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This Could Be the Start of Something Big: Linking Early Managerial Choices with Subsequent Organizational Performance

Faculty Research Working Paper Series

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October 2013
RWP13-042

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THIS COULD BE THE START OF SOMETHING BIG:
LINKING EARLY MANAGERIAL CHOICES WITH SUBSEQUENT ORGANIZATIONAL
PERFORMANCE

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ABSTRACT

The influence of early events in the history of a country, a social phenomenon, or an organization on later developments has received significant attention in many social science disciplines. Often dubbed “path dependence,” this influence occurs when early events influence later outcomes even when the original events do not re-occur. “Path dependence,” however, has received little theoretical or empirical attention in public administration. This paper discusses how early events in an organization’s history can come to influence later outcomes. The paper then empirically tests for the presence of path dependence using data from Crime and Disorder Reduction Partnerships in England and Wales, a cross-organizational collaboration inside local government. We find that early choices by the leader of the collaboration about which activities to prioritize to create collaboration set in motion a path creating collaborations that were more -successful and less-successful, producing differences in crime results almost a decade later. The most-successful early priorities involved getting partner organizations to act in collaborative ways, rather than working to improve the attitudes of these organizations towards collaboration. We argue that path dependence should be examined in public administration research from a prospective, prescriptive point of view, to learn more about what early managerial actions can produce better later results.

KEY WORDS: Path dependence; public administration theory; cross-organizational collaboration; organizational change

It is commonplace in many social sciences to argue that events or choices early in the history of a nation, a social phenomenon, or an organization can influence what happens decades or even centuries later. The European countries that are predominantly Protestant today are those whose kings became Protestant during the Reformation. Differences in the prevalence of choral societies in Italian regions in the second half of the nineteenth century are associated with the extent to which Italian regional governments answer citizen information letters in the second half of the twentieth century. A powerful health insurance industry created by a World War II tax law change designed to help hold back nominal dollar wage increases during an inflationary period made it politically more difficult to create government-run health insurance decades later.

Such observations appear in a number of social science classics. Marx begins The Eighteenth Brumaire of Louis Napoleon (1951: 224, originally published 1869):

Men make their own history, but they do not make it just as they please; they do not make it under circumstances chosen by themselves, but under circumstances directly encountered, given and transmitted from the past. The tradition of all the dead generations weighs like a nightmare on the brain of the living.

Weber, in Methodology of Social Sciences (1949: 171,183) notes that a different outcome of the Battle of Marathon between Athens and Persia would have increased the odds of an eventual development of a “theocratic-religious” culture in the West by creating “‘loaded’ dice” favoring one kind of civilization over another. More recently, arguments about the “shadow of the past” on the present have been made in so many fields – political science, organizational sociology, economics, even business history – that David (2001:15) suggests they represent a quest for a “historical social science.”¹

¹ In a short paper directed to organizational scholars, Lawrence (1984) draws a distinction between “historical research” and a “historical perspective.” “Using written documents and artifacts to study attitudes during the Depression” exemplifies the former, while “using historical information about the Depression to explain differences in attitudes today” exemplifies the latter.

The basic mechanism posited in this work is the same: “[S]ome initial event or process generates a particular outcome, which is then reproduced through time even though the original generating event or process does not recur” (Pierson 2004: 45, emphasis in original). Persistence of the original behavior occurs without recurrence of the original cause, continuing unless something new disrupts its continuation (Stinchcombe 1968; Jepperson 1991).

The term used to describe the shadow of the past has varied in different disciplines; political scientists have referred to “critical junctures” (Lipset and Rokkan 1967), organizational sociologists (Stinchcombe 1965; Marquis and Tilcsik 2013) to “organizational imprinting.” However, those using this reasoning have increasingly come to use the phrase “path dependence,” coined in a paper by the economic historian Paul David (1985) describing – of all things – persistence in use of the QWERTY keyboard even after the original reason for it had disappeared, and its continued use dysfunctional.

In this paper we examine the influence of early history on later outcomes in the context of a cross-organizational collaboration in government called Crime and Disorder Reduction Partnerships (CDRP’s), established in all local authorities in England and Wales in 1999 with the aim of reducing crime.² We test for the influence of managerial choices the collaborations’ first leaders made on the collaboration’s crime performance a decade later. Our central result is that early choices about how to promote collaboration among the different member organizations establish better, or worse, patterns and habits of collaboration which in turn produce a noticeable impact on later crime rates. Our interest relates to the central concern in public administration research and practice with organizational performance. Thus, the question that concerns us is to

² CDRP’s consist of the police (autonomous from local government), Probation Service (a central government agency working with released prisoners), Youth Offending Service (a central agency dealing with young people at risk of crime), Fire Service (an autonomous local agency), and local government service units (e.g., streetlighting, parks, and inspection services). CDRP’s frequently organize initiatives the CDRP runs itself; for a further description, see ANONYMIZED.

what extent the early choices that organizational managers make influence how successful the organization eventually will be in achieving its purposes. The more that later outcomes are path dependent, the more that early choices matter. There has been relatively less attention in public administration than in other social science traditions to path dependence, and the modest attention the topic has received has almost all involved the least-novel version of path dependence theory. This is an example of problems the field faces of insufficient connection to social science research (Kelman 2007). We thus seek to direct attention of public administration scholars to this research, and also suggest (and test in one context) a theory about how path dependence ideas can usefully be used in public administration scholarship.

THEORY

Probably the largest body of research on the influence of early history on current outcomes has been done by political scientists and sociologists working in a tradition that has come to be known as “historical institutionalism” (Pierson 2004).³ Perhaps the first example was Hartz’s argument (1955) that the founding conditions of American society, in particular the lack of feudalism, had important implications extending to the present. With no strong central government needed to beat back feudalism, government became weaker and less prestigious; with no hereditary aristocracy, class lines became less-pronounced. Lipset’s The First New Nation (1963) argued that early American values emphasizing achievement (out of the Puritan tradition) and equality (out of the revolutionary tradition) produced a society where success was both valued and open to everyone, such that later American society put more emphasis on achieving success regardless of means used to achieve it, compared with many European societies where people were supposed to act in ways appropriate to their station. Lipset argued

³ Interestingly, and reflecting the stance of mainstream historians that they are not a social science, very little work of this sort has been done by actual historians.

this explains, among other things, America's historically high crime rate, as well as the puzzling facts that, while American labor unions were politically more conservative than their European counterparts, they have been more likely to go on strike and use violence.

Of more recent work in this tradition, perhaps the most-influential is Putnam et al. on Italy (1993), arguing that differences in the independence of cities from monarchs dating to the eleventh-century created initial differences in civic engagement that produced differences in social capital, which later promoted better-functioning government.⁴

Important work in political science theory also argues that early choices may be made explicitly to influence later ones. One may read Moe's argument (1995: 124) that legislators structure agencies at their time of establishment to increase the likelihood the agency will "continue generating benefits for their creators in the future" as a claim that early choices get made to influence later results; indeed, all theories about pre-commitment institutional design mechanisms, such as constitutionalism and central bank independence (Barro and Gordon 1983; Rogoff 1985) may be seen in a similar way.

This perspective has been applied to organizations. Stinchcombe (1965) argued organizations tended to continue to bear many traces of when they were founded ("organizational imprinting"). Would European labor parties be as influenced by Marxism, or YMCA's by Christianity, Stinchcombe asked, had they been founded when he was writing rather than a hundred years earlier?⁵ The experience of the Food and Drug Administration in stopping thalidomide, a drug approved in other countries but not in the U.S. that later turned out to cause birth defects, made FDA regulators more cautious for decades (Carpenter 2010). Among

⁴ Other examples in this tradition, applied to Europe and Latin America respectively, are Ertman (1997) and Collier and Collier (1991); for economic policy, Hall and Taylor 1996.

⁵ In the fifty years since Stinchcombe wrote, both organizations have become considerably less influenced by these founding features than they were when he wrote, a reminder of the limits of path dependence.

business historians. Boeker (1989) found that chip firms founded early, selling mostly to the Defense Department, developed large R&D capabilities in order to satisfy their predominant customer's needs, while those founded later, selling to commercial markets, developed better capabilities at manufacturing and cost control; these differences persisted. Marquis and Huang (2010) found early state laws allowing banks to set up branches statewide created capabilities for managing dispersed outlets that, when interstate banking became possible decades later, increased the propensity of those banks to do out-of-state acquisitions. Baron, Hannan & Burton (1999) found that high-tech firms whose founders had an initial allegiance to a "commitment model" emphasizing employee selection based on cultural fit and peer control had lower percentages of administrative staff six years later than ones whose founders had an initial commitment to a "bureaucracy model."⁶

The Mechanisms of Path Dependence

The basic mechanisms creating path dependence involve positive feedback (David 1985; Pierson 2004; Jervis 1997), where early development "sets in motion reinforcing pressures that produce further change in the same direction" (Jervis 1997:125). The QWERTY story is that once the keyboard spread, typists were trained to type using that configuration, a learning investment expensive to reverse. Not all mechanisms discussed in the literature are relevant to the influence of early managerial choices on later performance, so we focus on four that might: (1) norm generation, (2) behavior amplification, (3) capabilities generation, , and (4) "attraction/selection/attrition." We note there are theoretical and empirical literatures on each of these phenomena, but they seldom include the phrase "path dependence."

Norm Generation

⁶ This was so independently of whether the founder was still the CEO at the later point.

Social norms are "socially shared definitions of the way people do behave or should behave" (Paluck 2009: 575; see also Fishbein and Ajzen 1975: 590) – not necessarily statements of a person's own beliefs but rather of what the person believes others expect of them. In the case of a CDRP, a behavioral norm might be for partners to cooperate (or not to cooperate). There might also be a norm about the level of legitimacy to accord the CDRP as an organization, and hence how much to take the wishes of the CDRP as a body into account.

In a fascinating field experiment in Rwanda on the impact of a year-long radio drama promoting tolerance (Paluck 2009), it was found that norms can change more easily than own's own beliefs, and change in norms people perceive, even absent changes in one's own beliefs, can affect individual behavior (which is of course an example of social influence on individual behavior).

When a new organization gets started, norms seldom exist (Tuckman 1965). Early choices can generate feedback loops that eventually create norms through two mechanisms, availability (Tversky and Kahneman 1973, 1974) and social influence (Festinger et al. 1950; Homans 1974) "Availability" refers to the ease with which something comes to mind. When we think, for example, about the influence of earlier events in a nation's history on later social values – say the influence of America's birth in a revolt against government authority making U.S. values more anti-statist compared with countries such as China where a strong state historically served as a protection against chaos – one may think of past experience making certain values more available to later generations. Early choices may also generate norms through social influence. As more people behave a certain way, there can be an accumulation of new adopters whose actions are based on the influence of previous ones (Bikhchandani et al. 1992). Note, however, that, when the behavior in question initially is uncommon, social

influence can operate to create positive feedback only if there is an underlying significant level of silent support for the behavior, held back by behavior inhibitors such as riskiness or worry about free riding (Granovetter 1978). For a CDRP, low initial cooperative behavior despite fairly widespread pro-cooperation attitudes might be due to worries about free riding, which would diminish as fewer do so.

Scholars have used different constructs to characterize the hold of norms, which may be rank-ordered in order of strength, according to which a norm is: (1) “taken for granted” (Garfinkel 1967); (2) subject to a “logic of appropriateness” rather than a “logic of consequentiality” (March and Olsen 2006); (3) “institutionalized” (Selznick 1957).

Behavior Amplification

Behaviors undertaken early in an organization’s history may become amplified over time into larger behaviors, through operation of “foot in the door,” where “inducing people to take initial small, seemingly inconsequential steps [puts them] along a path that ultimately will lead them to take much larger and more consequential actions” (Ross and Nisbett, 1991: 50).⁷ In a field experiment (Freedman and Fraser 1966), people were dramatically more likely to be willing to place a large, crudely lettered “Drive Carefully” sign in their yard if asked earlier to sign an innocuous petition supporting safe driving.

Capabilities Generation

One path-dependency generating process largely specific to organizations is the “learning curve” (Argote 1999), which refers to a situation where the unit cost of production declines as more are produced. As people get practice behaving a certain way, doing the behavior becomes

⁷ Cialdini et al. (1978: 465) discuss the related phenomenon of “lowballing,” where a person “makes a behavioral decision concerning a target action” and the decision persists “even after circumstances have changed to make performance of the target action more costly.”

easier, compared with a new behavior one might later try for the first time.⁸ Hackman (2011: 61) cites a study showing 73% of airline accident incidents occurred the first time the crew was flying together. Although the downward slope does not last indefinitely, while an organization is moving down a learning curve, there is positive feedback: continuing a behavior becomes progressively easier over time.

How does building initial capability create path dependency? If an organization is choosing between behaving two ways at a future date – call them “early way” and “later way” – it will be relatively more attractive to behave in “early way,” because capabilities to behave that way are already developed, while those to behave in “later way” need to be developed from scratch. Also, the knowledge and skills embedded in “early way” create a lobby inside the organization for “early way,” because “new way” would require members to learn new knowledge and skills (O’Reilly and Tushman 2008).⁹ Additionally, early values are themselves a capability, which can be replicated through socialization of new employees (Stinchcombe 1968) or even through rules, in a quasi-constitutional fashion, subsequent organizational action (e.g., Becker 2012).

“Attraction, Selection, Attrition”

A second source of path dependence special for organizations is a phenomenon referred to (Schneider 1987; Schneider et al 1995; see also Chatman 1989) as an “attraction, selection, attrition” process in organizations. “Attraction” refers to the kinds of people who are attracted to apply for a job in different organizations. “Selection” refers to what kinds of people are hired.

⁸ “Learning effects” are one four mechanisms Arthur (1988) discusses as sources of path dependence.

⁹ This is like to a mechanism often argued in political science (e.g., Selznick 1949; Hacker 1998) to create path dependence, the idea that early choices create interest groups lobbying against later changes that might reduce their power. Hacker, for example, argues that emergence of employment-tied health insurance around World War II, promoted by a decision to provide such plans favorable tax treatment, created a private health insurance industry that had an important influence on subsequent health care debates.

“Attrition” refers to what kinds of people leave. The basic idea of attraction/selection/attrition theory is that “[d]ifferent kinds of organizations attract, select, and retain different kinds of people, and it is the outcome of [this] cycle that determines why organizations look and feel different from each other” (Schneider 1987: 440). Although Schneider does not use the phrase “path dependence,” he states this cycle is set in motion by organizational founders: “The goals, structures and processes that attract people to organizations are determined by the founders’ choices, that is, by his or her choices to found a particular kind of organization” (Schneider 1987: 443)

How do these initial founder decisions get amplified by positive feedback loops? People tend to seek employment in organizations matching a person’s “personality” profile, so people with values similar to those established early in the organization’s history tend to be attracted to work for the organization. The organization is differentially likely to select such people. And then, importantly, people who make a “mistake” and don’t fit in with the organization’s personality tend differentially to leave, making those remaining in the organization even more similar.

What’s New About Path Dependence?

According to one view (e.g. Kay 2005), there is nothing really new about the idea of path dependence – it is merely another way to refer to institutional or organizational inertia, and to resistance to change.¹⁰ A choice is made early on, and that choice persists: a king converts to Protestantism at the beginning of the Reformation, and the country stays Protestant later; or a country becomes democratic early on, and stays democratic. Allison (1971) presents the proposition that $t+1=t$ is a basic feature of organization behavior, meaning that if one seeks to understand an organization’s actions today, it is important to know what it was at an earlier time.

¹⁰ One anonymous reviewer of this paper took that view.

It is true some path dependence empirical literature does not advance beyond looking at the early history of some practice or policy, and noting that this same feature has persisted to the present. Here the argument is indeed one of what we might call mere inertia. This is the least-original, least-satisfying form of path dependence scholarship.

However, at a minimum, path dependence literature does make advances over literature on inertia and resistance to change in discussing mechanisms not widely discussed in those literatures. Beyond that, there are a number of kinds of path dependence results that represent notable advances on mere inertia. We classify these as follows:

_____ (1) Out of domain consequences: Lipset argues America's non-aristocratic tradition from the nation's founding influenced results in unrelated areas, such as high crime rates and importance of entrepreneurship. That the capacity of banks to set up multiple branches due to early statewide banking laws made it more likely for them to do interstate acquisitions decades later is another example, as is the finding by Hicklin et al. (2009) that the degree of past networking by Texas school superintendents predicted their interorganizational efforts when families fled to their districts after Hurricane Katrina.

(2) Unintended consequences: The classic example is that QWERTY, developed for a good reason at one point, creates unintended negative productivity consequences later on. Similarly, if a technology firm is not good at cost control because of historic roots developing technologies for the Defense Department, that creates problems, unintended at the time a firm developed its capabilities, if the business environment changes to put more emphasis on cost competitiveness. The government made employer-provided insurance premiums tax-deductible during World War II for anti-inflation purposes (to inhibit a rise in nominal wages), but this

created a private health insurance industry that was in a powerful position to resist government-provided health insurance decades later.

(3) Surprising connections: Putnam's example of variance in the prevalence of cultural and recreational associations in the nineteenth century predicting regional government performance in the twentieth-century is a classic example (though may reflect omitted variable bias). To be sure, to some extent perceptions of what kinds of connections are "surprising" may be quite subjective.

(4) "Cleopatra's nose": This is the idea that small initial differences can generate large differences in later outcomes (Pierson 2004) – the so-called "Cleopatra's nose" phenomenon, suggesting her nose's size made Cleopatra more attractive to Marc Antony, thus changing world history (Boorstin 1994).¹¹ This approach stands "in sharp contrast to prominent modes of argument and explanation in the social sciences, which attribute 'large' outcomes to 'large' causes" (Pierson 2004: 19; see also David 1985). This conception of path dependence corresponds most-closely to what one might call the "everyday language" (at least among academics) use of path dependence: if a scholar is asked why a certain phenomenon is observed and responds, "It's path-dependent," the meaning is there is no deep explanation, the initial path was a matter of chance that got expanded and entrenched over time, and things could easily have turned out very differently. The disappearance of the Betamax video format, and complete triumph of the VHS format, (Arthur 1990) is often cited as an example of this.

Path Dependence and Public Administration Scholarship

Path dependence has received only modest treatment in public administration literature. The mainstream organization/management journals JPART and PAR include a total of about 50

¹¹ In complex adaptive systems theory, this is known as the "butterfly effect" (Lorenz 1983). (Verba 1971 uses the metaphor of "branching").

papers using the phrase “path dependence,” but only a handful where this is a major theme. The two public administration journals with a larger number of papers mentioning path dependence – together about 150 – are Public Administration and Governance, both of which are journals dominated by political scientists. These papers virtually all present political science-style “policy analysis,” that is descriptive and/or explanatory accounts of how certain policies come into existence, which are strongly influenced by political science-based historical institutionalism.¹²

We examined the five most-cited papers with the topic “path dependence” from these two journals.¹³ These papers almost all involve empirical accounts of simple inertia. For example, Holzinger and Knill (2002) note how the European Union had evolved over time in an increasingly federal and democratic dimension, and that proposals to change these directions were likely to be politically infeasible. Laffan and O’Mahoney (2007) present a descriptive account of the development of Irish government institutions for interacting with the EU, and, although the paper describes the current state of affairs as “path dependent,” all that seems to be meant is that institutions set up earlier continue in existence today. The discussion by Gains *et al* (2005: 33) of the organization of British local government states, “Path dependency gave way to policy that punctured the previous consensus. This happened primarily because key national New Labour figures wanted to see local politics work in a different way.” In discussing three different theories of policy change, Greener 2002: 161 (need page) states that theories of “policy transfer and social learning provide frameworks that are essentially about policy change, whereas path-dependency, as the name implies, is about continuity.” Kay (2005: 560) discusses path dependence in the context of the European Union with the following statement: “The key rules

¹² These papers have been very scantily cited. The most-cited paper (Kay 2005) from these two journals has only 60 cites in the Web of Science; it turned out that there were only four papers on this topic from Governance that had been cited even once.

¹³ They needed to have the topic of path dependence, which is a higher standard than this phrase being mentioned anywhere in the paper, including in the title of a citation.

under which the EU budget operates are path dependent. The main two rules are established in EU treaties and change would require unanimous agreement among the member states.” Dobbins and Knill (2009: 403) state, “As decision makers tend to cling to existing institutions,... path dependencies cannot be ruled out.”

A New Approach to Path Dependence Research for Public Administration: Choices, not Constraints

Most research on path dependence takes a retrospective approach – it starts when the organization already has a long history, and asks how the organization got there. Seen from this perspective, the message is constraints -- inertia and lack of possibilities for change. We see this approach in the public administration historical institutionalism-influenced papers, but this is a feature of path dependence research more generally.

We propose a different theoretical stance as a path forward for public administration research to make a contribution to path dependence literature. We propose a prospective approach that takes the organization’s launch as its starting point. The research question that should be examined would then be a prescriptive one not the kinds of explanatory, descriptive questions dominating the literature now. Research should ask the prescriptive question, “What should leaders of new organizations do to maximize the organization’s chances for success?” While the retrospective approach in most path dependence literature emphasizes constraints on present action, given history, the prospective approach we advocate is the opposite – emphasizing choices and possibilities, the idea (very much in the path dependence tradition) that ex ante many paths would have been possible and that the future is not pre-determined.

There is a small amount of work in political science and public administration that, in effect, takes this approach, though not using the phrase “path dependence” nor conceptualized the way we are suggesting. One may see Moe’s argument about the design of agency decision-making processes in enabling legislation in this light, though he is a political scientist and makes the argument about politicians rather than managers. Moe argues that politicians consciously choose a certain decision-making design in order to influence future agency decisions. It is thus a prospective argument about the influence of early choices that could have been different, though Moe is not prescriptive.

Patashnik (2008) discusses to what extent “general-interest” reforms that are enacted over objections from well-organized interest groups can sustain themselves in the long haul. His argument is that reform sustainability depends on whether the reforms generate new interest groups or investments that create an interest in keeping the reform in place, a sort of prospective version of Hacker’s argument about the health insurance industry in the wake of the decision to allow tax deductibility of insurance payments: so, for example, airline deregulation created low-cost carriers who wanted deregulation to continue, and tradable permits for sulfur dioxide emissions created permit-holders who wanted their permits to continue to have value. Patashnik argues, in general terms (2008: 178) “political sustainability considerations should be an integral part of policy design.”

Finally, Hicks et al 2008 and Johnston et al. (2011) study a collaboration involving non-profits and government for nurse visits to low-income mothers using a mixture of retrospective interviews (which are problematic because participants who know the outcome of the effort are asked questions about the quality of earlier collaboration) and a simulation. They argue early patterns of collaboration were important for explaining effectiveness many years later and adopt

the kind of prospective prescriptive approach advocated here: “”If controllable institutional design choices can improve the likelihood that cohesive groups form, then the uncertainty and pitfalls of collaboration might be mitigated and the instances of successful implementation... increased” (Johnston et al 2011: 705).

HYPOTHESES

This theoretical discussion suggests two sets of hypotheses, one involving the prospective significance of path dependence and the other involving actual prescriptions for what kinds of managerial choices will promote organizational success.

First, early choices made in a CDRP may affect the CDRP’s future performance. They may promote productive collaboration, or of legitimacy, and then original level of collaboration and/or legitimacy generate positive feedback promoting its continuance. For example, early managerial practices promoting productive collaboration can embed collaboration into the organization by attracting collaboratively minded people to work and promoting departure of those not so inclined, by creating collaborational norms, or by moving collaborative capacity down a learning curve. This generates the following hypothesis:

H1: Early choices made in managing a CDRP will influence the later success of the CDRP in reducing crime.

Note that these effects may not operate symmetrically in the case of early choices that ex post turn out to have been productive versus damaging. If choices turn out to be damaging, there will be counter-pressures against continuing on the path the early choices favor. These counter-pressures may have a hard time succeeding – indeed, that is an arguments path dependence scholars make – but to the extent they do succeed, any results we see showing an impact of early choice on later performance will be understated, because they will ignore course corrections

occurring after bad choices. Prescriptive hypotheses involve which choices are the best for an early leader of a CDRP to make. Getting independent organizations to begin to collaborate requires them to change their own previous behavior, that is, to begin to collaborate. The literature (e.g., Bardach 1998) discusses a plethora of reasons why this is difficult; with some irony, Huxham and Vangen (2005: 60) observe that “reports of unmitigated [collaboration] success are not common.” Thus, creating collaboration among agencies where previously there had been none constitutes a significant organizational change challenge for the members joining into a CDRP. This means that theories of how CDRP managers can best initiate such changed behavior will provide suggestions about which early choices are more likely to produce the needed changes among organizations in a collaboration.

We emphasize two prescriptive approaches: one suggests change activities begin with efforts to modify attitudes towards the change, while the other suggests change begin by inducing changed behavior, even before attitude change has occurred.

“Change Attitudes First”

Much literature on organizational change starts with the assumption that “people resist change” and therefore will not be predisposed to join in a change effort (Coch and French 1948; see also Kets de Vries and Balazs 1999; Kelman 2005). Thus, most discussions of change management (summarized by Fernandez and Rainey 2006) prescribe that attitudes inhibiting willingness to change be addressed first. Fernandez and Rainey begin their discussion (p. 169) by stating that leaders must “persuade...members of the organization...that [change] is necessary, ...[t]o convince individuals of the need for and desirability of change.” This follows the commonsense intuition that attitudes precede and drive behavior, although literature on the

relationship between attitudes and behavior (e.g., Ajzen 1996) counsels more uncertainty about a connection than common sense suggests.

Much of the literature suggests participatory discussion as a way to “unfreeze” resistance (Lewin 1947, 1958). In a classic article, Coch and French (1948; see also Fernandez and Rainey 2006) found that worker resistance to changing production methods could be overcome through employee participation in designing the change. Another variant on the “soft” version of attitude change is specifically oriented to government. Public administration scholars have devoted considerable attention to public service motivation as a driver for public employees (e.g., Perry and Wise 1990; Grant 2008). Appeals to public service motivation -- that a change will help the organization fulfill its specific mission, in which organization members believe – may be an important part of an attitude change effort; in the context of cross-agency collaborations, Bardach (1998) argues this was important in motivating participants to contribute.

The standard view in literature on change suggests the following hypothesis:

H2: To generate path-dependence mechanisms creating later productive collaboration, it is best for managers to begin by encouraging participants to develop more favorable attitudes towards collaboration (“change attitudes first”).

“Change Behavior First”

Unlike the emphasis in organizational change literature, most discussions of how path dependence gets launched – from QWERTY to tax deductions for health insurance premiums – start with a behavior, not an attitude. And assuming the ultimate goal sought is behavior change, changing behavior first has the advantage of being the most direct approach, since it represents the ultimate goal.

In the context of the “resistance to change” assumption, one may ask how people will change behaviors if their attitudes are hostile. One answer is that the assumption may not be fully correct. Kelman (2005) argues there often is a “change vanguard” who are “pre-sold” on the change, which they favor before the effort has even been launched. Such people are ready to act. Launch of a change – in this case, creation of a new collaboration – creates heightened arousal for supporters. This is deflated if followed by activities (teambuilding, visioning, or other efforts to change attitudes) that delay action.

What about getting those with on the fence or skeptical to act? For a new venture such as a CDRP, there may exist a window of opportunity (Kingdon 1995) generated by initial optimism and enthusiasm, analogous to a presidential honeymoon, during which it is easier to engage participants in action even before attitudes have changed. As with reactions of the change vanguard, early action takes advantage of a window of opportunity. Changing attitudes first delays action, and meanwhile the window of opportunity may disappear. Early action also counteracts cynicism (“here we go again” or “flavor of the month”) regarding new ventures that get announced but where there are no followup actions; a common criticism of cross-organizational partnerships, not least in the U.K., is that they are only “talking shops” that don’t do anything (6 et al. 2003).

Finally, for skeptics, or those with no opinion or on the fence, inducing small, less-controversial changes may be relatively easy (Weick 1984). Indeed, small behavioral change may be easier than attitude change, because confirmation bias and other psychological phenomena inhibit attitude change (Lord et al. 1979).

There is an additional argument for changing behavior first: contrary to the intuitive causal arrow where behavior changes after attitudes, there is evidence, from research on

“cognitive dissonance” (Festinger 1957) and “self-perception” (Bem 1972), that behaviors can generate attitudes. “Individuals come to know their attitudes, emotions, and other internal states partially by inferring them from observations of their own overt behavior” (Bem 1972: 2). One may through behavior “develop new... appreciations...of what is important” (Jervis 1997: 53); Habermas (1989), in the context of democratic theory, argued that participation in deliberation, where one is required to argue in terms of the public good, over time can turn the selfish into citizens. Finally, research has established existence of a “mere exposure effect” (Harrison 1977), the positive impact on one’s attitude towards something of simple repeated exposure to it.¹⁴

This alternative approach to initiating change suggests the following hypothesis:

H3: To generate path-dependence mechanisms creating later productive collaboration, it is best for managers to begin by inducing participants to engage in collaborative actions (“change behavior first”).

Pressure

The presentations of management consultants often argue that overcoming resistance to change requires – in a reference to what it takes to rouse drilling workers on oil rigs from complacency – a “burning platform” (Kotter 1996). “Stress in the system can be seen as the lever that gets the change process on its way. ...[Change leaders must] make clear that hanging on to the present state creates more problems than diving into the unknown.” (Kets de Vries et al 1999: 653-54). The argument is that pressure creates an impetus to participant behavior change that would not have been undertaken voluntarily.

Pressure can take several forms. In a company, it might be loss of market share or profits. In a government agency, it might be budget cutbacks. In a social movement, it might be a new

¹⁴ The research has involved exposure to stimuli such as pictures, words, or names, but it seems plausible to believe it would apply to exposure to behaviors as well.

law requiring a behavior change the movement seeks.

H4: To generate path-dependence mechanisms creating later productive collaboration, it is best for managers to begin by putting pressure on participants to act in ways they would not voluntarily have chosen.

External Legitimacy and Capacity Building

We test two further hypotheses involving early priorities – enhancing support and legitimacy support and building operating capacity. Neither features prominently in the change management literature, but both are discussed in broader public administration literature as important early organizational priorities. Public organizations require external support for funds and legitimacy. Moore (1995: 105) is associated with the view that “[s]trategic management in the public sector begins by looking up towards politics,” which deserves “pride of place” among priorities. As for capacity building, it is a commonplace to note that collaborations suffer from having minimal capacity, so building capacity is often recommended as crucial to success (Provan and Milward 1995; Thatcher 2004).

One could argue both these choices share the characteristic of building the ability of the CDRP later on to do things but delay efforts to change either attitudes or behavior. However, gaining external support might be argued to extend the window of opportunity for getting started on behavior change by injecting new energy into the collaboration, while also possibly promoting attitude change towards collaboration, especially among fence-sitters. Capacity building would not provide these benefits. There is also the danger that creating capacity does not assure that efforts to change either attitudes or behavior will ever take place – it would certainly be not unheard-of for an organization to use such capacity mostly for, say, symbolic or turf-building activities.

H5: To generate path-dependence mechanisms creating later productive collaboration, it is best for managers to begin by enhancing the collaboration's legitimacy.

H6: To generate path-dependence mechanisms creating later productive collaboration, it is best for managers to begin by building the collaboration's operating capacity.

DATA AND METHODS

CDRP's provide a rare opportunity to examine whether there are relationships between how an organization is managed and its performance. First, by statute they exist everywhere in England and Wales, so there are enough of them for quantitative analysis. Second, they aim to reduce crime, and crime data are available.

Data

Data on managerial choices come from a 2008 survey of the community safety manager first appointed after CDRP's started in 1999. CDRP'S are managed through a "network administrative organization" (Provan and Kenis 2008) – a dedicated unit with its own staff, separate from constituent agencies. The leader of that unit is called a "community safety manager." The National Community Safety Network, the professional association of these managers, helped us try to locate names and addresses of the first managers appointed after passage of the Crime and Disorder Reduction Act. However, it was not easy to do so; we located information for 106 managers, out of 376 CDRP's.

The survey was initiated by an email directing respondents to an Internet instrument with fixed-response questions. Four followup emails were sent to those who didn't respond to earlier requests. We ended up with 30 surveys, a 28% response rate. Clearly this is a modest sample size.

Dependent Variable

Our measure of performance is change in crime. For the period covered by this research, the U.K. government established performance targets for crime reduction. For 2001-04 these involved vehicle crime and burglary (Home Office 2003). For 2005-08, there were targets for reduction in nine kinds of well-reported crimes¹⁵ (Home Office 2004). Our dependent variable is the 2008-09¹⁶ crime rate by CDRP, aggregated for the crime categories of the 2005-08 period. Crime data were provided by the Home Office; we used population data to calculate rates. We transformed crime logarithmically to enable interpretation of coefficients as percentage impacts.¹⁷ As will be seen below, we introduce lagged crime as an independent variable, so our model measures crime change.

Independent Variables

Management Practices

Data come from one question in our survey, in which the respondent was presented a list of 16 management practices. The list was introduced as follows: “The following is a list of possible management priorities for a Community Safety Manager. For each of the factors on the list, please tick the box that best describes how important each priority was for you personally as a community safety manager (through 2002).” (emphasis in original) Choices were: (1) “This is a top priority,” (2) “This is important to me,” (3) “I pay some attention to this, but it’s not a real priority,” and (4) “This is not something I pay much attention to.” If the respondent gave more than two practices a top rating, an instruction appeared to limit the number of top priorities to two. We did this to insure variance, rather than allowing respondents to say they prioritized everything.

¹⁵ To vehicle crime, burglary, and robbery were added assault, wounding, vehicle interference and tampering, bicycle theft, theft from the person, and criminal damage (vandalism).

¹⁶ Through July 1.

¹⁷ To make results more intuitive, we reverse-coded crime, so a lower value (including a negative value if crime increased) means crime was higher.

This procedure generated values ranging from “1” to “5,” where “1”=the highest priority, either as stated initially or after the respondent was limited to two top priorities, “2”= initially presented as a highest priority, but not among the top two chosen after the followup, and each other value moved down one notch (e.g., original “3” became “4”) to reflect recoding. To make interpretation more intuitive, all values were reverse-coded.

We categorize priorities to reflect H2-6 (Figure 1 shows exact wordings):

(a) “Change Attitudes first”: These were TRUST, POWER SHARED, and VISION.

With regard to trustbuilding, there is no clearer theme in literature on managing collaborations than the importance of creating trust among partners (Agranoff and McGuire 2001; Shortell et al. 2002; Thomas 2003; Huxham and Vangen 2005; Thomson, Perry, and Miller 2008). Mattessich et al. 2001, 14-15) argue:

At the very beginning of an effort, collaborating partners should temporarily set aside the purpose of the collaboration and devote energy to learning about each other. . . . Time should be set aside to understand how language is used and how members perceive each other

One study on community health partnerships concluded that successes developed methods for "open communication" and "spent considerable time working...building trust among themselves" (Shortell et al. 2002: 76).

There is also experimental evidence (e.g., Axelrod 1984; Bettenhausen and Murnighan 1985; see also Huxham and Vangen 2005 in a collaboration context) that early trust in interactions breeds later trust. However, these experiments must be interpreted carefully. In these experiments, the early activities were behaviors displaying trust, not investments in creating trusting attitudes. Our question wording could in theory refer to both. However, we suspect most respondents interpreted “building” trust as referring to creating trusting attitudes, such as through use of joint “away days” among partners, teambuilding exercises, or efforts to explain the jargon

of one partner to other partners – all mentioned in exploratory interviews as actions some CDRP’s took early on.

Visioning also is central in collaboration literature (Bardach 1998; Mitchell and Shortell 2000; Lasker, Weiss, and Miller 2001; Mattesich et al. 2001), where it is seen as key to improving attitudes towards collaborating. Gray (2008, 668) writes: “A critical task for launching a new partnership is that of visioning, which involves recognizing the potential value of a collaborative alliance, imagining how the parties can collaborate, and conveying this vision to them.” Crosby and Bryson (2010, 219) state that “shared vision” must first be developed “if [partners] are to agree on and implement new projects.”

Finally, to build a desire to collaborate, many argue that fair treatment of partners, particularly less-powerful ones, is essential: “Significant power imbalances among collaborating partners are likely to breed mistrust and thus prevent partners from easily agreeing on a shared purpose” (Crosby and Bryson 2010, 225; see also Huxham and Vangen 2005).

(b) “Change Behavior first”: These were LOCAL INITIATIVES, INFORMATION SHARING, FOLLOW-THROUGH, BLOCKAGES, PERFORMANCE MEASUREMNT, and MONEY CONFLICTS.

Each of these represents a managerial activity associated with getting a CDRP doing something. The first two (developing tailored local initiatives and encouraging information sharing among partner organizations) are actions themselves. Each has been discussed in the literature (local initiatives e.g., Lasker, Weiss, and Miller 2001; Rosenbaum 2002; Thacher 2004; information sharing e.g., 6 et al. 2006) as actions collaborations often take. The others are ways for the manager to work directly to support actions (by, for example, checking that partners

follow through on commitments to act, dealing with blockages or money conflicts interfering with acting, or measuring performance so action can be undertaken in response to problems.

(c) Pressure: This was LEGAL PRESSURE.

Section 17 of the Crime and Disorder Reduction Act created a legal requirement for member agencies to participate in the CDRP. Calling the attention of members to this provision is more or less the only form of pressure available to CDRP managers for trying to get them to change their behavior even if they would prefer not to.

(d) External Legitimacy: These were CHIEF EXECUTIVE, ELECTED OFFICIALS, MEDIA, and VOLUNTARY SECTOR.

(e) Capacity building: These were ACCESSING MONEY and MORE STAFF.

Both these involve generalized capacity, which might or might not at some later point be used to try to change attitudes or behavior. (By contrast, priorities such as FOLLOW-THROUGH or PERFORMANCE MEASUREMENT create kinds of capacity that only would be developed, and only have meaning, in the context of encouraging actions managers were already attempting; for example, it makes no sense to prioritize following up to make sure that partners have lived up to their commitments (one change behavior first variable) unless there were already commitments to which to live up.

Control Variables

We controlled for crime at the beginning of the period (2002-03).¹⁸ Additionally, as in ANONYMIZED, we tested numerous demographic and organizational variables as controls. Data for these came from the 2001 British census and other published sources. We found that two control variables, the population of the local authority where the CDRP was located and whether

¹⁸ Earlier data were unavailable (ANONYMIZED).

the CDRP was part of a so-called “two-tier” local authority,¹⁹ were significant.

We were also concerned about possible omitted variable bias involving the initial level of enthusiasm for the CDRP effort. Low enthusiasm might be associated both with choice of initial priorities and also with later success at reducing crime: for example, low enthusiasm might incline managers to emphasize invoking legal authority and also produce poorer later performance. Without a measure of initial enthusiasm, estimates of the impact of such priorities might inaccurately make these choices appear to produce negative impacts on performance. We thus included the question (reverse-coded): “When this CDRP first started, there were a significant number of people in partner organizations who were already very enthusiastic about the idea of partnership working.”

Small Sample Size

A fundamental issue for our analysis is our small sample size, which limits the statistical power available, though we note the presence of a regression-based literature (for example on determinants of corruption, e.g. Alt and Lassen 2003; Glaeser and Saks 2005) based on observations from only the fifty states. Were we to use the full list of 16 management practices, along with initial enthusiasm and significant controls, our results would likely be too conservative, with p-values becoming insignificant due to poor statistical power. We chose to deal with this by creating five scales to reflect the change-initiation dimensions we have discussed. Also, in testing our model, we discovered that neither demographic control variable was significant with other variables added. Since including the demographic controls added to

¹⁹ Two-tier authorities, in sparsely populated areas, divide responsibilities into higher-tier county and lower-tier district governments (Wilson and Game 2006). This is often regarded as making collaboration more difficult, because the CDRP exists at the lower level, but some partner organizations are at the upper one.

our number of variables, weakening p-values and in some cases changing results, we present results without these controls, while noting differences.²⁰

Sample Bias

Since we were able to locate only about one-fourth of first community safety managers, we were less concerned about whether our 30 respondents accurately represented that group than about whether they accurately represented all CDRP's. These 30 managers were more likely to be in CDRP's with higher population (but less likely to be in London CDRP's). We weighted to correct these biases.

In particular, we suspected it was easier to locate first managers who were still serving a decade later than others, and that such managers might be more successful than a typical first manager. We had data for the first managers on whether they were still serving, and, from a different survey (ANONYMIZED) about the length of service of current managers. We found our sample did indeed dramatically overrepresent first managers who were still leading their CDRP, and we weighted for this as well.²¹

Retrospective Recall Bias

Our survey asked respondents to remember priorities from a decade earlier, an approach frequently used in published research in epidemiology, labor market behavior, and consumption habits, as well as in oral histories and interview-based qualitative research (Pearson et al. 1992). Recall questions, however, are subject to systematic bias in the direction of one's current opinion ("current-attitude bias"), investigated empirically in many different contexts (e.g., Withey 1954;

²⁰ ENTHUSE was not significant when run with other variables; however, we kept this variable in because of its strong theoretical importance.

²¹ We suspected that when managers had stayed on the whole period, crime performance would have been better for these CDRP's than for the average CDRP. To our surprise, crime actually improved less in the CDRP's whose original managers were still in post (8%) than in CDRP's in general (11%), although the difference was not statistically significant (p=.26).

Goethels and Rickman 1973; Niemi et al. 1980; Collins et al. 1985; McFarland and Ross 1987). When they answered our survey, the first managers knew the subsequent crime performance of their CDRP; they might, therefore, “recall” they followed practices associated with crime reduction success.

However, we do not believe recall bias is a problem. We asked about a central feature of respondents’ jobs, about which the evidence is that memory is more accurate than if a person is asked to recall a foreign policy opinion a decade later.²² More importantly, there are no generally accepted views about what early actions managers should have taken, and thus no answers that even in retrospect would be seen as clearly “right.” (The one exception might be prioritizing trust-creation, which collaboration literature touts as a crucial first step for leaders. However, as we shall see below, stating this had been a priority was not associated with better subsequent crime performance, so any exaggeration of this as a priority by first managers whose CDRP subsequently turned out to do well was not sufficient to create an impact in our data for such a prioritization.) Of course, with recall random memory errors will occur, creating noise and making it even more challenging to generate statistically significant results.

Method

We converted the 16 variables into five scales reflecting the categories presented above, to deal with the weak statistical power of our small sample.

We note that variables were not grouped into scales using exploratory factor analysis.

With our small sample, meaningful factor analysis is impossible – minimum samples of 100-500

²² Also, following advice in the literature, we stated at the beginning of the survey: “These questions will ask you to think back a number of years. In order for your answers to be most helpful to us, it is important that you try to be as accurate as you can. We know that people do better when they think carefully about each question, search their memory, and take their time in answering.” Similarly following advice in the literature, we reminded them of an important anchoring event at the end of the period about which we were asking (2002) – preparation of the CDRP’s first mandated three-year plan that year.

have been recommended (MacCallum et al. 1999). However, our fundamental reason not to use factor analysis is that our groupings are theoretical, not empirical. Factor analysis examines (in the case of a survey) whether respondents scoring high on one question tend, empirically, to score high on others – in our context, say, whether respondents prioritizing information-sharing also prioritized performance measurement. We have no reason to believe this is true. Instead, our groupings are based on our theoretical understanding of the implications of choosing a priority (here, prioritizing a practice that gets the partnership started doing something rather than trying to change member attitudes towards collaboration). We do not assume managers conceptualized “change behavior first” or “change attitudes first” as a choice dimension; thus we have no reason to believe a manager prioritizing information-sharing would have been more likely to have also prioritized another in the same grouping (e.g., performance measurement). Hence, we have no expectation for these variables to load together on the same factor. That doesn’t mean they don’t have an additive effect with the same underlying cause. Imagine there were two genes, each of which independently stimulated production of two different hormones that each in turn is theorized to promote muscle growth by creating a certain muscle cell environment (call it “A”). Their presence in an organism is not correlated, but each is theorized to contribute to muscle development, and presence or absence of each gene may be considered part of a “promotion of muscle cell environment A” scale. The connections we posit among the independent variables are theoretical; our empirical test is whether one choice is more likely to produce better later performance. Put another way, we are not saying these management activities are the same (which is what factor analysis measures), but rather hypothesizing they have the same effects.

We tested hypotheses using OLS with robust standard errors.

RESULTS

Table 1 presents descriptive statistics for the 16 management priorities and initial enthusiasm, as well as for the five scales. Table 2 presents results of our regression model.²³ Our most dramatic result is that there are leader priorities chosen early in a CDRP's history that noticeably influence performance almost a decade later. H1 is supported. Which management priorities have this impact, and which don't? "Change behavior first" practices were associated with crime reduction, and "change attitude first" practices were not, supporting H3 but not H2.²⁴

In this model, LEGITIMACY has a positive impact on later performance, suggesting support for H5. PRESSURE and CAPACITY, though, were both significantly negatively related to later performance. Exerting pressure may hurt results because it produces resentment among participants that is not conducive to collaboration. (Recall that this result controls for initial levels of partner enthusiasm about the CDRP.) Prioritizing generic capacity-creation had the effect of delaying action, so its negative impact may be seen as supporting changing behavior first. However, as we will see below, these results, especially for CAPACITY and LEGITIMACY (less so for PRESSURE), are not fully robust, suggesting caution about interpreting them.

Robustness Checks

We also ran our model including the two control variables discussed earlier. When we

²³ Since all variables/scales of interest have the same range of values, all coefficients may be seen as representing relative effect sizes. Positive coefficients mean that the higher the prioritization of the variable/scale, the more crime went down. Multicollinearity is not a problem; the highest VIF was 2.62. Note also that the very high R2 value for the model is driven by the strong relationship between lagged crime on the right-hand side and current crime as y.

²⁴ We also ran this model using all 16 variables, eliminating insignificant ones using a procedure called "stepwise regression" (Efroymson 1960). This process has been criticized for producing inflated p-values because only the most "favorable" version of a model ends up being used (Whittingham *et al* 2006; Wilkinson 1979), so we do not present any results from this. However, we note that in the stepwise regression, four of the five "change behavior first" variables were significant; as were Chief Executive and Elected Officials. Both capacity variables were significant with a negative sign. Only one "change attitude first" variable was significant, but with a negative, not a positive sign. We note in particular that neither early prioritization of trust-building nor of power equalization reduced crime later on, contrary to a common contention – though one not really empirically tested – in the literature.

did so, BEHAVIOR remained highly significant. However, PRESSURE became marginally insignificant ($p=.12$), and both CAPACITY and LEGITIMACY non-significant ($p=.19$ and $.27$).

Given our small sample size, we also performed two robustness checks on our model. We ran our five-scales model 30 times, each time eliminating one of the 30 observations, to see whether results were dependent on one outlying observation.²⁵ In none did the p-value of BEHAVIOR go above .1, strongly increasing our confidence in the results; in the thirty trials, the “worst” p-value for this scale was .02²⁶ For PRESSURE the p-value was also better than .1 in all 30 trials, increasing our confidence in this result. However, for CAPACITY, the p-value was worse than .1 in three trials, and for LEGITIMACY worse than .1 in eight.

Our second robustness check was to estimate Bayesian regressions with a model averaging procedure. When sample size is small, Bayesian analysis can have substantial advantages over a traditional (“frequentist”) one because Bayesian estimation does not rely on an asymptotic assumption (Koop 2003). Further, the model averaging procedure in Bayesian analysis is especially useful checking the robustness of findings in the case of a small sample size when there are many potential combinations (Montgomery and Nyhan 2010). Model averaging procedure tackles this problem by estimating models for all possible combinations of independent variables (combinations may include as few as one variable) and constructing a weighted average over all of them (Zeugner 2012).

Table 3 shows results of Bayesian regressions with a model averaging procedure (Bartels 1997, 1998; Montgomery and Nyhan 2010).²⁷ 128 models were run, reflecting the possible number of combinations of the seven variables in our model. The first column (PIP) stands for

²⁵ We are grateful to ANONYMIZED for suggesting this robustness test.

²⁶When we performed the same test including the two additional control variables, BEHAVIOR was still significant all 30 times.

²⁷ We used R package BMS, and referred to Zeugner (2012) in interpreting the result.

“posterior inclusion probabilities” and estimates the importance of each variable for explaining the dependent variable. We see that a large proportion of posterior models include BEHAVIOR (PIP=78%). In contrast, PRESSURE and CAPACITY have intermediate PIP scores of 46% and 38%, while other variables do not seem to be important in explaining y .²⁸ The second column reports posterior coefficients, averaged over all trials, including models in which the variable was not included and thus the coefficient is treated as zero.²⁹ The third column, “positive sign probability,” is the “posterior probability of a positive coefficient expected value conditional on inclusion.” This estimates the probability the coefficient of a variable has a positive sign when the variable is included in the model. Here, BEHAVIOR has a positive sign probability of one, while PRESSURE and CAPACITY have zero, suggesting, for all possible models, BEHAVIOR has a positive coefficient, while PRESSURE and CAPACITY have negative ones.

Table 4 displays the best three models in terms of posterior model probability (PMP), which measures the probability a model is correct, given the data. All three best models contain BEHAVIOR. The best model has BEHAVIOR and PRESSURE, the second-best only BEHAVIOR, the third best includes BEHAVIOR and CAPACITY.³⁰

In sum, the Bayesian estimation provides strong support for the conventional regression estimates. BEHAVIOR has a positive association with the dependent variable in all possible models. Although statistical significance tests are often not presented with Bayesian analysis, we do note this coefficient seems to be statistically significant.³¹ PRESSURE and CAPACITY also

²⁸ Initial crime, of course, is important in all versions of the Bayesian analysis.

²⁹ The variables with low PIP thus tend to have low posterior coefficients compared to conventional regression coefficients, since the averaged result includes models with zero coefficients.

³⁰ This table shows the posterior coefficient estimates for each of these best three models in terms of the posterior model probability (PMP). We used the unit information prior, which is a popular 'default' approach (Zeugner 2012). A visual showing model inclusion based on the 500 best models is available from the authors on request.

³¹ Bartels 1997, 654) describes reported statistical significance of a Bayesian model as being for “descriptive purposes only.” Significance statistics are computed using posterior means and standard deviations under the assumption of normal posterior distributions, but this assumption is generally invalid (Bartels 1998).

seem to have consistently negative associations in all possible models, though these do not seem to be statistically significant. Given their robust negative signs, low statistical significance may be due to our small sample size. Based on these various additional tests, we feel very confident about our results regarding BEHAVIOR, quite confident about those regarding PRESSURE, and less-confident about results regarding CAPACITY and, especially, LEGITIMACY. We note, though, that our small sample size makes it less likely that a variable that might in fact have a significant effect survives our regression analysis or the robustness tests.

DISCUSSION AND LIMITATIONS

Beyond the specific results presented above, we believe our contributions are three. First, we seek to direct attention of public administration scholars to research on path dependence, and to provide empirical evidence this phenomenon is worthy of more research. This is consistent with an effort to move public administration research closer to mainstream social science. Second, present a theory of how path dependence concepts can usefully be used by public administration scholars in a prospective, prescriptive manner. Third, we believe we make a contribution to the debate about how most-fruitfully to initiate organizational change.

Our results are also consistent with “upper echelons theory” (e.g., Hambrick and Mason 1984), which argues that the behaviors of top organizational managers often have a significant impact on organizational performance. Indeed, if path dependency effects have an impact, early leaders may have more freedom to set a course exactly because the later inertia path dependency promotes has not yet set in.

Our earlier work examining the impact of ongoing CDRP management practices (as opposed to those of the first CDRP manager) on CDRP crime performance, based on a survey of current CDRP managers (ANONYMIZED), found much weaker impacts of managerial practices

on crime than we find here. More priorities have an impact; coefficient sizes, though these should be interpreted with caution, are also large. We can imagine two explanations for this. One is the “Cleopatra’s nose” version of path dependency. In this version, initial impacts of managerial choices are much smaller than their eventual impacts, as effects get magnified over time. A second explanation involves measurement noise in the method used in our earlier paper, using priorities in a survey of current managers to represent managerial choices throughout the history of the partnership. We noted in that paper that noise this assumption created meant our results there may have been too conservative.

We cannot fully judge which explanation for the difference in our results is more plausible. However, to the extent our results here are also conservative, due to our small sample size (rather than to measurement error), this argues against an explanation based on the conservatism of only one set of results. So we at least suggest finding that radical path-dependency may be occurring here, which heightens the importance of early choice.

A comparison between this study and our earlier one also suggests a distinction between what we may call a practice’s launch value, involving the practice’s utility in imprinting an organization with constructive practices, and its instrumental value in a steady state, as an ongoing tool for managing an established organization.³² Research on business startups (Greiner 1972) suggests practices with a value in promoting a firm’s early success are different from those helping an established enterprise to succeed. In personal life, strong parental direction may have great value in child rearing, while, later, granting the child more autonomy may work better.

In our earlier study, we found that the impact of managerial practices on crime was typically contingent on various background conditions, such as the overall quality of local

³² There is some overlap between practices found successful here and in a steady state, though even here, we would suggest that reasons why the practices are successful are different.

government performance. We tested these interactions here and found them not significant. We suggest this is due to the distinction between a practice's launch value, which depends more on general human psychology, and its instrumental value, more likely to be contingent.

While noting contributions this study makes, we also note its limitations. The most important is obvious – our small sample size. We note, however, that small samples bias against the likelihood of finding significant results, producing false negatives. Additionally, one may ask about the external validity of our finding on the superiority of “change behavior first.” Because collaborations are often criticized as “talking shops,” it may be particularly important for them (compared with other kinds of organizations) to show early action so as not to dissipate enthusiasm. More broadly, as noted, “change behavior first” is more attractive the higher the initial support for change is. Frequency distributions for responses to our question about initial enthusiasm regarding the CDRP show exactly half the first managers reported initial enthusiasm among member organizations was high, a significant level of initial support, making “change behavior first” more attractive. Our findings may not apply where initial support for change is low.

Despite limitations, our results are dramatic. Early choices can have important impacts on later performance. In choosing the priorities they did, we do not believe these CDRP managers were guided by any theory of how best to start organizational change. Their choices produced variation we are lucky to be able to test to draw conclusions for future leaders of new organizations choosing approaches towards starting a change process, at least for cross-organizational collaborations and perhaps in wider contexts. We suggest looking for other opportunities to develop prescriptions for leaders of new organizations on ways they should

behave in order to use the potential of path dependence to increase the chances for good performance later on.

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FIGURE 1: WORDING FOR MANAGEMENT PRIORITIES

“Change Attitudes First” (ATTITUDES)

1. building trust among partners (TRUST)
2. communicating a vision of how partnership working can make our community safer (VISION)
3. working hard to see to it that power is shared equitably in the Partnership (POWER SHARED)
4. Making clear to partners what their responsibilities under Section 17 of the [Crime and Disorder Act] (LEGAL PRESSURE)

“Change Behavior First” (BEHAVIOR)

5. developing our own tailored initiatives, over and above central government initiatives (LOCAL INITIATIVES)
6. encouraging information sharing among partners (INFORMATION SHARING)
7. making sure there is follow-through on commitments partners make (FOLLOW-THROUGH)
8. dealing with blockages that are hurting the ability/willingness of partners to work together (BLOCKAGES)
9. resolving issues and conflicts about how central government funds are to be allocated among partner organizations and activities (MONEY CONFLICTS)
10. implementing robust performance measurement/management (PERFORMANCE MEASUREMENT)

Gaining External Legitimacy (LEGITIMACY)

11. obtaining or retaining strong support from the Chief Executive for community safety work (CHIEF EXECUTIVE)
12. nurturing good relations with elected members (ELECTED OFFICIALS)
13. getting good media coverage for our initiatives (MEDIA)
14. nurturing good relations with the voluntary sector (VOLUNTARY SECTOR)

Building Capacity (CAPACITY)

15. obtaining access to central government funds (ACCESSING MONEY)
16. pressing partners to commit more staff effort to partnership work (MORE STAFF)

TABLE ONE: DESCRIPTIVE STATISTICS

<u>Variable</u>	<u>Mean</u>	<u>Standard Deviation</u>
Trust	3.70	.95
Vision	3.13	1.01
Power shared	2.57	.82
Legal pressure	3.40	.72
Local initiatives	3.33	.88
Information sharing	3.47	.90
Follow-through	3.60	.81
Blockages	3.57	.86
Money conflicts	2.90	1.09
Performance measurement	3.03	.72
Chief executive	3.53	.82
Elected officials	3.03	.89
Media	2.63	.89
Voluntary sector	2.60	.67
Accessing money	3.47	1.04
More staff	3.23	.73
ENTHUSE	1.50	.51
Log initial crime	-2.93	.42
<u>Five Variable Scale Model</u>		
ATTITUDE	3.13	.68
PRESSURE	3.40	.72
BEHAVIOR	3.40	.42
LEGITIMACY	2.76	.58
CAPACITY	3.35	.70

TABLE TWO: REGRESSION MODEL

<u>Variable</u>	<u>Coefficient</u>
ATTITUDE	-.03
BEHAVIOR	.20**
PRESSURE	-.10*
LEGITIMACY	.10 [†]
CAPACITY	-.08*
ENTHUSE	-.01
Initial Crime	.63**
Constant	.94**

N = 30
 F(7, 22) = 55.73.23
 Prob > F = 0.00
 R-squared = 0.92
 Adjusted R-squared= 0.90

[†] $p < .1$
 * $p < .05$
 $p < .01$

TABLE THREE: BAYESIAN ESTIMATION WITH MODEL AVERAGING PROCEDURE

Variable	PIP	Posterior Coefficient	Positive Sign Prob.
ATTITUDE	0.19	0.001	0.42
PRESSURE	0.46	-0.028	0.00
BEHAVIOR	0.78	0.117 [†]	1.00
LEGITIMACY	0.19	0.004	0.76
CAPACITY	0.38	-0.024	0.00
ENTHUSE	0.16	0.001	0.84
Initial Crime	1.00	0.602 ^{**}	1.00

N = 30

† $p < .1$
 * $p < .05$
 ** $p < .01$

TABLE FOUR: BEST THREE MODELS

Variable	First Best	Second Best	Third Best
Initial Crime	0.628	0.605	0.543
BEHAVIOR	0.163	0.131	0.137
PRESSURE	-0.064	0.000	0.000
CAPACITY	0.000	0.000	-0.063
PMP (Exact)	0.150	0.133	0.089
PMP (MCMC)	0.150	0.133	0.089