative survey-based questionnaires and experimental studies, with the latter perceived as the gold standard for identification and isolation of causal mechanisms. Yet,

surveys and experiments are relevant as a means for testing established theory and hypotheses. In the absence of clear hypotheses, as to the micro-mechanisms at plays, less structured, qualitative, data, can guide us in the pursuit of new explanations and their operationalization (Johnson and Onwuegbuzie, 2004). Interviews and focus groups, for example, provide researchers with access to participants' non-structured narration of their experiences and concerns. Ethnographic observations of interactions among participants may reveal taken-for-granted norms and behaviors that participants themselves may be unaware of, and thereby unable to elucidate in an interview. Once better understood, such micro-level understanding may result in clearly formulated hypotheses that may be quantitatively operationalized and analyzed. As suggested, for example, by Gerring (2017):

> "[Q]ualitative data are likely to be more important when not much is known about a subject and when the goal of the researcher is the develop a new concept, uncover a new hypothesis, or shed light on unknown causal mechanisms. Qualitative data are ideal for exploratory analysis. More generally, one might argue that social science knowledge usually begins at the qualitative level and then (sometimes) proceeds to a quantitative level" (ibid, 20).

This argument, as to the division of labor between qualitative and quantitative research, and the aptness of the latter for theory and concept building, and as means for illuminating the mechanism underlying unexplained statistical associations is uncontroversial. Thus, from a theory building perspective, there is really no excuse for the dearth of qualitative research in public administration.

MIXED METHODS AND THE LOGIC OF PRAGMATISM

Mixed-methods has emerged since the 1990s as a prominent alternative to the positivist-constructivist science wars. In opposition to the traditional methodological divide, the mixed-methods research community views the incommensurability of abstract ontological and epistemological assumptions as disconnected from practical questions regarding the possibility to combine qualitative and quantitative research methods within specific projects (Morgan, 2007). Espousing a distinct approach, which they associate with philosophical pragmatism (Johnson et al. 2007; Johnson and Onwuegbuzie, 2004; Morgan, 2007; Small, 2011). Advocates of mixed methods purport that methods should follow from the challenges posed by significant research questions. This approach suggests that concerns with ontology and epistemology should guide research design based on the actual consequences of alternative truth claims (Sil and Katzenstein, 2010). Thus, researchers need to consider the potential consequences of divergent assumptions about the world (ontology), and the ability to know it (epistemology), for their choice between qualitative, quantitative and mixed methods within concrete research projects.

To elucidate the logic of this pragmatic approach, consider the following simplified PA-related illustrations. First, imagine a public administration researcher who is interested in enhancing minority recruitment to the civil service in her country, and is fortunate to have earned the collaboration of a major public organization. She suspects that minorities face psychological, social and material barriers for entry to the civil service and to the specific organization, yet she lacks a clear picture of what these factors are and how to conceptualize and operationalize them. Espousing mixed methods, she may want to commence with interviewing minorities who already work for the organization, to make sense of their initial choices and their perspective of the barriers to entry, and on this basis to proceed with a set of experiments, for example, in which

she will sequentially test the effect of reducing concrete barriers. A second researcher is interested in the individual, organizational and institutional conditions that enable and inhibit active representation by minority bureaucrats. Following psychological theory, she assumes that civil servants hold multiple and conflicting social identities, involving identification with social ingroup members, as well as commitment to professional and organizational values (c.f. Gilad and Alon-Barkat, 2018; Kolltveit et al. 2019). She further suspects that organizations and institutional fields differ in the incentives and disincentives for bureaucratic representation of minorities, and in the legitimacy of their preferential treatment. Given these assumptions, it seems pertinent for her to carry qualitative interviews to unpack respondents' multifaceted self-categorization and perceptions of the affordance of their environment, alongside quantitative data analysis of variation in their decision making. A third researcher seeks to make sense of bureaucracies' discrimination of minorities. She assumes that discrimination, in the case the she studies, stems from unconscious prejudice, activated under stressful working conditions, as opposed to overt organizational policy or incentives. This assumption, if correct, entails that it would be pointless for her to conduct either interviews or surveys with street-level bureaucrats who are probably unaware or in denial of their own biases. Thus, collecting behavioral data, combining quantitative statistics and qualitative observations, if accessible, would be much more informative. Importantly, in all three cases, the choice of methodology is a function of the researcher's assumptions about the reality that she seeks to map (ontology) and her ability to know it (ontology), in a specific case, as opposed to a general commitment to qualitative, quantitative or combined methods.

Additionally, as discussed in the next section, the goals of mix methods, where applicable, may differ, ranging from triangulation, in pursuit of more valid theory testing, to

provision of more comprehensive answers that account for difficult-to-measure factors, multiple causal chains and unexpected explanatory variables and micro-mechanisms. Echoing the above discussion regarding the complex and contextual nature of real-world administration problems, I propose, below, that the latter goals – provision of comprehensive answers and research innovation, as opposed to mere triangulation - is why mixed methods is so crucial for the continued advancement of public administration research.

VARIATION OF MIXED-METHODS DESIGNS

Providing a comprehensive analysis of the methodological literature on the design choices of mixed methods is beyond the scope of this paper. In other fields, there are numerous reviews (e.g. Small, 2011) and typologies of different types of mixed methods, which readers may want to consult (e.g. Johnson et al. 2007; Johnson and Onwuegbuzie, 2004; Leech and Onwuegbuzie, 2009; Lieberman, 2005). Key differentiating factors, which extant typologies highlight, involve three design features. First, the blend of the mix, i.e. the extent to which a project equally or unequally employs qualitative and quantitative data and analysis. Second, whether qualitative and quantitative data are collected, and analyzed, in parallel or sequential modes, and if sequentially – whether the research project involves qualitative ->quantitative versus quantitative->qualitative data collection and analysis phases. Third, the extent to which the collection of qualitative and quantitative data is "nested" so that it pertains to the same objects, be they individuals, organizations, countries and so forth, or to different research targets. Where nested – the qualitative data collection normally regards a subsample of the larger N, yet this again depends on the preferred balance of qualitative and quantitative data and analysis.

The pragmatic philosophy of mixed methods entails that one's choice among the above design features should follow the goals that mixed methods are intended to serve. Thus, in what follows, building on existing typologies (Johnson et al. 2007; Small, 2011), and most notably on that of Greene et al. (1989), I elaborate on the different aims of mixed methods research and their relevance for the above concerns with addressing real-world, policy-relevant, problems, handling complexity and ensuing research innovation. Table 1 summarizes my analysis (for comparison see Hendren et al. 2018, Mele and Belardinelli, 2018; and Riccuci, 2010).

In its most familiar and widely-accepted format mixed methods research is aimed at *triangulation*. Indeed, the connotation of mixed methods with triangulation is so strong that many see them as one and the same (cf. Riccuci, 2010: 5). The assumption underlying triangulation is that all methods have their biases, thereby creating a validity risk, which is best overcome through their combination. By employing mixed methods for the sake of triangulation, testing the same research hypothesis via different data sources and analyses, researchers seek to enhance confidence in the validity of their findings. A restrictive conceptualization of this aim suggests that it involves qualitative replication of the findings of the initial large N study, showing the effect of the same variables by other means. Yet, the logic of triangulation, as we understand it, extends to verification of micro-mechanisms – e.g. assessing whether a researcher's theoretical claims regarding the effect of a certain variable on the dependent variable are compatible with participants' own understanding of their actions and motives or those of others.

In terms of research design, the theory-testing logic of triangulation calls for a sequential, nested, analysis, in which qualitative methodology is intended as an additional verification for the quantitative findings and asserted theoretical exposition. Yet, if this is the aim, then

triangulation does not necessary entail combination of qualitative and quantitative methods. Employing different types of quantitative methods, most notably observational and experimental data, would equally, and sometimes better, serve the aim of theory testing by other means. Schram et al. (2009) and Pedersen et al. (2018), for example, successfully combine administrative data and vignettes administered to social workers to establish the conditions under which African Americans and Hispanic welfare recipients are more likely to be sanctioned when breaching the conditions of their benefits.

Pertinent for this paper, triangulation, even at its best, has little to offer as a means for studying the effect of variables that are difficult to quantify, complex causal chains and for innovative theory building. Triangulation entails that quantitative and qualitative data, and their analysis, are employed to address the same hypothesis. It is not intended to transcend the limitations of quantitative methods by employing qualitative methods to measure and assess hypotheses, which are less amenable to quantification. Similarly, it is not meant to allow deployment of different types of methods to different facets of a complex research question and causal chain. Moreover, as far as innovation is considered, triangulation is aimed at rigorous testing of existing hypotheses, and not at the pursuit of new theory and concept building. Hence, as far as the concerns of this paper go, triangulating quantitative and qualitative data does not go very far.

Two other possible goals of mixed methods seem more relevant for addressing our above concerns as far as they regard research innovation and theory building. Conducting mixed methods with the aim of *development* entails using the results of one method (e.g. quantitative) to inform further investigation through another method (e.g. qualitative), thus informing hypotheses formulation, measurement decisions, and further research within the same or

subsequent projects. Such design would typically commence with an exploratory, theory-building, qualitative stage followed by large N theory-testing quantitative study. Alternatively, development may be induced by unexpected quantitative results, which lead the researcher to engage in a qualitative research phase intended for hypotheses refinement or reconstruction. This is a classic case where a sequential research design and nesting – i.e. conducting qualitative analysis of a selected sample of quantitative units – are likely to be mutually useful. Occasionally, however, a development-oriented research may proceed with a qualitative theory-building research in one context, followed by quantitative research intended to assess the emerging hypotheses in a different context, as opposed to nesting.

A more radical approach to research innovation – *initiation* – employs triangulation of methods and hypothesis testing, not in pursuit of corroboration and replication, but with the aim of "discovery of paradox and contradiction" (Greene et al. 1989: 259). Thus, in this case, the deployment of different methods to test the same hypothesis is intended to expose the weaknesses of existing theory, and to initiate new research questions, concepts and theory. For example, qualitative research may be sought to indicate that a well-established association between an independent and a dependent variable is spurious, calling for further large N study. Design wise, initiation may be based on investigation of an outlier case, to decipher the boundary conditions of a theoretical proposition, or, more ambitiously, it may involve studying an archetypical case to expose the flaws in the current theoretical exposition.

Finally, two additional possible aims of mixed methods – *complementarity* and *expansion* (Greene et al. 1989) – seem the most relevant for the study of complex problems, and for addressing our concern that limits of measurability are driving the narrow scope of research questions in public administration. Both goals are compatible with what Honig (2018) has

labelled “mutually supportive mixed methods”, wherein qualitative methods are employed to “fill holes” in econometric research, and quantitative methods are used to transcend the limitations of case studies.

Complementarity involves deployment of data and results obtained through one method (e.g. qualitative) to clarify and elaborate those obtained through another method (e.g. quantitative). In this case, “qualitative and quantitative methods are used to measure overlapping but also different facets of a phenomenon, yielding an enriched, elaborated understanding of that phenomenon” (Greene et al. 1989: 258). Thus, compared with triangulation, complementarity employs different methods as a means for transcending their inherent limitations, as opposed to a concern with measurement errors. Relating to my above concerns, complementarity is most relevant for the assessment of difficult-to-measure variables (such as culture, for example), as well as identification of micro-mechanisms.

In terms of research design, Mele and Belardinelli (2018) provide many useful examples wherein researchers started off with quantitative data collection and analysis, to establish some general patterns, and thereby proceeded to qualitative data analysis to make sense of their initial results and identify the underlying micro-mechanisms, which could not be otherwise deciphered. Still, one could equally think of a parallel design, as in Gilad and Alon-Barkat (2018), in which researchers employ surveys and interviews, with the same participants, to systematically capture associations between reduced statistical measures, whilst allowing understanding of the internal variation that these measures conceal through interviews.

Finally, employing mixed-methods for the sake of expansion is particularly suitable to the research of multifaceted problems, involving multiple levels and causal chains. This type of analysis seeks to “increase the scope of inquiry by selecting the methods most appropriate for

multiple inquiry components" (Greene et al. 1989: 259). Again, mixed methods, here, is used not for the purpose of triangulation and validation of theory testing, but in pursuit of adjusting methods to the concrete epistemological challenges posed by different facets of a research question. A key difference from a complementary design, as we understand it, is that the former is more apt for the study of multiple units (e.g. agencies), wherein an overall quantitative pattern may be established, and qualitative research is employed for in depth understanding of mechanisms. Conversely, expansion likely involves deployment of multiple methodological tools for within-case analysis of one, or a small number, of complex cases, to decipher the configurational operation of multiple casual chains and their outcomes. Nesting is less likely to be relevant here, since there is no large N sample of similar cases. Equally, the choice of parallel or sequential research is a question of capacity more than one of inherent design.

--Table 1 here --

ILLUSTRATION FROM THE STUDY OF MINORITY DISCRIMINATION

Before concluding, I would like to illustrate how the variation in mixed-methods design might apply to and enrich our research in one important domain, that of bureaucratic discrimination of minorities, which is rapidly accumulating in political science and public administration. Much of this emerging body of research is experimental, most often involving one type of methodology – "correspondence audits" (Adman and Jansson, 2017; Einstein & Glick, 2017; Grohs et al. 2016; Giulietti et al. 2019; Hemker & Rink, 2017; Jilke et al., 2018; Michener et al. 2019; White et al. 2015). Namely, measurement of administrators' rate, accuracy and friendliness of responses to fictitious email requests for information by minority and majority aliases. The deployment of

correspondence audits by bureaucratic researchers draws on an established tradition across the social sciences (e.g. Baldassarri and Abascal, 2017; Guryan and Kofi, 2013), which has been notably applied to measure differences in call back rates in response to fictional job applications.

Given the hurdles for systematic scrutiny of bureaucratic discrimination, and the multiple advantages of field experiments, correspondence audits seem like an optimal methodology. Yet, the findings coming out of bureaucratic audit research are vastly inconsistent, including positive findings of discrimination (Ernst et al. 2013; Giulietti et al. 2019; White et al. 2015), mostly null findings (Einstein and Glick, 2017; Grohs et al. 2016; Jilke et al. 2018), mixed findings across different outcomes (Adman and Jansson, 2017; Einstein and Glick, 2017; Hemker and Rink, 2017) and even reverse findings of preferential treatment of minority aliases (Grohs et al. 2016).

The inconsistent findings of current studies may indicate that bureaucratic discrimination of minorities is not as ubiquitous as we fear. Yet, it may alternatively suggest that research methodology is the problem. That is, correspondence audits may systematically fail to account for important factors that underlie the variation in bureaucratic discrimination. This is plausible since correspondence audits are conducted from afar, and are therefore less suited for deciphering variation and micro-mechanisms. Employing mixed methods for triangulation of these studies, involving qualitative replication to ensure the validity of their inferences, would be useful yet limited. Triangulation might involve qualitative analysis of the letters received from the same government agencies to supplement their reductionist coding. Even better, and more valuable, it may entail collection and analysis of a sample of real bureaucratic responses to citizens' real enquiries.

Still, given the null and mixed findings of current research, truly advancing our understanding of bureaucratic discrimination of minorities entails access to the inner workings of

public bureaucracies and their interaction with minorities. Given the acute sensitivity of the issue, such access is difficult to gain, and entails collaboration with practitioners, requiring negotiation and trust building. If and once achieved, however, the researcher may engage in qualitative analysis with the aim of development of better understandings of the potential micro-mechanisms underlying the variation in bureaucratic discrimination of minorities. This might involve carrying out non-structured pilot interviews with bureaucrats and administrators to make sense of their work environment in terms of organizational goals, the scope for bureaucratic discretion, the incentive structure that bureaucrats face, and other structural factors that may indirectly shape the risk for discrimination. The researcher can further deploy such interviews in order to locate relevant data, and to operationalize potential micro-mechanisms. When the researcher reaches a stage of having a reasonable understanding of the potential micro-mechanisms, and available data, she would need to decide what can be validly quantified, and what type of qualitative data collection and analysis are called for and feasible. For example, in pursuit of complementarity the researcher may seek to statistically analyze the variation in bureaucrats' decisions, alongside systematic, semi-structured, interviews with decision makers about the multiple factors that shape their discretion, although avoiding direct discussion of discrimination. Alternatively, if access allows, the researcher may want to carry participant observation of bureaucrats' behavioral interaction with clients. Last, a researcher who seeks expansion, over mere complementarity, may further employ interviews and archival data to make sense of the change over time in organizational goals and incentives, and longitudinal statistics to decipher the effect of such change upon bureaucratic decision making.

CONCLUSION

Recent commentators observe that public administration research has, with time, narrowed its gaze and aims from holistic comparison of administrative systems, and their relationship with politics and society, to a decontextualized and depoliticized focus on topics such as citizen satisfaction and the inner management and performance of public-sector agencies. The role of methodology as a factor shaping the above trends, while not overlooked, received less attention compared with the discursive contest between public management and public administration (Roberts, 2018; but see Moynihan, 2018). This paper proposed that these alleged trends go hand in hand with the near exclusively of quantitative over qualitative research within our discipline, and the consequent inclination to engage in large N decontextualized comparison of agencies or individuals as opposed to small N comparison of cases and their distinct embeddedness in political, socio-cultural and institutional factors. Moreover, along the study of agencies and individuals, quantitative analysis tends to favor readily available indices, or, alternatively, development of skeleton, generalizable, scales that may be applied across countries and cultural contexts. This entails huge advantage to research, and researchers, in countries in which high-quality quantitative data is readily available. It also tends to compel, or allure, us to adopt indices from psychology and organizational behavior, alongside our own established scales (PSM, most notably), and to apply these readymade indices with little adaptation to different national contexts. And last, and arguably most important, quantitative methodology creates physical and discursive barriers between academics, practitioners and citizens. Practitioners and citizens' perspectives are mostly sought through structured, validated indices, whereas the former voice of practitioners as research partners and authors has almost vanished from the main journals.

The question, of course, is whether these trends, and their alleged association with the predominance of quantitative methods, are problematic, or just normal manifestations of research professionalization and differentiation between public administration, adjacent academic disciplines and practice. In this paper, I argued that they are indeed concerning. First, if public administration is an applied field, as it asserts to be, it needs to address problems, and to provide solutions, that politicians, political activists and/or public administrators would perceive as relevant and valuable. If a significant share of papers, in key public administration journals, are akin to work in business management, devoid of attention to the political nature of public administration and to its societal impact, and if we find that scholars in the US and Asia, for example, tend to ask the same questions and to employ the same indices with little effective account for the change in national context, then the question of relevance cannot be easily dismissed.

Second, the real problems that policymakers face are oftentimes very complex. Consequently, generalizable models, employing reduced indices for independent and dependent variables, capture too little of the real phenomenon to be explained. Hence, we need more case study research, and configurational analysis of cases, to supplement the power of reductionist regression analyses.

Third, I stressed that research innovation calls for exploratory research to make sense of change and variation of micro mechanisms across administrative settings. In the absence of qualitative research, innovation in public administration is increasingly driven by adoption of existing indices and theories from business management and psychology and their extension to the public sector. This, in turn, reinforces our inattention to context, which is so crucial for our understanding of our subjects of study, and for the significance of our research for these external

audiences. To be sure, borrowing theories, concepts and indices from business management and psychology is sensible and

valuable, yet it needs to be done in a context-conscious way, which entails deployment of qualitative methods, alongside standardized indices, to highlight the implications of local variation.

Still, this paper by no means purports that qualitative research, alone, is the panacea for the above concerns. Qualitative research has obvious limitations not only in terms of prospects for generalizability, where applicable, but also in terms of difficulty to discern the relative effects of different variables, and in modeling their direct vs. indirect and linear vs. non-linear effects. Consequently, there is much to be gained from combining qualitative and quantitative research methods and from collaboration among quantitative and qualitative researchers.

Building on the expanding literature on mixed methods, this paper espoused a pragmatic approach, according to which empirical researchers should consign conflicts regarding the singularity of reality and our ability to know it to philosophers of science, and concentrate, instead, on addressing the challenges posed by concrete research problems. In other fields of social science, mixed-methods research is already well established, often seen as the gold standard of high-quality research, and it seems that a similar approach is imminent in public administration.

Yet, as elaborated in this paper, mixed-methods research can be designed to serve distinct aims. Among these, triangulation, which is intended to provide more rigorous hypotheses testing by putting them to test through alternative methodological tools has little to offer in response to the above concerns with the complex nature of real policy problems and the need for theory innovation. More relevant are versions of mixed methods that are focused on exploration

(development and initiation), as well as such that seek to transcend the limitations of each type of method (complementarity and expansion), employing quantitative analysis to discern general trends and the relative and mode of effect of different variables, and qualitative methods to capture difficult-to-measure and time-invariant variables (Honig, 2018), as well as configurational qualitative analysis to analyze multiple causal chains.

Before completion, however, I should admit that alongside its prospect to generate policy-relevant research, to enable the study of complex problems and to invigorate innovation, mixed methods, as highlighted by Ahmed and Sil (2002), has its prices. Incommensurability of logically incomparable results, which is often stated as the peril of mixed methods, is in my opinion, as explained above, a relatively minor concern in public administration. A more serious concern regards the high demands that mixed methods impose upon researchers in terms of expertise. The need to flexibly move between different types of quantitative and qualitative method sets a high bar, and it is likely to be case that the quantitative/qualitative skills of true mixed methods researchers, viewed in isolation, would fail behind those of pure qualitative/qualitative researchers. What this means is that high quality mixed methods research is more likely to involve collaboration between researchers with distinct skills. To a large extent, this is already happening, due to specialization, probably regardless of mixed methods. Ni et al. (2018) found that collaboration rates, in PAR, amounted to only 10% in the 1940s and increased to 54% by the 2010s. Henriksen (2016) documents a similar trend across the social sciences. Thus, whereas Ahmed and Sil (2002) perceive the need to combine distinct methodological skills as a problem, I see it as challenge to be overcome via fruitful collaboration.

Finally, even if we accept that mixed-methods and collaboration between qualitative and qualitative researchers, and more dialogue between academics and practitioners, are vital, and

looming in public administration, the challenges are significant. A more flexible, context-sensitive, methodological toolkit would, hopefully, broaden our empirical and theoretical horizons and make us better apt to respond to the significant problems in our diverse societies. Yet, one needs to concede that a greater focus on context, and interaction, not to say collaboration, with practitioners carries risks of a-theoretical research studies, with little convergence. Ultimately, a balance is called for between awareness to local problems and their idiosyncratic causes, on the one hand, and decoding similar patterns and micro-mechanisms that nonetheless travel across contexts, on the other.

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Table 1: Aims of Mixed Methods and Procedures

Type	Concern	Solution	Nested	Sequential
Triangulation	Inference error	Employ different methods to test and validate the same hypotheses	Yes	Yes
Development	Need for innovation	Employ qualitative methods to refine concepts, theory and measurements, and quantitative methods to test them	Optional	Yes
Initiation	Need for innovation	Employ different methods to challenge existing theoretical assumptions	Yes	Yes
Complementarity	Methodological boundaries	Employ quantitative methods to establish empirical regularities, and qualitative methods to account for difficult-to-measure variables and micro-mechanisms	Yes	Optional
Expansion	Methodological boundaries	Employ different methods to different facets of a research question to account for causal multiplicity and complexity	No	Optional

Comm.: Building on Greene et al. 1989