Using behavioral and design science to reduce administrative burdens:
Evidence from Minneapolis Public Housing

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Weston Merrick

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Advisor
Dr. Jodi Sandfort
Professor, Humphrey School of Public Affairs

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[1] Its contents are solely the responsibility of the author and do not necessarily represent the official views of the Office of Planning, Research and Evaluation, the Administration for Children and Families, or the U.S. Department of Health and Human Services.

Dedication

To my friends, I swear I'll do better returning calls and texts; I appreciate you continuing to send them.

To my mom and dad, thank you for your boundless love. You fostered my curiosity and impressed on me the importance of empathy. You encouraged big ambitions, but modeled that getting there means taking persistent, small steps when nobody is watching. Whenever my own steps turned out to be in the wrong direction, you were ready with open ears and open arms. I love you and can't wait for you to meet your grandkid.

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Abstract

While the behavioral and design sciences share an academic lineage, they have drifted toward different disciplines, picking up the methods of their adopted fields. This drift is unfortunate because design offers powerful tools to uncover the knowledge of system participants and make changes that fit an organization, while behavioral science offers a deep literature of techniques to understand human behavior, alter choice architecture, and measure the impact of that change.

I explore the potential to integrate the two in a mixed-method study with Minneapolis Public Housing Authority. Through the partnership, I show how a design-based approach can help identify extant choice architecture and residents' cognitive shortcuts that may be causing undesirable outcomes, mobilize participant knowledge to promote reflection that advances changing of existing structures, and experimentally test the resulting interventions' ability to reduce eviction actions. I make the case that integrating these approaches in the context of new understanding about administrative burdens opens fertile theoretical and methodological ground for a *behavioral design* approach.

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Chapter 1 - Introduction

Annette[2] has a warmth that makes her familiar. It's like being with a friend you haven't seen in years. Even though you've just met, when she asks, "How are you doing?", she really wants to know. She's new to Minnesota, having moved here a few years ago to take care of her mom after a stroke. While she expected to return home to California, finances were tight. So, Annette applied for public housing and moved into the Hiawatha Towers two years ago.

As we sat in the common area of her building, staff and residents kept dropping by to see how she and her dog, June, were doing. She greeted each by name, and asked about their grandkids, pets, and Thanksgiving plans. In her short time in public housing, she's become well-known and well-liked. This isn't surprising. Aside from her warmth, she's kind. A few days ago, she saw a young mom that lives next door looked hungry, so Annette and her friend, Margaret, combed their pantries for milk and food, and scraped together ten dollars to help with diapers. "You know somebody is going to look out for you when you don't have." And when "I'm not feeling good, [Margaret] makes extra portions and brings me down some." Lately, she's hasn't felt good a lot.

Last year, Annette was at her daughter's apartment and tried to break up a fight between her daughter and her roommate. The roommate attacked her, kicking Annette so hard it fractured her back, putting her in the hospital. She was able to return to the Towers after a short stay, but the trauma left with anxiety and depression. Deteriorating mental health

[2] Resident names, residences, and other identifying details have been changed to protect their privacy.

soon put her back in the hospital. After three months, she again returned home, but had trouble doing everyday things, like paying rent.

Once behind, the public housing agency delivered its standard lease termination warning letter, sending Annette into a panic. “I didn’t know what to do. I didn’t know where to turn. And I just kind of ignored it. I was hoping that it would go away.” In Minnesota, ignoring warnings and further delaying payment can quickly end in eviction.

Renters can go from up-to-date to homeless in a mere eight weeks. Thankfully for Annette, an attentive property manager saw her name on the list of delinquent renters, knew it not like her to be late, and reached out to the personal care attendant the county assigned after her hospital stay. Because of the late payment, the county court assessed a $352 fee, more than double her normal monthly rent. Fortunately, the personal care agency had a fund to help clients in emergencies, and Annette’s Social Security checks were able to pay the back rent. As she recalled, wiping away tears, “I consider myself to be lucky…People check in with me because of that safety net that I have. A lot of people don't have that.” To make sure this doesn’t happen again, Annette’s daughter in Nevada takes money from her mom’s Social Security payment and mails a cashier’s check to MPHA each month.

From mailing rent to getting help when she was behind, Annette was fortunate to have support to keep her at home. For individuals on public assistance, these procedural hurdles are ubiquitous. But the network of support Annette has often is not. These frictions, called administrative burdens, produce deleterious effects on participation in social safety net programs. When administrative burdens increase—like adding forms requiring employment verification—fewer people participate in a program. Research

shows even small perceived burdens can prevent access to large benefits (Currie 2004; Mullainathan and Shafir 2013b; Herd and Moynihan 2018). While traditional economics finds this result puzzling, behavioral science[3] understands that people use flawed heuristics to make decisions. While we all intend to take positive action, like getting a flu vaccine or saving for retirement, our bounded rationality, finite willpower, and limited self-interest often prevent us from acting in our own long term interest (Mullainathan and Thaler 2000; Kahneman 2011; Thaler and Sunstein 2008). Recent scholarship shows these cognitive errors are worsened by conditions of scarcity, like in Annette's case. Mullainthan and Shafir (2013b, 7) write:

> When we experience scarcity of any kind, we become absorbed by it. The mind orients automatically, powerfully, towards unfulfilled needs. For the hungry, that need is food. For the busy it might a project that needs to be finished. For the cash-strapped it might be this month's rent payment…Scarcity is more than just the displeasure of having very little. It changes how we think. It imposes itself on our minds.

These notions of boundedness are not foreign to policy scholars. Herbert Simon wrote on the importance of integrating administration and the understanding of human behavior, declaring that "for the man who wishes to explore the pure science of administration, it will dictate at least a thorough grounding in social psychology." (Simon 1947, 202). Simon's insights around bounded rationality in decision-making became the central theme of his prolific academic career, including his efforts in founding the modern

[3] I use behavioral science to describe social science fields interested in the effects of psychology, emotions, and social factors in human decision-making. This is also commonly referred to as behavioral economics or cognitive psychology.

science of design. His book, *The Sciences of the Artificial*, set the design sciences apart from the natural sciences because of the latter's interest in what is, and the former's interest in what may be. He advocated for training practitioners, including public administrators, to use design principles to improve decision-making.

Despite their common lineage with public administration, behavioral science found a home in the schools of psychology and economics, while design evolved in engineering and architecture schools. There, each prioritized the assumptions, methods, and questions of its adopted field. In recent years, behavioral and design science have found renewed interest in public policy discussions (Grimmelikhuijsen et al. 2017; John et al. 2013; Buuren et al. 2020). In particular, the administrative burdens framework—with its recognition that interacting with government impacts program participation and democratic outcomes—creates a motivation for using design and behavioral tools to understand the barriers users face in interacting with government. While some practitioners (see: Ideas42, MDRC's BIAS project, and the Behavioral Insights Team) use principles of design-based research to define, diagnose, and implement behaviorally-informed interventions, there have been limited systematic efforts to blend their logics to improve administration of public programs and build scholarly insight.

In part, this lack of integration may be attributed to the distinct epistemology of their adopted academic fields. Behavioral science takes a positivist approach to identify and validate generalizable phenomena. Design is pragmatic, looking to create something new that fits into a place and time. Behavioral science focuses on individual-level cognitive errors and how to shift the environment to improve our subconscious decision-making. Design typically thinks more about group decision-making, changing our preferences

through collective reflection, deliberation, and learning. These differences come from different formulations of the problem and important unit of analysis. Positivism assumes client self-interest as self-evident and determined *a priori*, and pragmatism sees self-interest as emergent (Meyer 2012). This can make the two sciences hard to bridge. I argue, however, that integrating these opposing views offers public administration scholars and practitioners a complementary set of tools to identify procedural frictions, make changes to structure that fit in the individual and organizational context, and validate the impact on system participants' self-defined outcomes.

For my research, I will use insights from these two sciences—which I follow Datta and Mullainathan (2014) in referring to as *behavioral design*—to find ways to reduce court filings and evictions for residents of public housing in Minneapolis, Minnesota. Publicly-run housing serves our country's most vulnerable residents. When tenants fall behind on rent, the legal system is quick to punish them with damaging fines and evictions. The process to get aid, conversely, is slow and burdensome. From paying rent, to finding help when you're behind, to navigating the judicial process, residents face steep learning, compliance, and psychological costs. These high procedural burdens are the norm for low-income social welfare programs in the United States, but the Public Housing Authority in Minneapolis—with their commitment to improve resident services and willingness to experiment—offers an instructive case for exploring behavioral design.

Research questions

Through this case of public housing, I explore how integrating behavioral and design approaches can identify, promote, and measure the impact of interventions designed to reduce eviction actions.

In this dissertation, I will seek to answer:

1. In the case of Minneapolis Public Housing, what features of the social context contributed to the a) current organizational choice architecture and b) resident cognitive biases that are associated with negative housing outcomes?

2. How do modifications to the choice architecture emerge and evolve over time through the application of a design-based approach?

3. What impact did the design-based intervention(s) have on eviction actions in Minneapolis Public Housing?

Implicit in these questions is an understanding that cognitive errors by individuals, especially those experiencing conditions of scarcity, lead to undesirable outcomes (Kahneman 2011; Mullainathan and Shafir 2013b; Mani et al. 2013). In the field work, however, it became clear that these micro-level choices were influenced by the meso-level structure of the system (Giddens 1984; Sewell 1992). This structure is, unto itself, a product of a complex history of interactions between individuals, institutions, and ideology across time. To intervene effectively in this context, it is, therefore, necessary to begin with an exploration of the history of public housing in Minneapolis.

Introducing the empirical setting: public housing nationally and locally

The New Deal Era National Housing Acts of 1934 and 1937 marked the beginning of large-scale federal investments in public housing. In Minneapolis, the public works projects included 600 multi-family units in the so-called Sumner-Field Homes (Minneapolis Planning Commission 1974 as cited in Martin and Goddard 1989). This federal investment in public housing was intended to create construction jobs into

communities hit by the depression. Unlike subsidized housing today, construction costs were expected to be paid for by rent payments of upwardly mobile families (Vale 2018). Prospective tenants were carefully screened to ensure they possessed the right "character": this meant white nuclear families with men that worked, served their country, and were hit with a bit of hard luck.

The early investment in public housing in Minneapolis turned out to be short-lived. After the Sumner-Field houses were finished in 1938, no new federally-funded public housing was built in Minneapolis for a decade. It wasn't until the post-WWII housing crisis that Congress passed the American Housing Act of 1949. This law generated investment in new, affordable units with a focus on those in poverty. Through the law, the federal government also empowered local authorities to select new housing sites by clearing substandard housing. This selection proved to be heavily influenced by local power dynamics. For a neighborhood to be cleared, it had to be not only poor, but also politically weak. In low-income, but socially, ethnically, and religiously homogenous areas, this cohesion generated the political clout necessary to block razing (Vale 2018; J. Martin and Goddard 1989). These communities were, instead, able to lobby local politicians to for investments to rehabilitate existing housing stock (J. Martin and Goddard 1989, 114–15). This means, across eras and cities, slum clearance and concomitant construction of public housing highrises was concentrated in politically-weak, predominately Black communities (Hirsch 1996; Goetz 2002; Wilson 2008).

In Minnesota, the state legislature delegated authority to local Housing and Redevelopment Authorities. In 1948, then-Mayor Hubert Humphrey created the Minneapolis Housing and Redevelopment Authority (MHRA)—MPHA's predecessor

(Minneapolis Public Housing Authority 2016). Funded by federal spending in the 1950s, MHRA cleared areas deemed to be slums and built hundreds of townhomes, largely in the southeast and north of Minneapolis, including Glenwood and Lyndale rowhouses.

In the 1960s, civic activism accelerated federal poverty alleviation programs. Construction shifted from rowhouses to highrise apartments that could accommodate more families. For a brief period, "[c]utting the ribbon for a new public housing project was an occasion to celebrate." (Louis Winnick n.d. as cited in Desmond 2016, 301). In Minneapolis, "Humphrey Highrises," a reference to the Mayor and future Vice President, boosted the total public housing inventory to 4,200 units (Minneapolis Public Housing Authority 2011). From the Elliot Twins to Lyndale Manor, these buildings still form much of the current public housing inventory—40 of the 42 of the city's highrises were built in the 1960s or '70s.

As the Great Migration increased the number of Black families living in racially-segregated Northern cities and in public housing, public and elite opinion started to turn against investments in these communities (Piven and Cloward 1993; Crump 2003; Goetz 2013). Already-planned public housing construction in the 1970s continued, but housing authorities started to build less dense scattered-site housing units (Minneapolis Public Housing Authority 2011). Even as federal funding was still available for construction, popular sentiment and neighborhood activism limited it to new large family projects. Only highrises designated for sympathetic populations, like the elderly or disabled, were allowed to continue (J. Martin and Goddard 1989, 154).

In 1973, President Nixon declared a moratorium on construction of public housing, which, even after its lifting, marked the end of a period of rapid growth. Drastic cuts in

spending lead to still relatively-new highrises falling rapidly into disrepair (Desmond 2016, 149). This meant projects were "were often the epicenter of high concentrations of poverty, violent crime, joblessness, and social breakdown." (Goetz 2011, 269; Hirsch 1996). As conditions deteriorated, working-class households that could afford to leave public housing did, decreasing available rent for repairs, and further worsening conditions. The spiral spurred calls from local and federal leaders for an alternative to highrises. In 1974, Congress amended the Housing Act of 1937 to create the Section 8 tenant-based certificate program[4] that provided low-income renters with subsidies for units constructed and run by agencies, corporations, and individuals. Initially, this program was widely popular; civil rights advocates saw a chance to advance integration, while the National Association of Realtors saw a lucrative new market (Tegeler, Hanley, and Liben 1995 as cited in Desmond 2016).

Between 1970s and 1990s, the ratio of project or tenant-based vouchers for every unit of public housing increased 700 percent—from 60 vouchers to 100 units of public housing, to 475 for every 100 units (Hartung and Henig 1997 as cited in Goetz 2003). In addition to the shift to vouchers, federal policies looked to further target housing for those in poverty, setting rules that households needed to have income of less than 50 percent of the area median. In 1981, the Minneapolis Housing and Redevelopment Authority and Minneapolis Industrial Development Commission merged, creating Minneapolis Public Housing Authority. In its first years, Minneapolis saw similar a trend in the move to

[4] These are referred to as a demand-side subsidy. This is compared to project-based units where the subsidy is with the privately-run unit.

vouchers with MPHA with a "record numbers of residents lined up to apply for available Section 8 certificates." (Minneapolis Public Housing Authority 2011).

These policies were, in part, a response to a growing consensus that concentrated areas of poverty were bad for families (Massey and Kanaiaupuni 1993; Schill and Wachter 1995; Holloway et al. 1998; Hirsch 1996; Goetz 2003). Deconcentration became HUD's public position[5] in the 1995 HUD blueprint, which "called for the collapse of a dozen HUD programs into three—most notably a conversion of public housing into an essentially privatized system relying on tenant-based subsidies." (Goetz 2003, 54). In 1992, Congress passed the HOPE VI program to continue the demolition of distressed public housing that started in previous decades. It also funded redevelopment for mixed-use and mixed-income purposes, and dispersed residents by converting publicly-run units or project-based vouchers to Section 8 vouchers.

This movement to use private-market vouchers was supported by a series of federal lawsuits, starting with *Gautreaux v. The Chicago Housing Authority* (later restyled as *Gautreaux v. Harris*) in 1976. Plaintiffs in these lawsuits argued there was a clear pattern of segregating public housing in poor, minority neighborhoods. In Minneapolis, the Legal Aid Society and NAACP brought the *Hollman v. Cisneros* suit, alleging a similar pattern of segregation in Minneapolis's Northside. In 1995, HUD, the City of Minneapolis, Metropolitan Council, and MPHA settled the *Hollman* case by agreeing to set aside $100 million to fund deconcentration efforts. This deal called for the demolition of 770 public housing units in poorest areas of the city, construction of mixed-income housing in

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[5] This blueprint was never actually enacted by Congress.

Southeast Minneapolis, and 900 new Section 8 vouchers. Displaced families—half of whom did not want to move in the first place—would receive housing and financial assistance and counseling to find new homes (Goetz 2002; 2003). Four contentious years after the agreement, the Sumner Field, Olson, Glenwood, and Lyndale townhome projects were leveled—but the building of replacement units was slow. Ultimately, only 10 percent of the original residents moved into the replacement housing, while the rest struggled to find affordable units in the tight Minneapolis housing market.

The national shift from public to private provision of low-income housing was part and parcel of the neoliberal ideology that permeated public policy—and particularly welfare policy—in the late 20th and early 21st centuries. Proponents of neoliberalism sought to marketize public service delivery, creating supposed efficiencies through private provision. Policymakers slowly devolved social policy implementation to local authorities who contracted with private firms. To maintain control in this now-decentralized system, compensation was tied to meeting strict performance measures. From Temporary Assistance to Needy Families to refugee resettlement funding to housing subsidies, neoliberal ideology created discretionary tools to regulate the purported moral shortcomings of those in poverty. In that way, "poverty governance has become more dispersed in its organization, more muscular in its normative enforcement, and more firmly rooted in the market logics of performance, profitability, and competition." (Soss, Fording, and Schram 2011, 203).

Neoliberalism was supported by active and effective reframing of welfare by political elites. Republican and Democrats politicians alike vilified "Welfare Queens" abusing the largesse of taxpayers. In this way, the social construction of social safety net claimants

became “something apart from the mainstream” shifting welfare’s goal from enhancing wellbeing to attaining self-sufficiency (Edin and Shaefer 2015, 158; Schneider and Ingram 1997; Maynard-Moody and Musheno 2003). Policymakers installed compliance systems to ensure only “worthy” citizens received the benefits. This legacy is evident in the public housing today. As Vale (2018, 60–61) notes, “Disciplinary efforts to modify the behavior of the poor take place not just through paperwork or in meetings at the offices of social service providers, but also in the selection process for entry into mixed-income housing and in the shared physical places of neighborhoods, under the watchful gaze of private managers and their security personnel.”

System participants often justify the procedural hurdles with the presence of long waiting lists for housing programs. If one resident won’t comply with the regime, many other needy individuals will. In my fieldwork, system participants referred to evictions as part of “healthy churn” to get families off waiting lists and into units. Left unsaid is that the scarcity of affordable public housing is, itself, a policy choice. “If the first eighty years of public housing history have shown anything, it is that Americans remain uneasy about offering deeply subsidized housing to some people seen as doing little to deserve this largesse.” (Vale 2018, 409).

Public housing in Minneapolis today

MPHA is one of Minnesota’s largest landlords, managing over 6,000 public housing units and administrating 5,000 housing vouchers (Minneapolis Public Housing Authority 2018a). In total, it helps house over 26,000 people in Minneapolis (or around 6 percent of the population) with annual expenditures of more than $110 million. This dissertation focuses on the 10,500 people living in MPHA-run public housing units. The focus is

pragmatic. Unlike privately-managed Section 8 housing, MPHA has more flexibility to make changes and a public charge to improve services and reduce eviction actions.

By design, public housing residents tend to be vulnerable, with high proportions of seniors, individuals with disabilities, and refugees. Residents are also far more likely to be of color than other Minneapolis residents—68 percent of the city of Minneapolis population is white-alone compared to 17 percent of public housing residents.[6] HUD requires that at least 40% of residents be extremely low-income or an income of $18,200 or below for a single household (Table 1). In practice, more than 80 percent of MPHA residents are extremely low income. They are also far more likely to be disabled (20 percent), elderly (20 percent), or both (40 percent) than the city overall. Concentrating vulnerable populations in publicly-run housing reflects a social consensus that those facing material and cognitive scarcity—induced by poverty, disabilities, and advanced age—may need insulation from the profit motives of private landlords.

Demand for subsidized housing far exceeds available units or vouchers. In 2018, around 16,800 people were on the MPHA waiting list for public housing units, with 7,600 on the elderly and disabled housing waitlist and 9,200 for family housing (Minneapolis Public Housing Authority 2019b). MPHA also runs the Section 8 Housing Choice voucher program; the program opened its waitlist in June 2018 for the first time in a decade. In one week, more than 28,000 people signed up for a lottery to get one 4,000 spots on the voucher waitlist.

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[6] In the application packet and administrative dataset, Hispanic/Latino is collected only as an ethnicity.

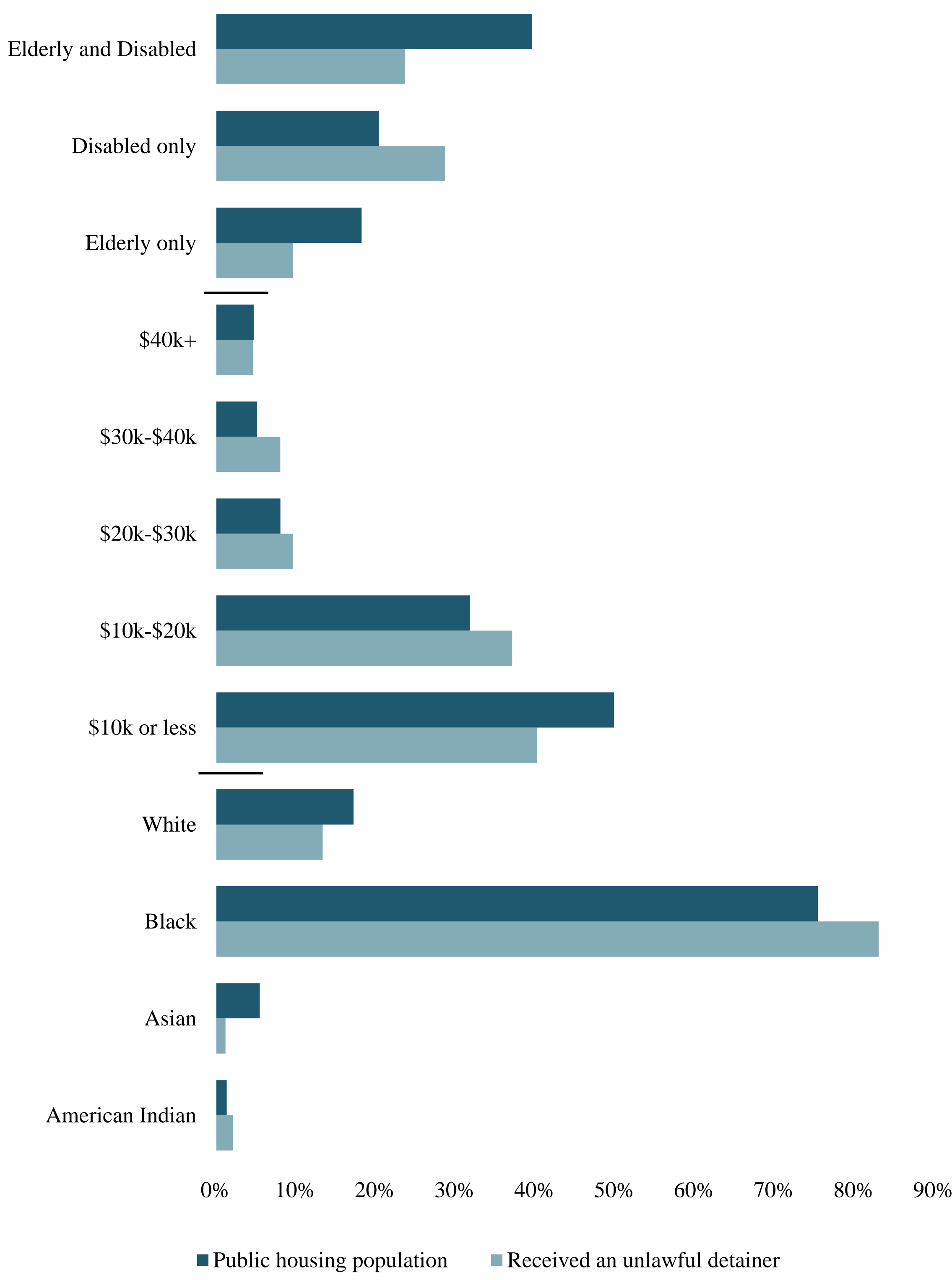
Table 1: Socioeconomic and demographic characteristics of MPHA residents

December, 2018	Category	Amount	Percent of public housing residents
Race (by head of household)	Other/multiracial	8	0%
	American Indian	79	1%
	White	996	17%
	Black/African American	4,374	76%
	Asian/pacific islander	322	6%
Household Annual Income	$0-$10,000	2,846	49%
	$10,000-$20,000	1,871	32%
	$20,000-$30,000	482	8%
	$30,000-$40,000	580	10%
Rent payment amount	Minimum ($75 or less)	532	9%
	$75-$250	3,038	53%
	$250-$450	1,282	22%
	$450+	927	16%
Elderly/Disabled (by head of household)	Elderly only	1,089	19%
	Disabled only	1,142	20%
	Elderly and Disabled	2,320	40%

MPHA administrative data (2019)

As the state's largest landlord, MPHA is also the largest user of eviction actions—formal court processes that move a resident toward eviction. If residents are 45 days behind on rent, the court issues a summons and assesses a $352 fine; this so-called "unlawful detainer" action begins the eviction process. In 2018, the courts issued 325 unlawful detainers and evicted 98 residents living in MPHA units. Residents that receive these eviction actions were more likely to be Black and very low income than the average MPHA resident or city of Minneapolis resident (Figure 1).

Figure 1: Characteristics recipients of unlawful detainers relative MPHA total population



Source: MPHA administrative data (2018). This compares recipients of unlawful detainers by characteristic (disability status, race, and age) relative to the overall public housing population.

Failure to comply in public housing means contending in the private market. While the private market supplies hundreds of thousands of subsidized homes nationally for low-income families annually, these landlords do not share the same mission as publicly-run housing. As a result, MPHA tends to take more process steps to avoid eviction than many private market lenders. In 2018, for the three Minneapolis zip codes with majority minority residents and poverty rate above 25 percent, rent averaged $880 a month and formal eviction rates were 2.3 percent (Hennepin County 2019). MPHA's average rent in the same year was $310 and eviction rate was 1.5 percent, even with a more vulnerable population and no practice of using informal evictions[7]. For MPHA tenants, a popular aphorism is, "if you can't make it in public housing, you can't make it anywhere."

Organization shift and a call to action

In February 2017, long-time Executive Director of MPHA, Cora McCorvey, announced her retirement after 25 years. During her tenure, she cultivated a culture of stability with relatively few changes in processes or practices. To replace McCorvey, the Minneapolis City Council selected Greg Russ. Russ came from the Cambridge Housing Authority and articulated a desire to question long-held organizational assumptions. Staff described his approach as having an emphasis on finding new ideas from the local community and from other cities to improve the quality of the buildings and resident services. By September 2017, Russ created a Research & Analytics team charged with using evidence and data to improve practice. This team served as catalyst and convener for a new

[7] Informal evictions are off-the-books transactions by landlords to coerce renters to leave. This includes paying a small sum for keys, agreeing not file an eviction for an imminent departure, or taking the door off a house. Research from Mathew Desmond in Milwaukee (2016), Brittany Lewis in Minneapolis (2019), and others show this is a common, but difficult to quantify, tactic. In my field work, I found no similar, systematic practice by MPHA; the agency used the formal court process when residents were delinquent.

Eviction Prevention team. The team charter outlined a mission to identify “strategies that reduce the number of [unlawful detainers] and evictions that MPHA files each month to keep our residents housed and to reduce the negative impacts of court filings on their rental history and personal finances.” These steps created a moment receptive to change.

In spring 2019, I joined this effort, bringing the tools of behavioral and design science to identify and lessen administrative burdens. Through the work, I was able to learn about the potential to effectuate change by integrating the two sciences. Before discussing what I learned in this case, Chapter Two will review the literatures that underlie the work—administrative burdens, design-based research, and behavioral science. These literatures are massive, covering every social science discipline. I will focus the review on the relative strengths and weaknesses of each and build a foundation for a unified approach.

Chapter Three starts with an overview of the methodology of the design-based literature compared to traditional social science research. It then outlines the data sources for my mixed-method work with MPHA, and how the blended method contributes to the three phases of this work: understanding the problem space, generating alternatives, and enacting new practices. It ends with analysis procedures for data sources.

The Fourth Chapter uses qualitative methods to detail the process of paying rent and getting assistance in public housing. It examines how the social context contributes to the present choice architecture and its association with resident cognitive biases. It ends by using the case of public housing to discuss choice architecture’s overlap with design and with structuration theory, and how insights from the latter on schemas, routines, and resources influence individual and collective decision-making.

Chapter Five details two experiments identified by the process. These experiments represent viable and valuable nudges to enhance residents' wellbeing. The first found a positive impact on sign-ups for an automatic withdrawal program. The second used behavioral and design techniques to reframe a lease termination warning letter; unfortunately, the second experiment was halted by COVID-19. The chapter reflects on the positive impact of the process and starts a conversation about challenges in creating interventions that both match the system context and create generalizable knowledge.

Chapter 6 reflects on how modifications to choice architecture emerge over time through co-creation with system participants. Using MPHA as a case, I outline the potential to strengthen the likelihood that these sciences create solutions that fit the context and desires of system participants. I also detail how design science offers a framework for making the organizational changes necessary to implement new choice architecture, a topic on which behavioral science is largely silent. This process involves building trust, creating space for participants to reflect and deliberate, and dealing with a myriad of tradeoffs that are typical of applied research. In doing so, we may be able to create the change necessary to reduce administrative burdens and improve participant wellbeing.

In the final Chapter, I outline a conceptual model of behavioral design—an approach, I argue, that creates the conditions to identify, refine, and implement improved choice architecture. I then address three challenges: generalizability, incrementalism, and reproduction of power structures. Given these, I lay out when it is an appropriate tool (or "design precedent") for government intervention. The dissertation ends with argument that public administration—with its interdisciplinary nature and interest in promoting the public good—should claim and further develop behavioral design.

Chapter 2 - Literature review

This dissertation looks to integrate the eclectic literatures of administrative burden, behavioral science, and design science. In exploring where they diverge and converge, I have built an understanding of how the three fields offer complementary logics and tools to advance public administration theory and practice. I used this review to inform the search for a case, the research questions, and the aims of the data collection and analysis. This scaffolding of the literature and design-based case study are then used to inform the conceptual model of behavioral design outlined in this final chapter of this dissertation.

Administrative burden

Administrative burdens are the compliance, learning, and psychological costs associated with receiving public services (Moynihan, Herd, and Harvey 2014; Herd and Moynihan 2018). From forms to fines to lines, these barriers are ubiquitous for residents using social safety net programs. When burdens increase—like adding documentation requirements—fewer clients participate. This lesson holds in many contexts and works in both directions. For programs with low burden, like Social Security payments to the elderly, eligible participant take-up rates are around 100 percent. In programs with higher burden, like Medicaid and food stamps, participation hovers around 50 percent (Currie 2004). Recent scholarship shows these biases are exacerbated by scarcity—with poverty acting as a cognitive tax (Mullainathan and Shafir 2013a; Mani et al. 2013) This means, perversely, procedural barriers are most likely to sever public assistance for the most vulnerable, like residents in deep poverty, those with disabilities, or the elderly. (Currie 2004; Pinard et al. 2017; Christensen et al. 2020).

In addition to reducing participation, research shows raising barriers has severe, reverberating psychological costs. How policies and programs are implemented influences citizens' understanding of government and their roles in relation to it (Mettler 2005; Soss and Moynihan 2014). For frontline workers and clients alike, higher procedural barriers are associated with lower satisfaction, greater dislike for related policies, stronger opposition to policy innovation, and negative impacts on civic trust and participation (Soss 1999; Burden et al. 2012; Mettler 2005).

In this framework (Table 2), there are three types of burdens (Moynihan, Herd, and Harvey 2014; Herd and Moynihan 2018). These three are compelling because they recognize that burdens not only have impacts on visible outcomes, like compliance costs and program participation, but also less visible outcomes, like the stress and stigma of requesting aid from your government.

Table 2: Types of administrative burdens

Type	Definition
Learning costs	Learning about the program, whether one is eligible, the nature of benefits, and how to access services. E.g., learning how to get emergency assistance if you are behind in rent.
Compliance costs	Completing applications and re-enrollments, providing documents, and responding to program demands. E.g., job logs for cash assistance.
Psychological costs	Facing stigma of participating in an unpopular program, as well as the loss of autonomy and increase in stress arising from program processes. E.g., the feeling of stigma after answering intrusive questions to get on a housing waitlist.

Adapted from Herd and Moynihan (2018)

Burdens occur in multiple places along clients' path to accessing services, including during (a) information gathering; (b) access and waiting; (c) attempts to define

applicants' circumstances; and (d) personal interaction with workers (Soss 1999). This is important, particularly for practice, because it's easy to forget the client experience extends beyond physically engaging with street-level bureaucrats (Zacka 2017).

While government interactions often represent a burden, some burdens serve the public interest, such as the safer roads that result from written and practical driver's license exams (Brewer and Walker 2010; Van Loon et al. 2016). The public is unduly burdened, however, when the perceived difficulty to overcome administrative requirements exceeds the anticipated returns to the public (Burden et al. 2012). Given the difficulty in accounting, Bozeman (2002) recommends focusing on procedural requirements that threaten subsistence, dignity, and democratic legitimacy.

To better identify the features of burdens, I will address five themes from Herd and Moynihan's (2018) comprehensive book, *Administrative Burden*: burdens are constructed, perceived, distributive, consequential, and mutable. These features are meaningful because they suggest both the multi-faceted causes and remedies of procedural frictions. I review these themes to highlight their features and preview how the design and behavioral sciences are well suited to identifying, implementing, and validating the impact of interventions that reduce these types of deleterious impacts.

Burdens are constructed

While all burdens add costs, the policy motivation behind the additions vary and matter in developing interventions. Imposing burden is sometimes politically motivated, allowing for a form of "hidden politics," whereby an increase in burden undermines the program in a way that is not otherwise politically or technically possible (Hacker 2002; Moynihan and Herd 2010).

This “policymaking by other means” reflects the socially-constructed or perceived worthiness of target recipients (Lineberry 1977; Schneider and Ingram 1993). Programs that serve the “deserving poor,” like Social Security and Unemployment Insurance, emphasize low burden and high customer service. In these programs, administrators take steps to ensure ease of access, like allowing clients to choose between readily available in-person, telephone, or internet claiming (Ebenstein and Stange 2010; Herd and Moynihan 2018).

Conversely, programs that serve the “undeserving” have higher burdens. These programs require intrusive questioning, frequent check-ins with frontline workers, and sanctions to enforce program rules. In one harsh example, Heinrich (2018) examined the impact from discretionary enforcement in immigration. The policy increased the documentation requirements for immigrant parents to obtain birth certificates for their American-born children, preventing eligible kids access to vital public offerings, like healthcare, food assistance, and basic education.

The norms around burdening certain types of clients are embedded institutional structure, training of frontline workers, and performance measurement. These choices set the heuristics for how frontline workers use discretion in a way that helps or harms clients. For example, federal performance measures for the GI Bill and Unemployment Insurance emphasize timeliness in return of claims (Mettler 2005; Wichowsky and Moynihan 2008). Conversely, cash assistance and refugee resettlement programs emphasize quickly finding jobs, regardless of their quality or wages (Darrow 2018). These measures are not idle, but, under neoliberal-regimes, become the mechanism by which frontline staff and providers are sometimes graded and paid.

In other cases, burdens are the result of path dependence, bad design, or siloed units of government. Poor individuals often use multiple forms of government assistance. These services are administered by different levels of government (federal, state, and local), different units inside each level, and often, thanks to neoliberalism's privatization of government services, by different sectors (public, private nonprofit, and private for-profit). This is not rote repetition; each department uses similar eligibility information in different ways and through different entry points. This requires the client to navigate each context to attain benefits. Reducing this labyrinth by co-locating or integrating programs can increase participation.

Burdens are distributional

As I've noted, recent scholarship has shown the people most likely to need public assistance are often the least able. Humans are "less likely to weigh long-term consequences and exhibit forward-looking behaviors when threatened, challenged, and depleted." (Mullainathan and Shafir 2013a). In this way, the most vulnerable are the least able to overcome new hurdles (Mani et al. 2013; Heinrich 2018). Experimental research on the Earning Income Tax Credit (EITC) found the poorest in the sample had the lowest take-up rate when they received a complex program mailing (Bhargava and Manoli 2015). In a study of the Temporary Assistance for Needy Families program, "administrative exclusion" from benefits was highest for high school dropouts and those living in deep poverty. In an ethnographic study, researchers found higher sanctioning rates and case closings for more vulnerable individuals (Brodkin and Majmundar 2010).

These distributional effects extend beyond socioeconomic or demographic characteristics. Federalism means individuals face different procedural hurdles to

resources based merely on where they were born and reside. Take, for example, state differences in work requirements for SNAP or Medicaid. This variation creates distributional impacts based on differences that are irrelevant to actual program eligibility. Similarly, Currie, Grogger, and Burtless (2001) found living in rural areas negatively influences take-up of SNAP because of added compliance and psychological costs of the program in those areas. Herbst and Tekin (2010) and Card (2003) saw related geographic variation—and negative associated outcomes—with participation in child care subsidy and higher education programs. In this way, reducing burdens can create more equitable receipt of services at lower personal costs to participants.

Burdens are perceived

Economics has long understood and measured the impact of "ordeal mechanisms" on public program participation. As James Heckman (2004) notes, "For a person to participate in a voluntary social program, he or she must be eligible for it, must be aware of it, must apply for it, must be accepted into it, and must be formally enrolled in it." This transactional view of public assistance sees that take-up rates are affected by the relative size of the benefits and costs—in time, hassle, and stigma—of the program (Moffitt 1983; Currie et al. 2001; Currie 2004; Besley and Coate 1991).

This perspective proposes that individuals' willingness to participate in a program reflects a rational weighing of the benefits and costs of participation. A person's willingness to submit work through burdens is a function of that individual's utility function. The Administrative Burden's framework expounds on the individual utility function by paying close attention to an individual's subjective experience (Herd and Moynihan 2018; Christensen et al. 2020). A long bus ride to the county office means

different things to an able-bodied, English-speaking, single adult, compared to an elderly, Spanish-speaking mother. A wide set of ethnographic studies show compelling portraits highlighting the psychological effects of means-tested assistance programs (Soss 1999; Maynard-Moody and Musheno 2003; Edin and Shaefer 2015; Eubanks 2018).[8] This research has identified that burdens teach a client how society views their claim, creating feedback loops with ongoing effects on democratic engagement.

Burdens are consequential

In discussions on public assistance programs, the conversation typically centers on the cost of providing welfare; benefits are often absent from the public dialogue (Herd and Moynihan 2018). This is unfair accounting. Public assistance programs often have large, significant impacts on the current and future health and wealth of participants. If activists want to motivate action, it's important to make participant and taxpayer benefits explicit. I will briefly review the benefits of two programs: EITC and Public Housing.

The Earned Income Tax Credit (EITC) is a refundable credit for low- to moderate-income working individuals. EITC receipt has shown positive effects on childhood health (Baughman 2012; Strully, Rehkopf, and Xuan 2010; G. B. Dahl and Lochner 2012) and educational attainment (G. B. Dahl and Lochner 2012; Michelmore 2013). Between 1993-1999, EITC explained 34 percent of the increase in single women labor force participation, compared to the 19 percent attributed to welfare cuts (Grogger 2003).

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[8] By entering a system and highlighting burdens clients face, we've changed participants understanding and experience of the procedural hurdle. This can be a good thing—as a greater understanding of what hurdles exist can ease their experience (Tummers et al. 2016). Alternatively, intervening could raise the salience of burden and make it obvious for the first time. This phenomenon is well illustrated in *How I met your Mother* episode *Spoiler Alert* (https://www.youtube.com/watch?v=wbmW_Z1oPJw).

Another study found each additional $1,000 in EITC benefits results in a seven percentage point increase in employment for single mothers (Hoynes and Patel 2015).

Similarly, policies that provide access to secure and safe housing can have impacts on client outcomes. Previous research has shown that childhood access to public housing has positive impacts on earnings and incarceration rates, relative to children who do not have access (Andersson et al. 2016). Children in families with access to housing subsidies have a decreased likelihood of being malnourished or having chronic health conditions, with implications for future health (Meyers et al. 2005). Research finds that families experiencing homelessness face higher risks associated with behavioral and emotional development (Swick and Williams 2006; Brinamen, Taranta, and Johnston 2012; Cutts et al. 2011). Consistent with other research in administrative burdens, individuals with human capital barriers may also be unaware of programs that help identify or secure housing, limiting access to resources necessary to prevent an eviction or doubling-up (Phinney et al. 2007). As these examples show, social safety participation can have important impacts for residents and taxpayers alike.

Burdens are mutable

Wide swaths of research show that shifting burdens from clients to the state has a consistent, positive impact on participation rates and client outcomes. A behaviorally-informed experiment by Bhargava and Manoli (2015) showed sending simple reminders to potential EITC recipients lead to a 20 percent increase in claiming, relative to the control group. Another study from Herd, Deleire, and Harvey (2013) profiled the case of auto-enrollment in Wisconsin. The state used administrative records to identify 42,000 people that were eligible for Medicaid and automatically enrolled them. A similar effort

in Massachusetts accounted for a quarter of all new enrollments after the state added a health insurance mandate (Dorn, Hill, and Hogan 2009).

A recent study found that schools with higher college counselor-to-student ratios had an increased likelihood of students going to college, all else equal (Blume 2017). The impact of counselor ratios was largest for schools that had the most complicated entrance applications. In a similar vein, another behaviorally-informed experiment found that pairing tax preparers and low-income families led to a significant increase in completion of the Free Application for Federal Student Aid (FAFSA) and later college attendance (Bettinger et al. 2012).

Conversely, when program participants feel their claims are not treated fairly—a common experience in means-tested programs—they participate less, have lower trust in government, and are less civically engaged (Mettler 2005; Soss 2005; Weaver and Lerman 2016; Lind and Tyler 1988).

That burdens are constructed, distributional, perceived, consequential, and mutable gives a theoretical framework for identifying procedural frictions—reminding us to consider the holistic impact of burdens on resident program participation and psyche. The administrative burdens framework also points to the promise of taking a mixed-methods approach to measuring frictions, as qualitative and quantitative methods may offer a different understanding of effect learning, compliance, and psychological costs. Finally, it provides a framework for changing burdens.

Behavioral science

Classical economics suggests humans consider all relevant short and long-term benefits and costs in determining whether to apply for services. This transactional view of public assistance sees that take-up rates are affected by the relative size of the benefits and costs—in time, hassle, and stigma—of the program (Moffitt 1983; Currie 2004; Besley and Coate 1991). If an actor doesn't take an action, it's because they didn't believe the costs exceeded the benefit. It predicts increasing compliance cost and decreasing participation rates proceeding in a linear fashion. The early behavioral sciences, however, railed against this view of the "economic-man." (Simon 1947). People aren't robots making choices based on economic rationality, but instead exhibit predictable cognitive, social, and emotional shortcomings (Thaler and Sunstein 2008; Kahneman 2011). While each of us have the best intentions, we often do things that harm our long-term self-interest, like cheating on our diet or not saving enough for retirement.

Building on decades of experimental work, in his book *Thinking Fast and Slow,* Daniel Kahneman (2011) popularized the idea of our mind having dual cognitive processing systems that specialize in certain types of thinking. System 1 is the "brain's fast, automatic, intuitive approach." System 2 is the "mind's slower, analytical mode, where reason dominates." System 1 is auto-pilot. System 2 is manual. In this way, our biases and intuitions are products of the efficient, but flawed heuristics of system 1. When tasks take thought, system 1 asks system 2 to engage, but system 2 resources are limited and subject to rationing. In this way, our bounded rationality, self-interest, and willpower mean even a small *perceived* addition of cost can prevent access to large, future benefits (Kahneman 2003).

In the last decade, researchers have internalized this theory and applied it to the development of new tools for social policy implementation. These behaviorally-informed interventions—referred to as nudges—work across domains, including using text messages to sustain enrollment for incoming college freshmen (Castleman and Page 2016), using notifications and simplified forms to increase payment of child support orders (Richburg-Hayes, Anzelone, and Dechausay 2017), and providing information on retirement income projections to boost retirement savings (Goda, Manchester, and Sojourner 2014). These nudges consistently show small, but meaningful impacts; one working paper found, even accounting for publication bias, nudge field experiments had an average impact of 1.4 percentage on outcomes of interest (Linos 2018). Table 3 highlights common behavioral tools used to reset cognitive mistakes that may be taking us away from our own long-term self-interest. In engaging with system participants, we can learn about "irrational" responses to present conditions and return to this literature to see which techniques may best able to move residents to better outcomes (Schram 2019; Datta and Mullainathan 2014).

Table 3: Behavioral tools to overcome failing heuristics and improve wellbeing

Technique	Description	Ways to apply in public housing
Defaults	Structuring choice so that no action leads to positive outcomes	Increasing the number of people that auto-pay rent
Implementation intentions	Having clients visualize and record plans for completing a task	Planning what day of the month and how they will pay
Loss aversion	Emphasizing the potential to lose a benefit	Emphasize risk of losing low-cost housing in letters
Personalization	Interacting in person with individual residents	Providing a list to property managers of their residents behind on rent
Procedural	Emphasizing as fair process,	Encouraging sticking with settlement

justice	respectful treatment, and consistent procedures	agreements by emphasizing fairness of process
Salience	Making important information easy to identify	Using different colors and text size to emphasize key information on letters
Social norming	Setting a peer reference point for action	Sending a message that shares what percent of peers already pay on time

The behavioral revolution, led by the work of Kahneman, Tversky, Thaler, and others, shows that economic models of rational decision-making often fail to predict how humans make decisions. While that debate is closed, social scientist continues to wrestle with how to use the knowledge of our satisficing nature to advance collective wellbeing. The following sections review the current debate on the definition, justification, and application of behavioral interventions.

Defining nudges

Richard Thaler and Cass Sunstein's 2008 book *Nudge* raised the salience of using behavioral interventions as policy tools. Over the last decade, nudging has become an increasingly popular policy tool to shape citizens' decision space (hereinafter referred to as choice architecture). There remains, however, fundamental disagreement amongst researchers about what a nudge is. This is, in part, due to the lack of clarity in *Nudge.*

Thaler and Sunstein define a nudge as "any aspect of choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid." (Thaler and Sunstein 2008, 6). While the first criteria—low cost—is a feature of nudges, the second—no forbidding—is a justification. This latter

principal, referred to as libertarian paternalism, is offered as an alternative to traditional paternalistic government interventions because it "improve(s) people's welfare by influencing their choices without imposing material costs on those choices." (Sunstein 2014). Ignoring (for a moment) the veracity of this claim, the resulting definition quickly becomes unwieldly (Hausman and Welch 2010; Gigerenzer 2015; Hansen 2016).

Instead of a definition based on the core insight of behavioral science, we're left with one based on two stipulations. Thaler and Sunstein argue nudges must have low (cognitive) costs, but for whom? Cognitive resources vary from person to person and moment to moment. The intervener must also act for intentionally paternalistic reasons. When Amazon sets the default of $2.99 first class shipping—even though regular shipping is free—they are targeting flaws in our automatic decision-making, but they are not acting paternalistically; they are acting to maximize profits. Does that mean there can't be a nudge based on profit motivation? This features of this stipulative definition quickly shrink nudges to narrow a subset of all alterations of choice architecture.

Taken in the other direction, this definition could be stretched so wide as to make every intervention a nudge (Hausman and Welch 2010; Barton and Grüne-Yanoff 2015). If I staple a flyer telling neighbors they ought to eat fewer doughnuts because they cause obesity, am I nudging? What if I offer $2.00 to not eat a doughnut? These do not target a

cognitive mistake, but under the stipulative definition, may qualify as nudges. If true, nudges are indistinguishable from any other intervention.

As Hansen (2016, 157) notes:

> Although these disagreements and ambiguities may seem 'just theoretical' they actually pose serious programs from the on-going efforts to apply behavioral science to public policy and other pro-social domains. Without clear and consistent foundational concepts, the new policy-paradigm of applied behavioral science may easily come to seem ill founded, leaving the concept of nudges as well as the ideology of libertarian paternalism vulnerable to accusations of slippery-slopes, [and] claims of conceptual inconsistency…

Thaler and Sunstein, however, offer a second, more consistent definition, "a nudge is any factor that significantly alters the behavior of Humans, even though it would be ignored by Econs." (2008, 8). Econs (short for Economic Man) reject the rational choice model that assumes humans are perfect utility maximizers, and, instead, center nudging on interventions meant to address cognitive mistakes that reduce our long-term utility. In other words, "[nudges] are called for because of flaws in individual decision-making, and work by making use of those flaws." (Hausman and Welch 2010, 126). The flaw-reduction lens gives us a meaningful definition.

To this point, Hansen (2016, 4) offers:

> a function of any attempt at influencing people's judgment, choice or behaviour in a predictable way (1) that is made possible because of cognitive boundaries, biases, routines and habits in individual and social decision-making posing

> barriers for people to perform rationally in their own declared self-interests and which (2) works by making use of those boundaries, biases, routines, and habits as integral parts of such attempts.[9]

This definition clears the ambiguity by tying a set of interventions to a core logic. It becomes possible to nudge without paternalistic aims and removes the difficulties in defining low cost. It also makes clear that information provision is *only* a nudge when it targets cognitive biases, flaws, or routines. Humans need reminders. The Economic Man does not. Therefore, a text message that provides first warning of approaching inclement weather is not a nudge. A text message reminding you of a dentist appointment (targeting our limited memories), on the other hand, is a nudge.

Table 4: Definition of choice architecture, nudges, and libertarian paternalism

Concept	Level	Definition
Libertarian paternalism	Philosophy	"Actions of government that attempt to improve people's welfare by influencing their choices without imposing material costs on those choices." (Sunstein 2014). Only nudges that seek to improve welfare without restricting choice are a form of libertarian paternalism.
Choice architecture	Framework	Influencing choice by "organizing the context in which people make decisions." (Thaler and Sunstein 2008). Most choice architecture is not intended to nudge.
Nudges	Tool	Any attempt at influencing people's judgment, choice or behavior in a predictable way that is made possible because of cognitive boundaries, biases, routines and habits in individual and social decision-making posing barriers for people to perform rationally in their own declared self-interests and which works by making use of those boundaries or biases (Hansen 2016). All nudges are choice architecture.

[9] This definition also instrumentally beneficial because this is how my client on the project, Minneapolis public Housing, understands and uses the word nudge.

We then can further categorize nudges into three types based on how they target cognitive mistakes (Barton and Grüne-Yanoff 2015):

1) *Heuristic-triggering*: An effort to activate cognitive shortcuts to steer behavior. For example, changing retirement savings to an opt-out for employees.
2) *Heuristic-blocking*: An effort to block a cognitive shortcut to preempt behavior. For example, the "are you sure you want to permanently delete this item" pop-up on a computer.
3) *Informing*: An effort to deliver known-information in a way that overcomes a behavioral bias or cognitive boundary. For example, simplifying a form to improve the salience of important information.

I should point out that neither these categories, nor Hansen's definition, are universally accepted. In particular, heuristic-blocking and informing are viewed by some as too expansive (see Barton and Grüne-Yanoff 2015 for further discussion). I believe, however, the architects' intention to target actual cognitive flaws is meaningful (Heilmann 2014). It creates a different frame for the policy problem—all of us are boundedly rational—than incentive-based or educational interventions. This problem frame can be used to motivate organizational changes to existing choice architecture.

Libertarian paternalism and default choice architecture

For Thaler and Sunstein, nudging offers both a tool and justification for intervention. It is meant as a challenge to John Stuart Mill's Harm Principal (Mill 1859); namely, that "the only purpose for which power may be rightfully exercised over any member of a civilized community, against his will, is to prevent harm to others. His own good, either physical or mental, is not a sufficient warrant." Some argue this principal ignores that our bounded

rationality means humans make mistakes that harm our own self-interest. In restructuring choice architecture, Thaler and Sunstein argue we can help individuals make the choices that benefit their long-term interest but do so in a way that those individuals are free to make the final choice.

Criticism of libertarian paternalism comes from multiple directions. First, people have multiple, ever changing preferences (Hill 2007; Barton and Grüne-Yanoff 2015). It's not that we want either a new car or a comfortable retirement; we may want both. "To say that people sometimes act less rationally is to suggest that desires can be ranked, preferably from their own point of view as well as from others." (Lichtenberg 2013, 495). These commenters stress humility in thinking experts can untangle others' internal inconsistencies, especially given expert choice architects may be subject to the cognitive mistakes. "The point of the Epistemic Argument is that people can better judge their situation than officials can, not that their judgment is without error." (Gordon 2015). For this reason, individuals remain in the best position to rank their own preferences.[10]

Another criticism of libertarian paternalism is that choice architecture lacks the transparency of hard paternalism (Glaeser 2006; Hausman and Welch 2010; Lichtenberg 2013). Coercion is often overt and explicit; "Citizens know that the state is attempting to control them when it prohibits riding a motorcycle without a helmet." (Lichtenberg 2013, 496). The public clearly sees these actions, and the government must proffer a strong public rationale or they may be forced to stop. The attempt to control is much subtler when experts curate the decision space. Since choice architecture targets the unconscious

[10] Sunstein, generally, agrees people should be considered the best judge of our own well-being, but only to "the extent that we are adequately informed and sufficiently free of behavioral biases (Sunstein 2020, 45).

mind, it may then be unclear that individuals "actions reflect the choice architects rather than exclusively their own evaluation of alternatives." (Hausman and Welch 2010, 128). This lack of transparency may undermine liberty (Wright and Ginsburg 2012; Nagatsu 2015; Gigerenzer 2015; Hausman and Welch 2010). For instance, a gambling tax is apparent in its size and intent. However, recent research found government imposition of a smoking ban in betting venues reduces gambling by forcing the gambler outside and breaking up unintended and mindless gambling (Bradley and Becker 2011; Gainsbury, Tobias-Webb, and Slonim 2018). If government enacted a nudge to make smoking bans the default in casinos, it may produce positive ends, but with opaque means.

Libertarian paternalism's common response to this critique is that there is no neutral choice architecture. Any structuring of choices is normative, and the context-dependent nature of human decision-making means we're affected by those choices. From the placement of junk food high on shelves in the cafeteria to automatically opting a worker into a retirement savings account, somewhere a person set the arrangement. Given that the decision environment is already curated, altering choice architecture may improve wellbeing, as long as recipients are "free to opt out of specified arrangements if they choose to do so." (Sunstein and Thaler 2003, 1161). People can pick the box of cookies on the top shelf or opt out of saving for retirement.

This, however, still assumes well-informed and benevolent actors (Wright and Ginsburg 2012; Gigerenzer 2015). We all are familiar with the subtle coercion of commercial nudges, from the placement of candy in the check-out aisle to Target reminding you there is a pair of shoes still in your online shopping chart. These are mild cases, to be sure, but

they show choice architecture can make good decision-making harder.[11] While the public doesn't expect private companies to hold our best interests in mind, we do expect it from a democratically-elected government. Government, however, may have hidden agendas that run counter to the best interest of the democratic majority, like making tax completion more onerous to ensure powerful donors sell more tax preparation software or setting a default of purging registered voters from the rolls for failing to vote in consecutive elections.

In response, Sunstein (2019) added two criterion to ensure nudges uphold the public trust:

1. Bureaucrats should set choice architecture in a way that improves a client's wellbeing, *as judged by their own criterion*.[12] To understand clients' desired outcomes, researchers need to engage with frontline staff and clients.

2. "Behavioral biases have to be demonstrated, not simply asserted." (Sunstein 2019, 109–10). To do so, interventionists need to understand the present decision environment, how system participants are responding, and if a nudge is a viable way to alter a behavior.

In other words, to ethically nudge, the designers need to understand latent desires and tacit decision-making processes (Heilmann 2014). Sunstein (2020, 46) goes on to add:

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[11] Richard Thaler refers to as "sludge." (Thaler 2018)

[12] For purposes of space, I've simplified Sunstein's argument. He argues, in two circumstances, "judged by their own criterion" is insufficient. If the direction of the nudge has an indeterminate effect on happiness (e.g., people are happy regardless of what they are nudged into), we should nudge them in a way informed participants want to go. If the nudge makes people happier, but creates objectively bad outcomes, we should ignore "their own criterion." For instance, an intervention that increases racism or physically harms another people should not happen.

> If we care about welfare, it would make sense to examine what choices people make when they are actually well-informed; to see what choices people make when they do not suffer from limited attention and are in a position to evaluate all relevant facets of an option; to use people's active choices rather than passive ones, which may be a product of inertia; and to use otherwise unbiased choices, such as long-run choices based on a realistic understanding of facts, rather than biased ones, such as those that reflect present bias or optimistic bias. Ideas of this kind can be seen as an effort to draw on a broadly Millian understanding, respectful of private choices, while also recognizing and giving weight to information deficits and behavioral biases.

This requires direct engagement with participants and systems. In doing so, participants goals can shape selection of the intervention and the outcomes targeted. If a nudge is the appropriate tool to improve the long-term wellbeing of residents. [13]

No neutral choice architecture

In Nudge, Sunstein and Thaler (2008) make the important point that there is no neutral choice architecture. They see this as a justification for libertarian paternalism and move quickly to altering interventions. This is, however, an important insight; default choice architecture is a picture of the institutional history, context, narratives, and values.

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[13] The nudge may still lack transparency. In my view, this can be consistent with representative democracy. There is also evidence many Americans want government to give them a nudge in some circumstance A recent study showed bipartisan support for twenty-two common nudges, including mandatory calorie count labels (87%), automatic pension plan enrollment (71%), and requiring prime placement of healthy foods (56%) (Sunstein 2015). The study found 12 other hypothetical nudges that did not enjoy broad support, like defaulting registration to the Democratic party (26%) or charge for carbon emissions on airplane ticket (36%). Nudges that performed well were consistent with choosers' values and forwarding a legitimate end.

This is not a new idea. Political science, sociology, anthropology, and public administration offer rich literatures on the importance of institutional structures. Structure "[determines] the essential shape of, the strivings and motivated transactions that constitute the experienced surface of social life." (Sewell 1992, 2). It communicates how systems frame and attempt to solve policy problem (Schneider and Ingram 1993; Piven and Cloward 1993; Herd and Moynihan 2018). In this way, any new policy lands on the accumulated sediment of the history before it. As these new ideas are implemented, they meet actors' entrenched patterns, leading to reproduction of similar outcomes (Giddens 1984; Pierson 1993; Agranoff 1991).

For this case, Gidden's Structuration Theory's framework of rules (or schemas),[14] resources, and routines is a useful sensitizing device. (Turner 1986). In this theory, schemas are defined as the basic building blocks of social systems. They can be formal rules or informal norms, but both create "shared understandings among those involved that refer to enforced prescriptions about what actions (or states of the world) are required, prohibited, or permitted." (Ostrom 2011, 17). Resources are "anything that can serve as a source of power in social interactions." (Sewell 1992, 9). While we normally think of monetary resources, they also include knowledge, people, material artifacts, and time. Routines are the everyday interactions in organizations that teach and institutionalize participant understanding of and relationship to schemas and resources. These daily choices by system participants serve to reinforce the institution, giving it a

[14] I will use Sewell's (1992) notion of schema's because it captures rules can be unwritten.

feel of permanence. But this appearance of fixity belies the constant flux made possible by the actions of internal or external actors (Giddens 1984, 169).

That said, institutions are not immutable. Instead, participants can use their skills and agency to introduce policies that rearrange the present structure. “Structure is always both enabling and constraining, in virtue of the inherent relation between structure and agency (and agency and power) (Giddens 1984, 169)” In this, agents “transform [structure] and are themselves transformed.” (Soss and Moynihan 2014, 321).

To do so successfully, however, requires an understanding of the current schema, rules, and resources. Through engagement, designers can identify institutional structures and behavior that may support innovation (Van de Ven et al. 2008), see how to frame the innovation to build the needed legitimacy to support the change (DiMaggio and Powell 1991; Scott 2008; Moulton and Sandfort 2017), and understand the ways in which participants may make sense of the new architecture (Krijnen, Tannenbaum, and Fox 2017). Understanding these systems, therefore, becomes critical to making productive change. Behavioral science offers a robust set of tools to alter individual decision-making but offers less on knowing which behavioral interventions to use. Design, however, offers compelling tools to assist in this exploration.

Design-based research

Herbert Simon saw design as changing current conditions into a more desirable state. This devastatingly simple idea laid the groundwork for the study of moving actors from understanding *what is* to uncovering *what may be*. Designers make “artifacts” that unite the inner world of the mind with the outer world in a way that also helps effectuate the

intent of an enterprise (Simon 1968). To legitimize this process of experimentation and creation, Simon frames it in the dominant positivist paradigms of his era.

Many design scholars who followed Simon, however, fully reject this positivism. Instead, they ground their work in the anti-dualism, pragmatic traditions of James, Pierce, and Dewey (Ansell 2011; Crotty 1998, 61–63).[15] In *The Reflective Practitioner*, Donald Schön (1983) repudiates the positivist notion of technical rationality, or instrumental problem solving through strict application of scientific theory, for its inability to deal with complex and uncertain problems. He notes the designer is not an objective actor "[acting] as though he had no relevant prior experiences; on the contrary. But he attends to the peculiarities of the situation at hand."... Rather, each designer seeks to discover the features of his problematic situation, and from their gradual discover, designs an intervention." (Schön 1983, 129). In this way, a professional starts with priors, experiments in an ambiguous problem space, and updates their mental map of the organizational structure and what schemas, rules, and resources may need to be modified to get the desired outcome (Schön 1983; Argyris and Schön 1978; Meyer 2012).[16]

Ansell (2011) and Innes and Booher (2010) further democratize Schön's vision by extending dialogue and reflection of professionals to diverse publics through collaboration. In Ansell's conception, pragmatist theory is a salve to dualism of rationalism and empiricism, seeking a compromise born out of a recursive pattern of learning and deliberation. This face to face dialogue and collective inquiry builds trust. This trust creates a scaffold to help incrementally change institutions in steady times and

[15] For more discussion on pragmatism it's benefits and problems, see appendix 3.
[16] Some frameworks list culture a fourth component of structure. In my view, culture is a byproduct of structural arrangements.

provides support for large leaps in periods of rapid innovation (Lindblom 1959; Baumgartner and Jones 1991; Holling 2001; Ansell 2011). Innes and Booher echo Ansell and reject the typical public agency project process of decide, announce, defend in favor of long-term collaborations of interdependent stakeholders. This process, called "collaborative rationality," uses inclusive dialogue and group interpretation to build shared meaning on how to confront interconnected problems (Innes and Booher 2010).

Design theorists Buchanan (1992) and Cross (2011) echo these authors, but take a more practitioner focused approach. They see design intelligence—or "Designerly" ways of knowing—as "intense, reflective interaction with representations of problems and solutions, and an ability to shift easily and rapidly between concrete representations and abstract thought, between doing and thinking." (Cross 1982; 1989; 2011, 136). Buchanan notes designers accomplish this activity through a series of "placements" to uncover root causes and reframe the problem (Buchanan 1992). This is critical because designers often create for unsolvable or "wicked" problems. These problems differ from tame or complex ones because they offer fundamental indeterminacy in definition, incomplete information on causal relationships, conflicting values and goals of stakeholders, and no stopping rule (Rittel and Webber 1973; R. Martin 2009). These types of problems are common to public policy, and can only be probed, framed, and managed (Buchanan 1992).[17]

Design takes seriously the existing organizational structure and social conditions (Bason 2017; Johansson-Sköldberg, Woodilla, and Çetinkaya 2013), and recognizes engaging system participants can facilitate the reflection necessary to improve current conditions.

[17] This optimization under constraints evokes Simon's (1973) notion of satisficing.

In this way, design shares principles and literature with the deliberative turn in democratic theory and the collaborative calls of New Public Governance (see: Mansbridge 1990; Habermas 1996; Fung 2003; and Osborne 2006; Ansell and Torfing, 2014; Bryson, Crosby, and Bloomberg 2015, respectively). This convergence of literatures points both to designs "social turn" and to public administration's search for collaborative approaches to tackle increasingly complex problems (Bason 2017).

Design, tacit knowledge, and learning

The design process is like an ant moving across a stony terrain to return to its nest (Simon 1968). The ant doesn't know the exact route but knows where to end. To accomplish this, the ant meets each obstacle and overcomes it with the tools at his disposal. This subconscious, hard-to-verbalize understanding of the world is called tacit knowledge. Tacit knowledge gives a picture of the whole system, without understanding the particulars (Polanyi 1966; Schön 1983). In a similar way, residents receiving public services are responding to the present choice architecture, and the concomitant administrative burdens, though they may not be able to fully articulate these responses.[18]

By participating with system participants,[19] designers can work to understand their decision-making framework and the social structure that shaped it (Forester 1999). This investigation can make "sticky," tacit knowledge explicit for use in design (Von Hippel 1994; Sandfort 2018). Put another way, through observation we can see how people act

[18] Since knowledge is constructed, articulating tacit knowledge changes our understanding of it (Schön 1983; Polanyi 1966). As designers engage participants, it changes their understanding of the problem.

[19] For this project, frontline workers are both informant and stakeholder. As we know, the collective, shared knowledge of frontline workers becomes de facto policy (Lipsky 1980; Maynard-Moody and Musheno 2003). If we fail to incorporate and articulate frontline staff's shared understanding of the problem and solutions, any attempt implement new solutions could be stymied by their discretion.

(not just what they say) and the workarounds they employ (Hanington and Martin 2012). Design refers to these as "desire paths," like well-trodden dirt paths that are the shortest route to a destination (Parkinson 2012).

Design-based theory also explores how organizations collectively learn and change. Argyis and Schön (1978) talk about two types of organizational learning: single and double loop. In single loop, a group takes in information and uses it for reactive changes to the collective map of the organization. In doing so, the process may maintain their espoused values or "theory-in-use." In other cases, the new information may reveal their "theory-in-action"—or how individuals apply rules in an organization—may run counter to espoused values. If this occurs in single loop modes, the new information is discarded (Argyris and Schön 1978).[20] To actually correct dissonance requires a double loop learning approach. Groups must engage in dialogue and reflect on the dissonance, updating their collective theory-in-use.

To facilitate needed learning, designers use problem-focused dialogue that creates a collective meaning (Krippendorff 2005; Ansell 2011). The result are (tangible or intangible) artifacts that help form new concepts to translate between individual or organizational boundaries (Ansell 2011; Sanders and Stappers 2014; Star and Griesemer 1989). This engagement creates the understanding of the organizational features that need

[20] This comment reflects the elitism common to Argyris and Schön's book. While I agree some information may not get encoded, it is not from sloth or stupidity. Individuals are bounded and must satisfice. Some new information may appear to lack utility or is not at all actionable given present structure and norms.

to change to improve current conditions (Simon 1968; Bovaird 2007; Osborne and Strokosch 2013).[21]

Public administration, nudging, and designing

Behavioral science shares many of the tenets of design's pragmatic approach: a focus on problem solving, a willingness to iteratively experiment, and an understanding people are both boundedly rational and motivated by more than mere self-interest (Simon 1955; Mullainathan and Thaler 2000; John, Smith, and Stoker 2009). Despite these similarities, they are differences that are a result of their respective epistemological traditions. Design sciences grew-up in urban planning, engineering, and business schools and sought to unlock and apply local knowledge to solve technical problems (Johansson-Sköldberg, Woodilla, and Çetinkaya 2013). While behavioral sciences developed in psychology and economics departments, taking on facets of those disciplines, including a prioritization of market-based solutions, individual incentives, and optimizing efficiency measures (R. Dahl and Lindblom 1953; Bozeman 2002; Grimmelikhuijsen et al. 2017).

For its part, public administration researchers proceeded in yet another direction: wrestling with ideas like the notion of publicness, policy implementation, and institutional design. In the last two decades, however, behavioral insights are the subject of renewed discussion in public administration.[22] In their re-introduction, public administration scholars have found behavioral science's foundation in technical rational

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[21] Speaking in a different literature, Giddens (1984) similarly sees this structure of latent knowledge driving our actions with our conscious mind doing post-hoc rationalization of that action. Through reflexive monitoring of actions we can evaluate the success of those actions and update our practical consciousness.

[22] This understanding of the importance of incorporating the implications of bounded rationality and experimentation in public administrations has sparked the creation of the field of behavioral public administration (Grimmelikhuijsen et al. 2017; Bhanot and Linos 2019; Oliver 2019).

traditions needs to be socialized to public values beyond mere efficiency (Bozeman 2002; Bryson, Crosby, and Bloomberg 2014; Moulton 2009), like civic engagement, transparency, equity, and liberty (Stone 1997).

In democracy, we accept government will do certain coercive things that are in the public interest. Understanding *how* the public defines that interest is, therefore, fundamental to legitimacy. Including local knowledge can help ease the coerciveness of choice architecture (Fischer 1993; Hajer 2003; John et al. 2013; Jasanoff 2007; Bertelli and Riccucci 2020). This engagement "transfer[s] some power from professionals to users, as it means that both parties contribute resources and have legitimate voice." (Bovaird 2007, 855). It also ensures designers are altering a heuristic that is failing. We cannot simply assume a nudge that was successful in another context will work here (Cartwright and Hardie 2012); it's necessary to learn how clients in our systems *actually* make decisions.

Design, itself, offers compelling approaches to find solutions that "both fit for purpose and are desirable to the people who will use them." (Design Council 2013, 3).[23] Assessing and designing public sector services with system participants has both instrumental value in improving products and democratic value in incorporating citizens' voices (Bason 2016; Romme and Meijer 2020). This requires probing participants' inner world to surface the latent heuristics they use and better understand the outcomes they want (Simon 1968; Schön 1983; Cross 2011). Using the complementary assets of the two

[23] Interviews, observation, and focus groups develop our participants' present heuristics and criterion for success. This notion of observation links design theory to practice, recognizing people have tacit desires; simply asking people what they know, may not reveal all they understand (Polanyi 1966; Norman 2013).

approaches also provides us a structure to not just theorize about that change but effectuate it and rigorously evaluate the impact.

When to think. When to nudge. And when to do both.

Nudges are light touch. They seek to go with the grain of individual decision-making and work well in a situation where a person is ambivalent between two options. Thaler and Sunstein position this approach as an alternative to visible regulatory, taxation, and subsidy approaches (referred to legal or hard paternalism). By their nature, these traditional approaches are more visible, as they seek to alter incentives to shift individual or collective behavior. Nudging also differs from a third approach to behavior modification: education.

A learning approach seeks to changes residents understanding of a given activity and represents the core logic of pragmatists like Pierce, Dewey, and Schön. Through inviting publics to engage in discussion and reflection, the intervener offers a greater chance to persuade (Innes and Booher 2010; Ansell 2011). While design did not come up with the notion of educating the public, design's core logic is rooted in the idea collaboration and learning to advance individual and organizational change (Argyris and Schön 1978; Schön 1983). John, Smith, and Stoker (2009) refer to this as a "Think" strategy. Design logic seeks to bring individuals and coalitions into deliberation to improve current conditions. These offer the premise that "free and equal public deliberation has an educational effect as citizens increase their knowledge and understanding of the consequences of their actions." (John, Smith, and Stoker 2009, 364). This collective action can range from building councils planning Thanksgiving Day meals to city-wide forums on evictions to regional councils working on housing shortages. Relevant for this

work, the placement of reflection at the heart of social action and change intersects neatly with Giddens' (1984, 343–47) understanding of how to change institutional structure.

These differences between nudge and a think strategy stems from different formulation of the problem. Positivist-informed economics assumes client preferences are firm and determined a priori. Pragmatic-informed design sees preferences as emergent (Meyer 2012); they treat attention not as a neutral force, but, instead, as a way participants can update preferences, norms, and institutional structure (Forester 1999; Van de Ven 2007; Vargo and Lusch 2016). Put in language familiar to behavioral scientists, nudges seek to change the "system 1" preferences (Kahneman 2003; 2011), while thinking approaches require active "system 2" reasoning (Table 5).

Table 5: Strategies from behavioral science and design-based approaches

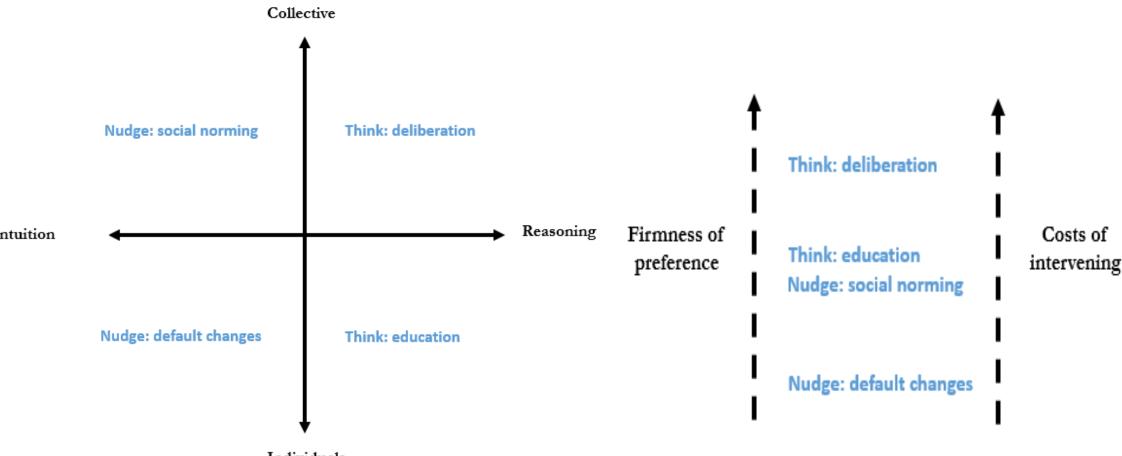
	Behavioral	**Design**
Theoretical perspectives	Positivist	Pragmatic
Methodology	Experimental	Mixed-methods/ action-research
Primary unit of analysis	The individual (micro)	The group or organization (meso)
Costs to individual	Low (and often) repeated	High but intermittent
Change process	Shift in choice framing results in new decision	Value led discussion leads to new shared choice
Civic conception	Increasing the attractiveness of positive-sum action	Addressing the general interest
Role of state	Expert-driven identification of biases and shaping choice environment messages	Create new institutional spaces to support citizen-led investigation, respond to citizens

Adapted from John et. al., (2013, 19). For definitions of theoretical perspectives and methodologies, I follow Crotty (1998).

These strategies also presume different roles for the state. In nudging, state experts decide the desired outcomes, the efficient choice architecture to reach those ends, and work to get the messages and incentives correct. In the think mode, the state acts as a convener and facilitator. It finds an inclusive group of stakeholders and works to "hold the space" for them to deliberate, learn, and negotiate (Quick and Sandfort 2014; Senge 1991). Though, importantly, in approaches logics, the state must be willing to experiment and change behaviors and structure.

In articulating the strengths and assumptions of the two approaches, we can start to think of them as a continuum of possible tools for policymakers to choose between. Figure 2 provides a visual that can give the pragmatic interventionist the potential to consider the relative merits of different types of interventions and their relationship between firmness of preferences and the resources necessary to intervene.

Figure 2: Relative merits and examples of nudge and deliberative or think approaches



Behavioral approaches are characterized by targeting intuition to change weak antecedent preferences. The classic low-cost example is a default change; for example, making it the pre-set option for those working in a job to contribute to their retirement. While nudges

target the individual, they can use peer norms to seek a change. This is especially true when antecedent preferences are more established. For instance, sending a personalized letter to residents explaining they are in the minority of residents on their block that does not recycle can have a significant impact on future recycling (John et al. 2013).

In the education mode, focused attention and calls to reason opens the potential for persuasion even when the target population has strong antecedent preferences (Argyris and Schön 1978). For individuals, it can be possible to change moderately held preferences with education. For example, public health campaigns that educate people on the dangers of colon cancer and promote regular screenings can be effective at persuading citizens to do an undesirable activity (Centers for Disease Control and Prevention 2003; Randolph and Viswanath 2004). When antecedent preferences are the strongest, changing minds requires concerted effort and social pressure, like in jury deliberation (Argyris and Schön 1978; Innes and Booher 2010; Ansell 2011).

Figure 2 also shows any processes that engage in active reasoning, collective decision-making, or both will add costs. This is both the cognitive costs associated with participation and also the resources expended by participants and facilitators to hold the space.[24] The size of this investment is related to the sacrifices (monetary, personal identity, social standing, etc.) participants make to come to an agreement. It also is much riskier than nudging, as participants can retrench in their beliefs or take an unexpected turn (John and Blume 2018; Bolton, Dimant, and Schmidt 2019).

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[24] Persuasion has the added benefits that it adds transparency and can develop citizen's capacity to make informed decisions, instead of merely fiddling with the choice architecture (Hausman and Welch 2010).

Collective nudges are higher cost than individual nudges because they have greater risk; it adds correlation in individual choices. Instead of individuals making choice at the margins, groups are making choices, raising risks of bigger swings. From the above recycling example, receiving a letter that notes 60 percent of neighbors recycle may also create the understanding that that 40 percent do not. As John et al. (2013) note,

> Households in both high-performing [recycling] streets and low-performing streets were persuaded to improve or maintain their behavior when given information on the recycling performance of their street compared to a wider neighborhood. However, a limitation of this nudge is that feedback cards were not effective if households were already recycling their food waste at baseline: we assume that people are discouraged if they learn that they are performing better than the norm for the street.[25]

This framework shows that there are multi-dimensional considerations for when to nudge and when to think. While often viewed as distinct, the two logics offer complementing understandings of how to change human behavior. Design logic, with its power to uncover and use latent knowledge to rearrange schemas, creates a process that fits the specifics of a case. Behavioral science offers a keen catalogue of understanding of human biases, low and incremental costs to promote change, and methodological tools to test whether interventions did change behavior.[26]

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[25] Emphasis added

[26] While the design promotes the note of experimentation, it often fails to do the rigorous, post-project evaluation to determine causal impact of changes (Lawson, 2004, 14). Lawson attributes this to both the incentives of designers working on client projects and the education and training most designers receive.

Summary and implications for research

As discussed at the beginning of this chapter, administrative burdens undermine the effectiveness and equity of social safety net programs. Often, they are forms of hidden politics, whereby an increase in rules undermines the program in a way that may not be otherwise politically possible. In other places, procedural hurdles are accidents; the result of habit, poor design, or siloed units of government; understanding these motives are important to identifying the type of intervention that can help us reduce these burdens. This problem provides the intellectual foundation to weigh where, when, and how to intervene to meet the holistic needs of citizens, whether that be through regulation, taxation, education, nudging, or a combination thereof.

Behavioral science emphasizes that humans' bounded rationality means we all make mistakes that harm our long-term interest. This core logic opens the potential for a range of low-cost interventions to improve resident outcomes. Its history with using experiments to test the impact of behavioral biases provides a robust literature from which to draw ideas and test the impact of those ideas in new contexts. It also reframes the policy problem—we all are boundedly rational—in a way that does not otherize residents or require fundamental change of organizational structures or behaviors.

Design contributes by offering tools to ensure identification, development, and testing of interventions that are appropriate for a local context. It allows designers to get close to the phenomenon or group of study and test theories that can solve problems. This approach can also can counter a common criticism that the expert-driven, positivist-informed behavioral sciences often fail to understand the existing environment, the actual heuristics used by individuals, and the criterion by which those individuals judge success

(Flyvberg 2001, 38–49; Sunstein 2019; 2020). We can also see that design offers its own set of interventions to reduce administrative burdens that differ from behavioral science and traditional approaches that target incentives or create prohibitions. These interventions center on collective inquiry, reflection, and dialogue, and can promote change in an organization. They are more effective when citizens hold strong opinions or need to coordinate on collective action.

Knowing which approach to use depends on the nature of the problem and the extant social structure. In the next chapter, I describe how I have applied the insights from both behavioral and design sciences to identify administrative burdens and change organizational structure to improve outcomes for clients in public housing.

Chapter 3 - Research design and methodology

Case purpose and selection

This research is animated by the desire to understand how integrating the design and behavioral literatures can identify procedural frictions and motivate change. I seek to answer:

1. In the case of Minneapolis Public Housing, what features of the social context contributed to the a) current organizational choice architecture and b) resident cognitive biases that are associated with negative housing outcomes?
2. How do modifications to the choice architecture emerge and evolve over time through the application of a design-based approach?
3. What impact did the design-based intervention(s) have on eviction actions in Minneapolis Public Housing?

To answer these research questions, I took a "design-focused" case study approach. As Barzelay (2019, 97) describes:

> In comparison with stereotypical case studies, design-focused case studies are similar in that they feature argumentation about theoretically-defined phenomena. The difference is that the two kind of case studies are concerned with different kinds of theoretically-defined phenomena. Whereas stereotypical case studies are concerned with theoretically-defined empirical phenomena, design-focused case studies are concerned with theoretically-defined purposeful phenomena.

Typical social science tries to solve these theoretically defined empirical theory by systemic analysis, looking for underlying, generalizable rules. Design calls for a different approach, one that satisfices to find solutions that fit the present context. Given the understanding that social processes and mechanisms are context-specific, this effort will look at a single case (Neuman 2013). The data collected is used for purposive theorizing—a way of predicting so as to act—necessary for design work (Barzelay 2019). In that way, the intent is not to find generalizable solutions to burdens, but to show how a behavioral design approach can facilitate the needed organizational change. The generalizable output of the research may be a "design-precedent" or an approach when a designer is faced with a certain set of constraints.

For this dissertation, the case selection was purposeful; I looked broadly for an opportunity to experiment with design-based, behaviorally-informed interventions to reduce administrative burdens (Patton 2002; Nowell and Albrecht 2019). After an extensive search of 10 public agencies, public housing offered the best opportunity to test these ideas. The staff at MPHA offered access to staff and residents, high-quality administrative data, and a willingness to experiment with solutions. Typical of welfare programs, it had a high-level of procedural friction that may impact outcomes. This partnership gave me tremendous access into the environment.

Applying the design logic and process in the case of public housing

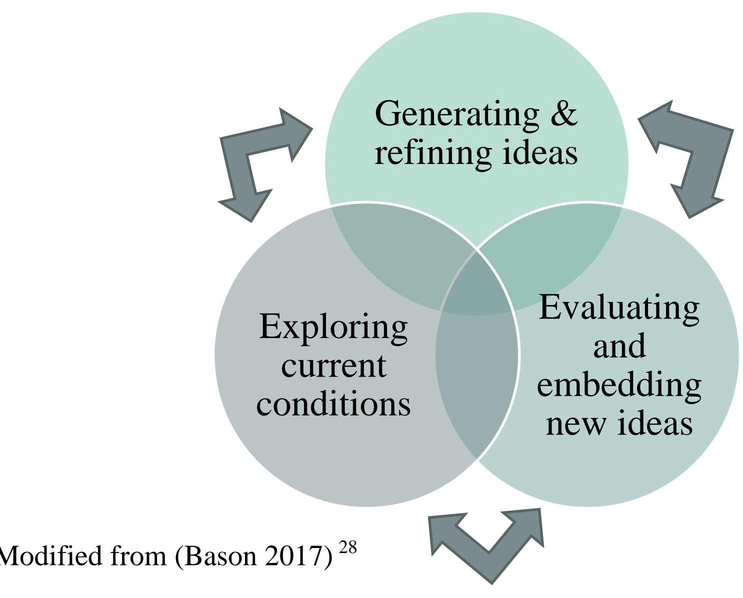
As noted, design-based methods are concerned with creating something new. This logic differs from objectivism that looks to inductive reasoning to validate theoretical concept or deductive reasoning to generalize empirical laws to new contexts. Instead, design uses abductive reasoning that starts with a desired outcome and questions how to arrange

available elements (what) and pattern of relationships in the system (how) to arrive at that outcome. In this way, it rejects the notion that scientific discovery is value-neutral, ahistorical, and that important scientific contributions are self-evident. Instead, it follows pragmatism and interpretivism in embracing doubt, following hunches, and chasing discovery alongside participants (Locke and Golden-Biddle 1997; Locke, Golden-Biddle, and Feldman 2008; Soss 2018).[27]

There are numerous design-based models, but all look to promote abduction through exploring, testing, implementing, and iterating (Norman 2013; Hanington and Martin 2012; Bason 2017; Design Council 2013; Brown 2009; Cross 2011). I will use Bason's 2017 design-model because it avoids jargon, emphasizes overlap, and was developed with public sector applications in mind. Exploring the problem space involves learning about how participants and structures interact. Concept generation creates ideas and hypotheses with system participants to assess which may be viable. Evaluation and embedding turns ideas into prototypes for field testing. Successful prototypes are then evaluated at scale.

Figure 3: Phases in design-based research

[27] Appendix



Modified from (Bason 2017) [28]

In interrogating cases, design often employs conventional tools from social science, like interviews, observation, surveys, statistical analysis, and literature reviews to understand the context. These methods and data sources are summarized in (Table 6). By using multiple methods it attempts to iteratively converge on the latent needs of participants (Morse 1991; Greene and Benjamin 2001; Timans, Wouters, and Heilbron 2019) and can "[enhance] our beliefs that the results are valid and not a methodological artifact." (Bouchard Jr 1976, 278; Creswell 2012).[29]

[28] I moved prototyping to phase three. In my view, it makes intuitive sense to link prototypes and evaluation. In practice, the overlapping nature of the work means it is not practically significant.

[29] Some researchers and practitioners refer to the qualitative components as "design ethnography." This process differs from the process of traditional ethnography in that it seeks not just to understand a community, but to change it (Barab et al. 2014; Norman 2013; Hanington and Martin 2012). In reality, traditional ethnography is more emergent and theory-generation focused than design ethnography. Traditional ethnographers' task "is not to determine the truth, but to reveal multiple truths apparent in others' lives." (Emerson, Fretz, and Shaw 2011, 3). Designers, instead, are actively working with system participants to frame and address the problem (Cross 2011; Ansell and Torfing 2014).

Table 6: Field methods and data source

Methods	Purpose	Source
Descriptive and statistical analysis	**Exploring current conditions** Identify scale population effected and where in system residents are struggling. Learn predictors of individuals receiving eviction actions.	MHPA administrative data and survey.
Interviews	**Exploring current conditions** Collect data on values and logic of present organizational structure and residents' heuristics. Identify burdens in rent payment and ways the system can be improved. For residents, I will also gather information on their desired outcomes.	20 frontline staff and supervisors across the system; 12 resident interviews.
	Evaluating and embedding Interview staff at the end of project to understand how change unfolded over time and what factors were meaningful to changes.	Interview of 10 eviction team members.
Literature and document review	**Exploring current conditions & Generating ideas and alternatives** Collect, code, and synthesize the existing research on public housing, eviction actions, resident perceptions, and potential interventions.	Various academic and local studies/accounts
Observation (passive and applied)	**Exploring current conditions & Generating ideas and alternatives** Collection of baseline data of staff interactions, client experience, and system workflow. It gives me a chance to see how residents articulated desires differ from actions and how staff understand the problem and how to improve conditions.	20 hours of passive observation across sites (court, resident interactions with bureaucrats, etc.); 40 hours of applied meeting participation.
	Evaluating and embedding Review of contemporaneous notes and interviews to assess the impact on change.	
Survey	**Exploring current conditions** Supplement administrative data to get client opinions on impediments to rent payment and what they do when they feel cannot pay.	500 randomly selected MPHA residents
Experimental design intervention	**Evaluating and embedding** Designed two experimental design studies to assess interventions impact using administrative data. While I designed and fielded two, both were impacted by the COVID-19 pandemic.	Automatic withdraw intervention- 48 building/clusters, 5,956 households. 14-day rent termination warning letter, 2,400 households.

Data sources

From February 2019 to June 2020, I collected qualitative and quantitative data in partnership with MPHA. The agency gave me relatively unfettered access to residents, staff, and administrative data to help them explore ways to reduce eviction actions. The research had three sets of research and design activities: understanding the problem space, generating alternatives, and evaluating and embedding (summarized in Table 6).

Understanding the problem space

At the outset of the study, I looked to identify and understand vexing or paradoxical behavior (McGuire 1997; Van de Ven 2007; Flyvberg 2001). In trying to understand why staff and residents act in seemingly irrational ways, my attention fell to how structure influences choice, and the interaction between individual decision-making and meso-level organization features. In retrospect, public administration and design literature would hardly be surprised by tension between agency and structure. For me, however, my reflection on early data collection shifted my the framing of the inquiry and related methodological approach (Soss 2018). In that way, I became more aware that structure helped me "better understand how these allegedly bad choices are not a product of some characteristic or propensity among poor people as individuals but more the result of their context and the relationships that serve to create and reinforce the context." (Schram 2019).

This initial inquiry included reviewing the antecedents of evictions from academic literature and local reports. In part due to Mathew Desmond's ethnography *Evicted* (2016), there is ample fresh recent exploration into evictions. Two recent projects at University of Minnesota's Humphrey School of Public Affairs undertook qualitative

studies—one a participatory action research project led by CURA's Dr. Brittany Lewis (2019) and the other a graduate research capstone supervised by Dr. Maria Hanratty (2018)—of local homelessness service providers, landlords, and residents. Each project graciously provided their de-identified interviews and summary memos. In addition to their work, Hennepin County, the city of Minneapolis, media outlets, and other external entities have produced voluminous reports on current conditions. I reviewed internal public housing documents, especially operations manuals, administrative forms, and communications from MPHA to residents. These documents are public expressions of MPHA's rules, mission, history, and values and reveal how the system views residents' claims. This initial exploration of interviews, reports, and memos helped identify key context, informants, and areas for observation.

Parallel to this process, MPHA research team and I developed and administered a resident survey. In April 2019, we sent a paper survey to 528 randomly selected MPHA households, with an oversampling of residents currently behind on rent (80 percent of sample). This survey examined the existing administrative burdens to rent payment, how frequently residents are concerned about rent payment, and what can be done to lower barriers to on-time payment (see appendix 2). It sought to understand what residents do when they are unable to pay and how they prioritize rent with other expenses. Of the 528 residents that received the survey, around 30 percent (158 households) responded.

To refine my understanding of the system, I conducted semi-structured interviews with residents and staff. For staff respondents, I interviewed Eviction Prevention team members, property managers, and social service agencies that interact with MPHA residents, including Legal Aid attorneys and social workers. For residents, I asked

property managers and the Minneapolis Highrise Council to introduce me to residents from a variety of building types and client characteristics (Small 2009; Tashakkori et al. 2015). To diversify the sample away from participants that engage with MPHA, I also sent letters to 10 residents that noted negative experiences with MPHA on the resident survey, though only three such residents agreed to an interview.

The semi-structured interviews asked informants to walk the rent collection process, what are desired outcomes, the burdens that are levied by the system, their understanding of organizational structure, prior policy changes, and ideas for system improvement. I also asked informants to identify critical sites that burdens are levied for later observation (Tashakkori et al. 2015, 358).[30] These questions provided a sense of the schemas and routines that were meaningful to them. In this initial phase, I completed 15 staff interviews and 12 resident interviews with interviews lasting 45 to 75 minutes. Residents were compensated for their time. I jotted notes during the interview, recorded the interview (when the participant agreed), and used Otter software to transcribe the interview. After reviewing the transcripts, I believed the interviews to be rich enough to reflect the problem space and stopped collection (Glaser 1965, 441–43; Fugard and Potts 2015; Nowell and Albrecht 2019).

Concurrent to this process, I observed important sites (Payne, Storbacka, and Frow 2008; Emerson, Fretz, and Shaw 2011). These are in places where clients face critical moments that levy burdens, like MPHA's late-payment window, social workers' office hours, provider waiting rooms, and housing court appearances. I focused on the routines and

[30] It's important for me to get to root causes of behavioral error. It's common for research investigation to stop after a human error is found (e.g., a person forgets to pay rent), but we need to interrogate what about the built environment or clients' situation produced a bad outcome (Norman 2013, 166).

issues that residents were concerned with, counterintuitive behavior, and where actions differ from the formal processes. After each session, I also recorded voice memos of what I saw. I then reviewed the notes and recordings, supplementing those notes after the fact as necessary. In team meetings and waiting rooms, it was easy to take notes without scrutiny. In cases where I observed private conversations of residents with social workers, rent collections, or attorneys, staff would explain my presence and ask if it was okay for me to observe. In these situations, I waited until after the interactions ended to jot notes.

In addition to formal interviews, I engaged in eviction team meetings and one-on-one meetings with staff to implement interventions. These all become forms of data about how the organization change was unfolding. These meetings served as an opportunity to refine my understanding of the environment and change how staff saw the problem on nonpayment. I was, however, also a participant in these meetings and would deploy what I leaned to advance potential interventions. An important informant was the Research & Analytics team director; we met biweekly to share information and plan potential interventions. In total, observing and meeting with staff involved more 60 hours of direct engagement across the organization.

To complement this data, I analyzed existing administrative data. The agency has robust historical data on demographic, economic, and household characteristics for all residents based on applications and recertification. It also has real-time data on rent payment and outreach for nonpayment. I used this data to explore hunches developed through the qualitative inquiry; for instance, to understand the scale of barriers and trends in eviction action. This data was also deployed to promote organizational change.

Generating alternatives and refining ideas

The second step, generating alternatives and refining ideas, brings what we've learned in the previous phase to staff and residents to generate potential solutions. This step involves taking lessons from the environment and applying them as probes. Probes are actions—often phrases, stories, or problem framing—that reveal latent information about the context of an environment. These small, safe-to-fail actions allow us to test conflicting hypotheses. If a probe generates positive respondents, it can be refined and may advance to a prototype (Sandfort 2018). Prototypes are tangible products that help us understand how an intervention works in reality.

From the initial qualitative and quantitative exploration, I reviewed with partners our understanding of the problem space over time. As noted in prior section, I spent more than 60 hours in one-on-one meetings and Eviction Team Meetings. I was not, however, simply an observer, but active participant in the meeting. Often, this involved formal presentations of data collection, including the survey results, process map, or residents interview summaries. In other cases, the conversation afforded informal ways to share what I learned or what the literature said to advance or stymie an intervention idea. In these meetings and subsequent electronic interaction, the Eviction Team and I iteratively refined potential ideas. During these sessions, I would jot notes about what was meaningful in the change process.

I also convened two formal design sessions—one with staff and one with residents. In the sessions, I used design methods to present and iteratively refine probes and prototypes (Hanington and Martin 2012; Design Council 2013). My purpose was to promote organizational learning and help system participants rehearse the future (Argyris and

Schön 1978; Innes and Booher 2010; Bason 2017; Halse et al. 2010) In the staff lab, I shared the process flow map or "user journey map." This map, discussed more later, shows all the procedural steps for a resident from receiving their monthly statement to eviction. In presenting to the Eviction Prevention team, we reviewed for accuracy and agreed to a common understanding of this process. I then pointed out pain points for residents—derived from interviews and observation inquiry—and we brainstormed potential solutions. To humanize the process, I asked the group to envision a hypothetical resident with a common archetype: a 55-year-old, black, female resident on Social Security disability with a $250 rent payment. I lead the 90-minute lab and had a member of the research team take notes on group agreement, dissonance, and theories of root causes and solutions. I also jotted notes during the session.

For the resident design lab, I convened 10 members of the Resident Council in a two-hour session. The session had three blocks: 1) introductions, where residents posted a sticky note on the board of a change they helped make in their building; 2) review of the process flow chart to discuss its accuracy and how the system should change; 3) review and commenting on changes for a prototype rent termination warning letter. For each section, I had them consider the items before them, write notes on sticky notes or other handouts, and then discuss with the full group. To ensure residents felt comfortable speaking openly, no MPHA staff attended. Residents were compensated for their time, the session was audio recorded (with permission), and I collected all documents they provided written feedback on. I created a memo that was sent to both residents confirming what I heard. I then shared the memo and related learnings with the MPHA Eviction Prevention team.

In both the formal and informal phases, data was collected, ideas were iteratively tweaked, and the Eviction Prevention team members met regularly to review my initial analysis. This collaboration and collective inquiry improves the products, but it also is an education process necessary to update staff members schemas to motivates changes to organizational structure (Argyris and Schön 1978).

Evaluating and embedding ideas

The cycle culminates in finalizing prototypes and testing the best intervention derived from the first two processes. It involves taking probes that worked in the second phase and creating prototypes. While the prototype is often thought of as a physical thing, they are sometimes intangible products, like new processes or education (Simon 1968; Norman 2013). Having a product to respond to keeps the conversation on problem solving and produces more tangible feedback on what's working and what isn't (Cross 2011; Bason 2017). Design views these phases as a cycle—with no clear end, only more iteration. For the dissertation, I cycled through the three phases of Bason's design process and implemented two randomized control trials to test impact of attempts to reduce burdens.

The qualitative work identified a range of services to tweak (see Appendix), but two were also amenable to experimental methods to estimate the causal impact (Burtless 2013; Campbell 1991). For each intervention, I pre-registered the *a priori* hypotheses and analysis plans on the Open Science Framework (OSF) (Zwaan et al. 1990; Cohen 1992; Shrout and Rodgers 2018). Using administrative datasets, I measured the efficacy of interventions on rent payments and eviction actions. Here too, qualitative insights helped us better understand in what way these interventions impacted results. Results from this

test can inform MPHA practices, build their willingness to engage in future work, and may offer a small contribution to the extant literature. This dissertation is motivated by methodical and theoretical advances in an integrated behavioral design approach to reducing administrative burdens, not generating generalizable knowledge about behavioral biases. [31]

To add additional qualitative detail to why new practices were enacted and what that may mean, I used the voluminous contemporary notes, emails, and interview transcripts described in the first two phases of the work understand how change unfolded in the organizational. After reviewing this material, I completed a final round of interviews to better understand how MPHA staff to better understand how change unfolded, and what lessons it may have for behavioral and design sciences. I interviewed 11 current and former staff members of the Eviction Prevention team. Interviews were recorded and lasted between 45 and 60 minutes. One key informant sat for three interview sessions.

Analysis procedures for design-based research

Data analysis involved an iterative and reflective process of collection and analysis. All the qualitative data was analyzed using NVIVO software package. After initial meetings with staff and review of local and national research, I created frameworks for coding transcripts, field notes/recordings, and organizational documents. I then coded to these initial nodes but allowed new codes to emerge from the data. I iterated back and forth

[31] To test this hunch, one approach would be to use each methodology to develop an intervention and run an experiment (Four treatment arms: design + behavioral, behavioral-only, traditional approach, and control). In my experience with MPHA, I didn't believe it is viable in the present organizational context and there is likely an insufficient resident sample to do this type of test. There is also a problem of endogeneity; over the last six months, I've promoted and taught the staff design and behavioral principles. This may influence the development of any new interventions.

between coding, interpretation, and recoding (Coffey and Atkinson 1996). In coding, I paid attention to similarities and incongruences in staff to staff, staff to residents, and residents to resident views of the organizational structure or policy system. Often, I would bring confusing findings to bi-weekly meetings with the Research & Analytics Director to get their feedback.

For survey and administrative data, I used statistical software to better understand the population and choke points in rent payment. Survey data was analyzed for themes and descriptive statistics. I often did analysis using Excel to facilitate tools and use for MPHA partners. For administrative data, I used STATA to understand the scale of potential interventions identified in qualitative work and what predictors of eviction actions may be. I will discuss the methods and analysis of the experimental interventions in Chapter 5.

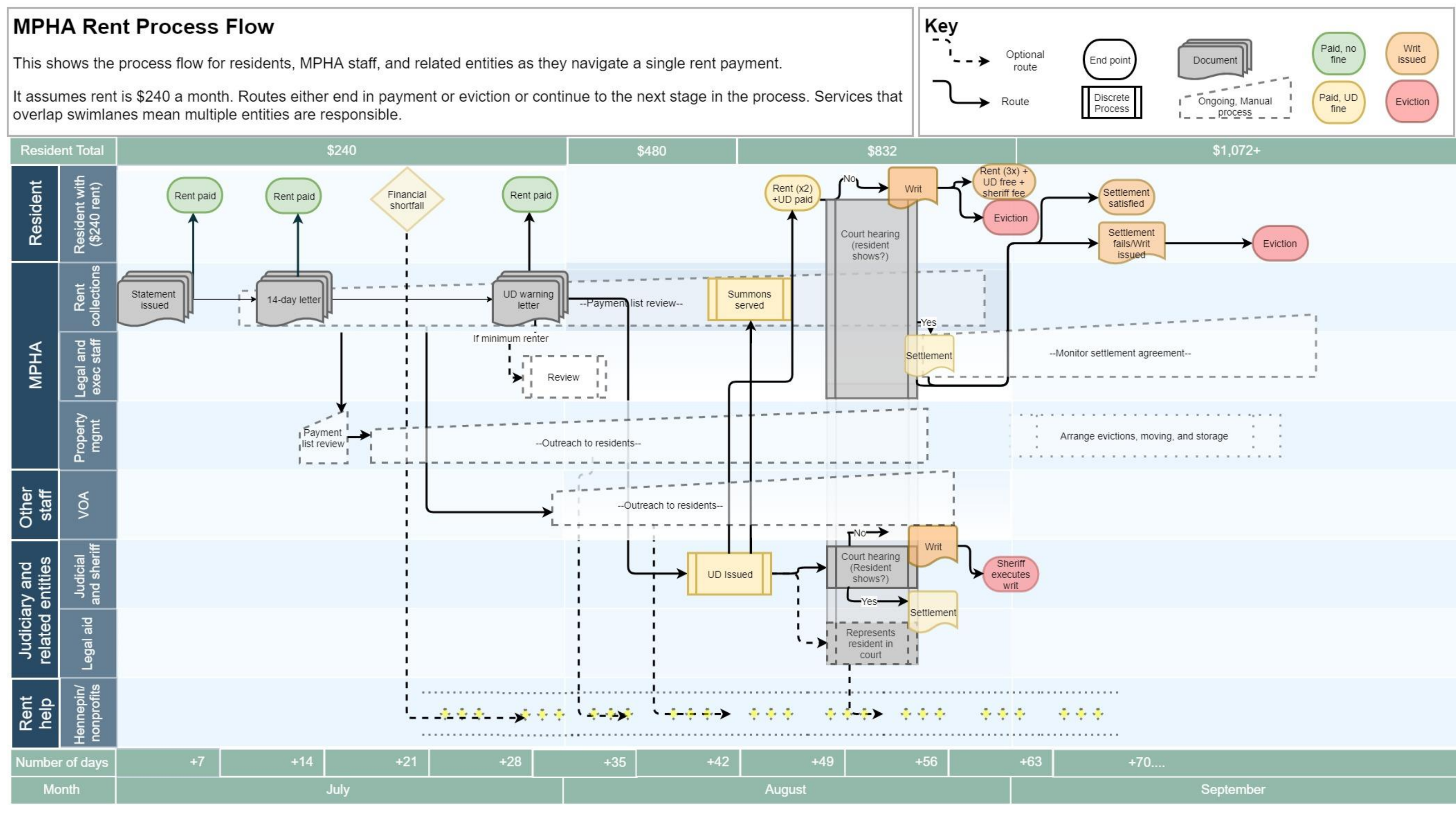
Data analysis occurred over time. In doing so, I was able to progressively refine my inquiry across informants and methods. I did not view analysis as a separate state, but an ongoing "reflexive activity that should inform data collection, writing, further data collection, and so forth." (Coffey and Atkinson 1996, 6). This iterative review and tweaking helped inform data collection, interaction with participants, and the nature of potential interventions. Most importantly, it allowed me to gain a sense of both the what to and the how to create interventions to reduce eviction actions in public housing.

Chapter 4 - Behavioral biases, choice architecture, and structure

As part of the design-based process, I endeavored to better understand the context from the perspective of system participants. Both design and behavioral science look for "system bottlenecks" or places where poor system design and human psychology produce negative outcomes. We refer to this organizing context where people make decisions as the choice architecture (Thaler and Sunstein 2008). As the administrative burden framework articulates, these barriers can be from compliance, learning, or psychological costs (Moynihan, Herd, and Ribgy 2013; Herd and Moynihan 2018). Some of these frictions may also be mutable with available resources. In design's pragmatic tradition, understanding the relevant features of burdens and the accompanying environment is paramount. Process mapping (Figure 4) offers a systematic approach to identify interventions that may lead valuable improvements in residents self-defined interest and are viable in the current system (Oakley et al. 2006; Datta and Mullainathan 2014; Richburg-Hayes, Anzelone, and Dechausay 2017).

This section will review the process for residents to pay rent, get assistance when they need it, and go to court to avoid an eviction. In doing so, I want to identify choice architecture that may lead to unnecessary eviction actions. I will then explore how these biases are influenced by both individual and organizational level factors.

Figure 4: MPHA process flow/user journey map



Paying rent

In public housing, rent is income dependent. On an annual or bi-annual basis, residents provide documentation to MPHA staff to recertify their income. Unlike a typical private renter on the open market, income fluctuations influence the monthly rent amount. In addition to income-related changes, monthly statements include other charges, like air conditioner rental or work order charges. This necessitates that MPHA calculate and send a rent statement to 6,000 public households each month. By policy, rent is due the first day of each month, but residents typically receive their statement on the third.

Most residents (60 percent, according an MPHA resident survey) pay their rent by mailing a check or money order. Residents take the statement, a payment, and produce a stamp to send the payment. If a resident does not have a checking account, they get a money order from a local establishment for a fee, typically one to five dollars. Once the payment is mailed, residents have no easy way to verify the payment was received. Any mistake in the process, like failing to add a stamp or not signing the check, can go undetected until MPHA mails a late payment notice.

Another payment option is automatic withdrawal. This method withdraws rent automatically from the resident's account on the fifth of each month. This obviates the burdens of payment, but, as of fall 2019, only 13 percent of residents used that option. While this method is easier, according to the resident survey, many residents were unaware of it. Another hurdle to automatic withdrawal is that residents must have a bank account. Many residents are unbanked. For instance, residents on Social Security can opt to receive their monthly stipend through an "Express" benefit card that operates as a standard debit card. While the accounts are tied to a bank account, the Social Security

Administration does not provide the cardholder the account or routing numbers, likely out of fraud concerns. In addition to lack of information, residents wanted to maintain control over their money. One single resident noted:

> Sometimes I have to double[32] my rent. Because I need my money. An emergency arises or something and I don't like to have to do that because I know [MPHA] needs their money... But, [MPHA] allows [late payments] to happen. So I may take advantage of it sometimes…When you're on limited income, you got to juggle it around a little bit.

A small number of residents pay through "rep payees" or family members, private companies, or government institutions send a payment on the behalf of the resident. Typically, this is reserved for residents with mental illness or age-related cognitive decline—sometimes voluntarily and sometimes not. A final method is a resident paying in person or staff delivering resident payment to the rent collection window in MPHA's central office. While the latter is against policy, MPHA staff often ignore the rule.[33]

If rent is not received by the 14th of each month, rent collections sends a 14-day lease termination warning letter. This federally-required notification gives public housing residents 30 days' notice of lease termination. While ostensibly only a warning that brings no material consequences, the letter reads like an eviction notice. After the letter is sent, building property managers and Volunteers of America (VOA) social workers

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[32] "Double rent" means skipping payment in one month and pay two months' rent in the second late period. If paid by the 14th of the second month, there is no penalty from MPHA.

[33] It also demonstrates a potential desire path—residents and staff consistently requested a way to pay in their own buildings. In interviews, paying in the building was the most common request from residents and staff alike. While explored in the design process, MPHA deemed it not viable.

receive lists of those residents behind on rent. Staff and VOA scan the lists for residents they know are in the hospital or are traveling out of the country. In these cases, property managers can use their discretion to freeze the account until the resident returns. For those without a known reason, property managers and VOA social workers may start outreach. The list is long, however, and staff are busy, meaning they only attend to a few residents who are infrequently on the late payment list.

Since there is no penalty for late payment, some residents choose to pay late each month so they can hold onto cash for emergencies. For others, the payment schedule doesn't match wage or income payments. For a large portion of residents on Social Security Disability Income (SSDI), for instance, checks are sent based on birthdays,[34] with most coming after the 5th of the month. The status of "always late" means that staff see those residents listed late every month and ignore them to prioritize residents who are not commonly on the list. When the perpetually late are in an actual crisis, they lose the benefit of this of early outreach and assistance by staff.

Once rent is late, residents must pay in-person in downtown Minneapolis. For most residents, that requires taking public transport to MPHA's location. This rent collection window is open for limited periods—8-4:30 Tuesday, Thursday, and Friday. The window is in a public space just off the lobby of the first floor of the MPHA building. To come into the lobby, residents must provide identification, which is scanned and logged by

[34] For residents born on the 1st-10th of the month, the payment comes on the second Wednesday, if born the 11th-20th, payment is the third Wednesday, and for the 21st-31st it's the fourth Wednesday. That means, in effect, all residents on disability either need to be a month ahead on rent or will pay late every month. MPHA recognizes this issue and has sought to change the payment date, but its antiquated payment system doesn't allow for multiple payment dates. Moreover, the legal team is concerned they can't serve the legally required notice in time to provide an unlawful detainer within 45 days.

security staff. At collections, the agents sit behind a thick glass window. To be heard necessitates raising one's voice—airing personal stories of delinquency to any passersby. The rent collection agents have no physical resources to offer residents in need; they are only able to offer a list of potential resources, most of which are tapped by this late in the month. This list offers little relief to frustrated and scared residents looking for help.

If residents do not pay by the 1st of the following month (30 days late), they receive an unlawful detainer warning letter. This letter is not required but a courtesy reminder from MPHA. The letter is easier to understand than the rent termination warning (14-day) letter but offers no advice on what to do if one can't pay. As this letter is released, rent collections sends an updated list of the delinquent renters to property managers and VOA social workers. This shortened list gets greater scrutiny from staff, increasing the pace of calls and door knocking. This special assistance is, however, discretionary and often focuses on residents that staff perceive as worthy.

The second Tuesday of the month is the last time a resident can pay rent at the collection window without penalty. After this date, the legal process of eviction begins.

Getting assistance

Residents in public housing are, by definition, in need. The average household income is $1,250 a month, with half living on less than $850 a month. Financial margins are thin. If an unexpected expense occurs, like a broken car, a medical expense, or a death of a

family member, little is left to pay rent. According to a survey, 40 percent of residents have worried about paying rent in at least one month over the last year.[35]

When residents realize they may not be able to pay rent, they turn, unsurprisingly, to friends, family, and community members. Relatives frequently paid on behalf of residents, i.e., kids taking care of parents and vice versa, or friends selling SNAP credits for cash to help a neighbor. It was also common to hear of community or religious organizations passing the hat for rent, especially among recent immigrant populations.

Many residents do not, however, have friends or family able to help. Those residents look first to property managers and social workers. When a rent emergency is related to illness or injury, property managers have the authority to extend a temporary hardship. Residents can prove a hardship and pay late without penalty. If income falls, residents also can meet with MPHA eligibility technicians to have rent adjusted. Depending on income, the minimum payment is as low as $70 per month. This readjustment process can be slow, however, and residents are still responsible for back rent.

Table 7: What residents do when they know they need to pay rent late

If you realize you are going to be short on rent, what would you do?	**Percent**
Ask to borrow from a family member or friend	43%
Contact property management	41%
Contact an agency that assists in emergency services	36%
Wait until you have enough to pay the full amount	35%
Wait to pay double rent the next money	35%
Contact rent collections	21%
Contact Volunteers of America (VOA)	12%
Other	8%

Survey of MPHA residents (2019). Residents could select multiple choices.

[35] Given the precarious financial position of the population, that this percent isn't higher speaks to the discipline and ingenuity of residents.

Property managers and VOA do not have funds to assist residents. Instead, they provide a skilled, albeit busy, hand to navigate assistance programs. The most common tools are Hennepin County's Emergency Assistance (for families from TANF funding) and Emergency General Assistance (for single adults from Minnesota state funding). Though the eligibility criteria, population, and funding sources differ slightly, for simplicity, I'll refer to both as EGA, the more common source of assistance for MPHA residents.

EGA is available for residents with income less than 200 percent of federal poverty guidelines and in a financial crisis that poses a threat to their physical health or safety. To be eligible, residents must be employed or have a condition that prevents working. Residents may use emergency funds only once a year. Eligible eviction-prevention expenses can cover up to two months of rent plus associated court fines. The average size of the assistance for all Hennepin County recipients was $1,230 (Besst et al. 2019).

This program is a critical lifeline. From an 18-month period from 2009 to 2010, 16,500 households in Hennepin County received assistance (Besst et al. 2019). The program, however, has high administrative burdens. To receive EGA, residents must follow a rigid qualification process. Residents first do an intake interview with a county services employee. They then supply proof of their emergency (e.g., an eviction notice or rent termination warning (14-day) letter), current financial status (e.g., pay stubs, bank statements), and verification of identification and relationship to family and children (e.g., birth and marriage certificates). Workers review the information and ask about other income sources or assets. This gives frontline workers discretion to determine whether this is a one-time emergency, or id another crisis is on the foreseeable horizon.

Half of EGA applications are resolved in 10 days, but Hennepin County has up to 30 days to reject an application (Lewis et al. 2019). Hennepin County staff note that keeping a case open longer allows for residents to get in any paperwork without re-applying. Residents and providers, however, argue each additional request for paperwork for the county takes time and adds expense for residents. They also report paperwork tends to languish, creating a major impediment for a resident in crisis and about to be evicted. In 2019, half of applicants were able to access Emergency Assistance (Besst et al. 2019), while MPHA residents were rejected only around 30 percent of the time. I'll talk more about the structural features that promote this difference in the next section.

Beyond this program, MPHA rent collections provides residents with a list of other resources, but access to this funding involved long waits and funding that runs out around the first of each month (Besst et al. 2019). These actors include churches or nonprofits. As a last resort, residents can turn to predatory loan entities or loan sharks. In addition to formal establishments, resident interviews revealed buildings all have "a guy" that residents could turn to for quick cash. The going rate was an exorbitant $40 for $60 or $100 for $200. Social workers, too, shared concerns about these predatory entities or individuals, but preferred not to ask how residents suddenly came up with a few hundred dollars right before an eviction occurred. They realized the cycle of debt desperate residents were entering, but that crisis was for next month. Once behind, residents, for fear of losing future access to funds, understanding of the high interest rates, or personal safety, prioritized paying these debts first at the expense of other pressing needs.

This social services run-around is hardly unique to public housing programs or services in Minneapolis, but, for residents, it can make court feel inevitable (Lewis et al. 2019).

Going to court

Court is the ultimate enforcement of rent payment. It's the looming consequence at the end of the nonpayment funnel, one that can put residents on the street. It's an ordeal residents dread—exacting high compliance and psychological burdens. The fear of court and eviction was present in every conversation about rent and finding assistance. While the court process may not be mutable in this design-project, failing to discuss it would leave a gap in residents' experience of public housing.

If MPHA residents are unable to pay their rent after 45 days of delinquency, MPHA rent collections staff file an unlawful detainer action with the courts. Most of these court filings—96 percent in 2018—were for non-payment of rent, relative to 93 percent of unlawful detainers for Minneapolis overall (Minneapolis Public Housing Authority 2018c). When the average MPHA resident receives a summons, they owe $765 in back rent, relative to $2,000 for all tenants filed on in Minneapolis. Unlawful detainers, like evictions, go on a resident's housing record for seven years, making finding future private housing difficult. It also levels a fee of $352 on residents—or 1.3 times the average public housing rental rate of $245. The unlawful detainer fee is initially paid by MPHA to the courts. If a resident fails to repay, MPHA absorbs the costs.

Interestingly, a majority of residents filed against remain in their home a year later—around 70 percent[36] (Minneapolis Public Housing Authority 2018c). While it's wonderful that most residents remain housed, the large fine, mark on the permanent record, and harsh court experience is a high cost. MPHA staff point to the outcome as proof that

[36] Compared to 33 percent of all Hennepin County residents (Thiel 2017)

court is an effective tool to compel rent payment. Others argue that if the system were slower, many eviction actions may be avoided.[37]

Once the late payment court paperwork is filed, residents are served a court summons. Residents should receive the summons by a private process server seven days before court. If after two attempts, the server is unable to make in-person contact with the resident, they leave the summons on the resident's door. Given the multiple attempts, Legal Aid staff note that some residents, in practice, only have 3-4 days of notice before court.[38] To stay in their home, residents must then appear at the Hennepin County Courthouse. Most residents that attend their court hearing reach an agreement to stay in their home. About a third of Hennepin County residents and a quarter of MPHA residents, however, fail to appear for their date (Thiel 2017).[39] If they fail to appear, the court provides the landlord with a writ of eviction.

The ordeal of going to court, itself, is incredibly taxing. Residents start arriving at the sprawling Hennepin County Courthouse about a hour before court begins. Screens throughout the courthouse publicly display residents' names and the courtroom number for their case. To reach court, residents pass through a security checkpoint with metal detectors. A short elevator ride opens into a hallway filled with staff, landlords, and

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[37] Minnesota has one of the fastest court eviction processes in the U.S. (Lewis et al. 2019). This payment is a bizarre and costly ritual. Residents pay an additional $352 fee, have an unlawful detainer on their record, and must go through the court process, but most pay back rent to avoid eviction. Since much of the resources to avoid eviction come from public or nonprofit sources, like emergency assistance, one public sector arm is paying the fees for another public sector entity to host a court hearing.

[38] The process of notification by for-profit process servers made me uncomfortable. It's possible these servers do not make proper contact. For instance, an investigation in DC found 600 cases in "two months where two process servers filed affidavits containing discrepancies" that would have led to the dismissal of the eviction (Kaplan 2020). I did not, however, find any evidence of this at MPHA. Over the course of the work, MPHA's legal division emphasized they require process servers adhere strictly to the proper process.

[39] MPHA doesn't record non-appearances, but staff estimate the rate around 10-20% for their residents.

residents. Residents wait on benches in the hallway outside the courtroom doors. Despite the crowd in the hallway, the space is quiet. Most residents and landlords sit silently, others shuffle around uncomfortably. A few chat with neighbors about the hardships that got them there.[40]

Upon arrival in the narrow corridor, Hennepin County court staff are available to help those with questions. The staff are kind, but succinct. They let residents know they can talk to Legal Aid lawyers, though "there is no guaranteed representation for housing court." Residents interested in representation fill out a yellow form and wait for staff attorneys to assist. The judicial staff also let residents know about the county's Emergency General Assistance office that is open on the floor above. In my visits, however, it didn't open until after court began—when I asked one Legal Aid attorney about it, he responded with a shrug, "their hours are sketchy."

For efficiency, MPHA has all its cases on a single day each month. In the typical month, 20-30 residents appear on the docket. The last Wednesday of the month used to be reserved for MPHA, but the housing court docket has gotten busier. Now, around half of the day's docket is also residents of private landlords. On MPHA court days, two rent collection staff members reserve small conference rooms to reach settlement agreements. This agreement, if reached, allows residents to pay owed rent and the tacked-on unlawful detainer fee. For residents with less than two eviction actions in the last year, they can choose between two standard agreements:

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[40] Since MPHA has its own housing court day, many residents recognize neighbors. Some residents and staff shared that the public nature of court added to the psychological cost. Lewis et. al. (2019) showed similar psychological costs: "The judge, you, and them. I'm the type of person ... It's 40 people sittin' back here. I don't want everybody to know my business and what's goin' on. I think it need to be more private."

- Pay two months back rent within eight days or
- Pay three months' rent by the first Friday of the next month (~14 days).

The deal also allows them to stretch the unlawful detainer fee over three future months. For residents with two or more unlawful detainers, staff only provide the first option. MPHA staff have the discretion to terminate a lease if a tenant has two eviction actions for non-payment within four months or three times in a year —though staff note this provision is rarely used, if a resident can come up with the money.

From MPHA's perspective, the standardization of this deal improves fairness. Others view the lack of flexibility as having no humanity to it. Though not said, for staff, this routinization affords the chance to retreat behind the passive voice of the bureaucratic cloak, helping them cope with an otherwise painful moments (Soss 1999; Zacka 2017). As one Legal Aid attorney noted,

> Some of the landlords we deal with are truly evil to the core. Bad people. [MPHA] is not. But the computer has taken over. HAL[41] is in control. And it is just running down the tracks and people are hurting because of it. At some point they turned it into an algorithm. The banks [during the financial crisis] were the same way. In most cases, it wasn't some evil person behind the wheel. It was just like they turn into a machine and stop thinking about people as people.

This description notwithstanding, I frequently saw frontline staff using their discretion to benefit residents. As social science would predict, positive discretion was typically

[41] HAL is the fictional sentient computer in the film "2001: A Space Odyssey" that controls the spacecraft. When the crew tries to shut HAL down, he tries to kill them.

reserved to residents viewed as worthy (Schneider and Ingram 1993; Maynard-Moody and Musheno 2003). These tended to be regular payors, those that showed deference to staff, and had a situation that was not of their own causing. In observations and interviews, rent collections staff passed more complex cases to agency attorneys. These attorneys had more latitude to alter the default terms. Discretion was more likely to considered when an outside advocate, like a caseworker, staff member, or attorney, "vouched" for a resident's trustworthiness. By the time MPHA residents reached the courthouse, most knew their options: if you take an agreement, you keep your housing. If not, you'll need to find another place to live. In the hallway, two older, black neighbors discussed this reality—their divergent experience is emblematic of the choice residents face. The first—tall and wisp-thin with a low voice, said "I'm going to eat the court costs and be more responsible next time."

His friend in a yellow fedora and walking cane demurs—"man, I'm sick of these people," punctuating the silence in the hall by sharply tapping his cane on the hall floor. He launched into complaints about MPHA: bed bugs in his room, feeling unsafe in his building, and the preferential treatment property managers gave other residents. He ends the litany with a sigh, "I don't need no grief from this place." His neighbor nods in agreement, but adds the rent is too high anywhere else. It's the only choice. Their conversation turns to a recent altercation between two neighbors on their floor and, eventually, rent collections staff calls the tall gentlemen to discuss a settlement. He disappears into a conference room and quickly reappears with a receipt documenting a standard repayment agreement. Once court starts, he'll give the agreement to a clerk and will leave having retained housing for now, leaving for tomorrow how to fulfill the terms.

The system is designed for this outcome: an overloaded court and a legal regime that emphasizes the rights of property owners. It's also shows the conflicting mandates of MPHA: protecting vulnerable residents and maintaining a balanced budget. Residents, of course, also want to keep their housing, and the majority of those that come to court pay and stay in MPHA. But, in going to court, the system levies an extra fine, adds a mark on the residents' housing record makes the prospect of ever leaving public housing unlikely, and leaves an indelible impression of how their government views their status.

Right on time, the courtroom doors open and residents and landlords file in. A court clerk reads out renters' and landlords' names and asks them to identify themselves. If a response is slow or low, the clerk tersely reminds the participants "to stand up and answer loud." In the courtroom, most MPHA residents present are black and elderly.[42] After the roll call, the judge enters.

Two judges alternate presiding over housing court in Hennepin County. The first judge, a middle-aged white woman, speaks slowly and in plain language. She stresses residents have a right to a fair process, negotiations between residents and landlords are just that—negotiations—"meaning a two-way conversation." The approach emphasizes process and seems intent on bringing down the structural disadvantage between landlords and tenants. The second judge is an older, white male. His style is cordial, but direct. His perfunctory opening statement is a strange mix of inscrutable legalese and pointing out available resources to navigate the system's complexity—Legal Aid, social workers, mediators,

[42] Eighty-three percent of MPHA"s unlawful detainers go to black residents and 58 percent go to those 65+.

and translators. Despite the stylistic differences, they both anchor the crowd to the default: reach a settlement agreement.

Settlement agreements are indeed the default and reaching one is encouraged. This framing exacerbates the already daunting structural and knowledge disadvantage for residents. Landlords know the rules and process and are often represented by attorneys. They come prepared with offers they've learned will maximize their goals and minimize judicial scrutiny. For private landlords, this includes steep repayment schedules, loss of security deposits, and/or vacating the units quickly, sometimes in only 24 hours (Lewis et al. 2019).

Residents and landlords exit the courtroom and negotiations with public and private landlords pick up pace. Conferences take place right in the public hallway. Stories of terrible injuries, lost employment, or paying the funeral costs for deceased family members are aired in the cramped corridor. Grievances and recriminations are aired publicly. Traumas are relived. Most of these conversations happen quietly, but the hushed conversations are punctuated with an angered shout from a frustrated renter or angry landlord. MPHA staff secure the two private conference rooms for these conversations. This privacy is a small, but meaningful measure, one that preserves some dignity for residents. In the conversations I observed, MPHA staff were kind, but firm. They listen as the residents talk about their experience and commiserate with the resident's challenges, but they redirect the conversation toward a settlement agreement. Already a few hours into the day, private and public tenants alike appear exhausted. Their willpower sapped, they often accept the repayment terms offered, even if they have no idea how they will possibly meet them.

As wrenching a process as it is, MPHA has a reputation as a fair dealer. As one Legal Aid attorney joked to another, “MPHA days are kind of boring; just a bunch of nonpayment of rent cases.” The other responds, “That’s progress, right?” The first responds, “For us or for them?”

In some cases, these attorneys engage to get their client a better deal. This is more common in a for-cause evictions or when the resident claims they withheld rent because the units had substandard conditions. While residents provide a rationale for withholding payment, in cases with no documentation of unsanitary conditions, there is not too much Legal Aid attorneys can do. Both sets of attorneys know MPHA has a standard deal and they negotiate at the margins—as to the timing of the payment, for example.

Back in the hallway, the man with the yellow fedora and cane is called to talk with MPHA. His frustrations with public housing conditions, hot when he arrived, have now boiled over. Because of his frustration, rent collections staff hands the case to MPHA’s legal team. A staff attorney walks through the standard agreement. The man counters that he told the property manager about a bedbug infestation, but nothing was done. They glance through the resident’s file—which are compiled by staff before court—and finding no documentation his claim, reiterates the agreement options. He shouts, “I feel like I’m being lied to! I’m done with this place.” The attorney offers that leaving MPHA is his choice and walks through what departing means, including the unlawful detainer that would remain on his record until rent was repaid. They offer him a little extra time to find a new place.

As this happens, a hovering Legal Aid attorney overhears the discussion and interjects—asking the resident if he’d like to talk in another room. Yellow fedora and Legal Aid head

into a makeshift office. Fifteen minutes later, the resident exits the office alone and returns to the conversation with the MPHA attorney, but with no tangible progress on keeping his housing.

He seems tired but smiles each time he says he's leaving public housing; perhaps, small agency in a system where he has little. With negotiations in the same place, the MPHA attorney waives over the Legal Aid attorney who asks "Are you sure you want to vacate? You know the rent will be much more somewhere else?" The man affirms. The Legal Aid attorney lets out a resigned sigh and turns to his next client. The MPHA attorney drafts the form detailing the resident will vacate by the end of September—a few weeks longer thanks to Legal Aid's effort and the MPHA's attorney's discretion. Yellow fedora signs and waits to see the judge.

Once agreements are reached, residents and landlords return to the courtroom in pairs. Residents pass the rail, enter the well, and take a seat at a table in front of the judge, sometimes with legal aid and sometimes alone. In cases where an agreement has been reached, MPHA waives its appearance, so the other table sits empty. Besides court staff, the courtroom is empty. The clerk reads the agreement aloud to the participants.

It's Yellow Fedora's turn now. The male judge reenters the courtroom and the resident stands and removes his cap. The judge reads the agreement to vacate public housing, asks if this his choice, which the gentlemen affirms. The judge responds, flatly, "I get it. You can pick up my order at the counter. Thanks." The court doesn't mention the unlawful detainer that now rests on his record, let alone how to remove it. There is no urging to find an agreement, no discussion of how hard it will be to find housing anywhere near as affordable. The train continues down the tracks.

The gentleman, fedora still in his hands, thanks the judge, pushes back from table, and gingerly exits the room with an odd look of bemusement and relief. For him, this may be an indelible interaction with his government. For the court staff, it's another day; the judge returns to a casual conversation with his clerks—discussing what novel food they'll eat at the Minnesota State Fair this year. A seemingly irrational choice is made by a participant, but there is no pause or break. A lack of resources means a court faces of deluge of eviction actions, to which it responds by establishing rules that maximize efficiency and sterilize the experience. As the courtroom door shuts behind the resident, the judge yells at a clerk, "I got 5 minutes until the next one, right?" before ducking off to chambers.

The outcome of the day for all residents—even those that come to an agreement—is the court grants a writ of eviction. This writ is held if an agreement is reached. If a resident does not make an agreement or fails to meet the terms, MPHA sends the writ to the sheriff to "regain the property," typically around 7 days after the agreement is breached. Minnesota residents can still cure or come up with the full amount of back rent or fines owed, but this is rare (Minneapolis Public Housing Authority 2018b). In 2018, MPHA sought to execute 78 writs, and 70 households were removed. Typically, if a writ is enforced, residents have already vacated the unit and MPHA has private haulers move "salvageable" property to storage and toss the rest. The expense of the sheriff, haulers, and storage is added to the resident's bill that must be repaid to have the property returned and get the unlawful detainer expunged from their record. For a resident with the average monthly rent of $245, the total cost to cure balloons to over $1,070 by the time of eviction. Recovered units go to new residents, and the process restarts.

Choice architecture and structure

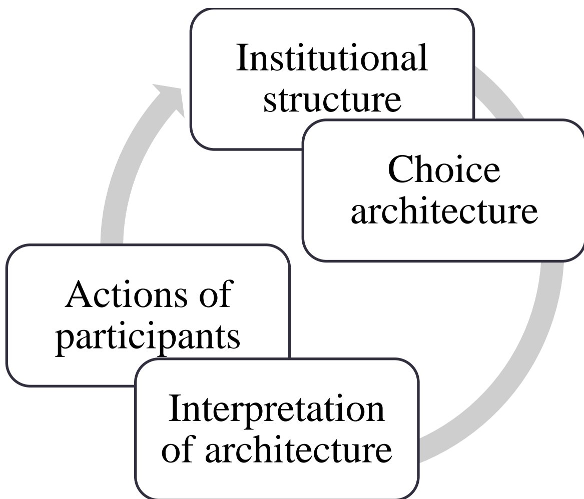
The rent collection, assistance-seeking, and court-mapping processes illustrate a range of administrative burdens and the systems that give rise to them. Procedural friction—intentional or otherwise—has an influence on public program participation, but this impact depends on the participants' understanding of the context. Participants' own perception of the "organizing context in which people make decisions"—or choice architecture—influences their response to these burdens (Thaler and Sunstein 2008). Each individual response is special to a moment in time and informed by the past, oriented toward the present, and in anticipation of future conditions. In that way, understanding how participants view the world is important to intervening effectively.

In casing this study, I found myself noticing how the context interacts in surprising ways with organization structure, changing the interpretation of available choices. This wasn't a one-time game, but the durability of institutions means residents interact with the same choice architecture repeatedly—changing both their interpretation of the structure, and, eventually, the structure of the architecture itself. Like Gidden's (1979; 1984) Duality of Structure, the organization's features are both the medium and outcome of practices.

This theory also emphasizes the importance of actors' knowledge. Humans are bounded by unconscious and unacknowledged conditions (Giddens 1984, 281) and employ three types of knowledge to navigate the world: discursive, practical conscious, and unconscious. The discursive conscious are what humans can say; the practical conscious is what we know but cannot say; and the discursive conscious is that which we are unaware and cannot access. This idea that humans "know more than we can tell" is ubiquitous across the social sciences (Polanyi 1966, 4)—from behavioral science's

system 1 and system 2 to design's typology of explicit, tacit, and latent knowledge. This knowledge helps us navigate life and is influenced by external and internal conditions, like our perceptions of peers' opinion, the time of day, experiences, and available cognitive resources. (Giddens 1984; Mani et al. 2013).

Figure 5: The cyclical nature of structure, architecture, interpretation, and action



As I've discussed, this boundedness, in part, prevents humans from being perfect utility maximizers and means that changing the extant choice architecture can improve decision-making. I've also acknowledged changing the choice architecture works best to change behavior where the individual holds weak antecedent preferences. Like a veneer, choice architecture can modify the appearance of a structure, but that underlying structure remains, exerting a powerful gravity. The structure is endowed with a complex social context that is influenced by endogenous and exogenous forces beyond the mere individual—namely, those at the organizational (meso-) and policy field (macro-levels) (Moulton and Sandfort 2017). Therefore, any change we make to the choice architecture is neither landing on virgin soil, nor is it interpreted by participants apart from that structure (Bason 2017; Madrian 2014).

It also implies interventions imported from other contexts to address biases may have unintended impacts when set in a new context. The quest for generalizable, evidenced-based solutions struggles with this problem (Cartwright and Hardie 2012). For some promoters of evidence-based practices, the core problem of policy diffusion is constructed as a technical one of "controlling 'replication' and reducing confounding factors." (Sandfort and Moulton 2019, 2). This is one critique of the empiricism that underlies economics and the nudge movement. At times, insufficient care is taken in experiments to identify the why, when, and to what extent interventions may work (Davis et al. 2015; Szaszi et al. 2017). As Szaszi et al. (2017, 364) concludes after a systematic review of 422 nudges, "the field is greatly limited in its ability to provide process level explanation of these interventions and to summarize their boundary conditions; therefore, the effectiveness of the different interventions across different domains of applications cannot be predicted." In other words, if we aren't thoughtful, we may miss structural features that make it less likely the mechanism will replicate. Even in cases where, in the abstract, the literature has shown that a behavioral intervention ameliorated the negative outcomes of a cognitive error for a similar population, assuming similar effects in a new setting misses lessons from implementation and design science on how to intervene in complex social systems (Fligstein and McAdam 2012; Colander and Kupers 2014; Ansell 2011).

Through my review of the literature and experience in this design process, I found failing to take structure into sufficient account can create three classes of problems: 1) misunderstanding the cognitive error residents made (interpretation); 2) missing how the choice is influenced by learning from system features (influence); and 3) failing to

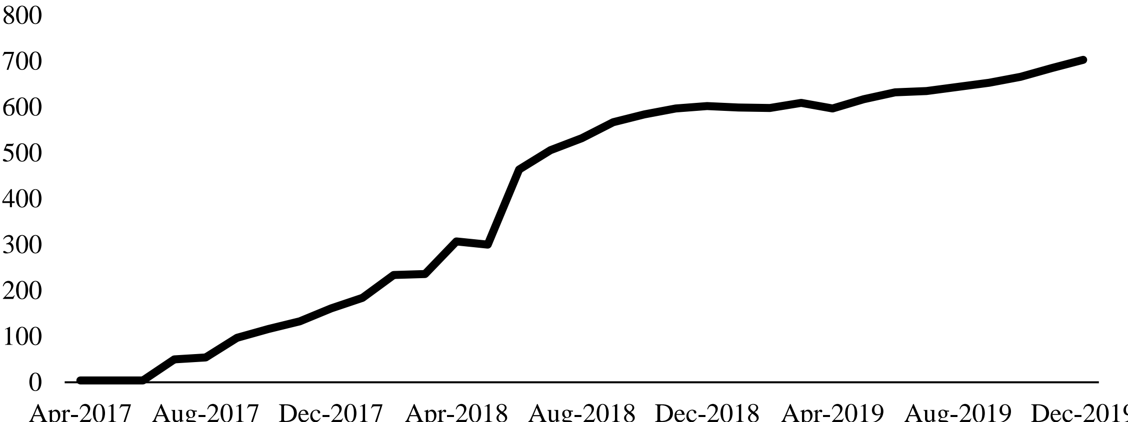
consider unintended consequences if we try to institutionalize a change (implementation). By misplacing the error's source, designers may intervene in ways that do not address it.

I'll examine these features in three brief examples. In each, we see how, in the case of Minneapolis Public Housing, the arrangement of structure can mitigate or exacerbate the barriers to accomplishing residents self-defined goals (see Table 8).

Automatic withdraw

Since 2015, MPHA has offered the opportunity to sign up for a free automatic withdraw rent payment program. Despite the convenience, most residents still pay each month by mailing in a check or money order. In the fieldwork, the most common reason I heard for low sign-up rates was lack of salience. While many residents were unaware of the programs, others believed automatic withdrawal was a one-time pilot and new participants could no longer join. Staff, however, were surprised by this notion; they believed their initial implementation was clear the program was ongoing. This was not, however, well understood by frontline staff and residents. The obvious and simple intervention is a letter notifying residents of the program.

Figure 6: Automatic participants over time MPHA



MPHA administrative data (2019)

We know, however, that residents use multiple schemas to assess their options and the mix employed varies widely between residents. While a low-cost notification may be beneficial, interviews revealed that salience alone doesn't explain low uptake. For some residents, they have a trusted method of payment—a routine they have faith in. Any change in this routine, in their mind, increases the chance of an error that puts their housing at risk. One elderly tenant shared she would love to not have to remember to pay every month, but she liked the peace of mind of seeing Social Security come into her account and mailing a money order. "I think as we get older, we don't trust the system. And we really didn't do much with computers. So, I don't know if the trust is there."

Her interview and others like it revealed a lack of understanding of how the program worked. In the face of this ambiguity, rumors of program failings were common. Many interviewees relayed stories they heard from neighbors where automatic withdrawal pulled money from an account too late or too early, leaving the participant with unpaid rent and an insufficient funds fine. In my effort to proactively find solutions, I asked residents for more details about the errors. When pressed, the stories often didn't seem

plausible or were inconsistent. When I asked MPHA's finance staff, they confirmed these events were relatively rare. The rumors of riskiness, however, were a meaningful impediment that a salience-targeting nudge alone may not be enough to overcome residents' fear.

This was common feature of many the facile solutions to behavioral biases. Efforts by MPHA—particularly those by faceless central office "pencil pushers"—were viewed with suspicion. Nudges are interpreted through previous interactions with the nudger. "If decisionmakers distrust the benevolence and competence of a choice architect they will tend to be skeptical of the options the architect appears to endorse." (Krijnen, Tannenbaum, and Fox 2017, 5). The antecedent lack of trust for the agency may mean they won't take-up a valuable program. To change behavior, tactful discussions with trusted agents are needed.

For those that signed up for automatic withdrawal, interviewees reported they did so on the advice and with the help of frontline bureaucrats. Importantly, these residents had routines that put them in contact with staff, such as picking up odd jobs in the building, participating in resident council, or hanging out in common areas. As trust builds, staff encouraged participation in automatic withdrawal for those it may help. This relationship shifts the schema residents use to categorize automatic withdrawal, better aligning their actions with their long-term self-interest. One Somali property manager that oversaw a building with a large East African population had a strong bond with many of her residents and used that capital to motivate change. If an oft-late-paying resident brought in a checkbook to pay, she would say, I don't want you to stress out about whether MPHA is getting it. If they agreed to participate, she'd help them complete the

paperwork. This suggested any notification to resident needs to be combined with encouragement to VOA and MPHA staff to help residents complete the work.

Given the challenges of motivating active change, a more paternalistic approach would be to make automatic withdrawal the default payment for eligible residents. In fact, this was a recommendation from the multi-national Behavioral Insights Team[43] to MPHA when they provided a brief, pro bono consulting service to the agency in 2018. Given the context, however, it has little chance of successful implementation and was never under serious consideration. In addition to not trusting the agency to get it right, residents shared that overseeing their own money was important to them. For residents whose behavior is constrained by the system around them, their small discretion in monthly spending was meaningful. To them, changing the default to automatic withdrawal would take that freedom. For some, it may signal that MPHA does not believe they have the competence to pay their own rent. Indeed, many residents worried the voluntary automatic withdrawal program was the first step towards a mandate. If this default was instituted, it may only further undermine trust in MPHA.

Late payment reminders

If a resident hasn't paid rent by the 14th, MPHA sends a late payment reminder that starts:

> **NOTICE OF LEASE TERMINATION FOR NON-PAYMENT OF RENT/RETRO**
>
> Dear MPHA Resident:

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[43] For more about this organization, see: https://www.bi.team/about-us/

> MPHA is terminating your lease on March 29, 2019 because you owe $259 in rent as required by your lease in Section 4B, 11.B.1 & 13.3. Your unpaid rent may include monthly or retroactive rent but does not include other charges you may owe. MPHA will withdraw the lease termination if you pay all past rent by 4pm on March 29, 2019…

This is typical of government compliance letters. While the words may be true, they elicit fear and confusion. Good design is robust to prevent—and certainly not promote—errors (Norman 2013; Mullainathan and Shafir 2013b). The intent of the letter was to effectuate rapid payment, but every resident I interviewed, instead, shared the dread they felt when they received the letter for the first time. One property manager with a large refugee population said:

> It's just a warning letter. It doesn't do anything, but the words they use can trigger a lot of stress. You have to understand that most of [my] clients came from countries with wars. They have a lot of trauma. They have a lot of mental illness. Letters like that can trigger trauma. I have tenants that may have paid their rent on [the due date], but it didn't get to rent collection on time. Now, this letter was sent. The tenants get it and they come in [my office] literally shaking. I have to calm them down and say, "Listen, this is just the warning." But whoever read it to them said it says you are going to be evicted.

Residents are left to wonder, is it too late? Is there any point of paying? This fear produced differing and multiple responses. Some flew into a flurry of activity, running to resources they trusted. Social workers, fellow residents, and property managers were key to calming the fear and prompting action to save housing. One resident noted, "I have one

lady that was really in a crisis. She was crying and came to my apartment and I said, ‘No, read it. It’s telling you that you have to the end of the month to pay…They’re giving you time. Don't worry, you have time [to pay].’” Engaging with this resource shifted the initial understanding of the received choice architecture.

For other residents, their response was to freeze. Just like Annette, from the introduction, put it, “I was in a panic because I didn’t know what to do. I didn’t know where to turn. And I just kind of ignored it. I just was that hoping it would go away.” At first blush, waiting is irrational. In a system quick to punish non-payment, the worst response is to delay. By the time a resident receives the rent termination warning (14-day) letter, they are 30 days or fewer away from a court hearing and fine, while it can up to 30 days to get rental assistance itself. This inclination to ignore bad news and expect is referred to as optimism bias or ostrich effect, biases that are exacerbated by conditions of scarcity (Mullainathan and Shafir 2013b; Haushofer and Fehr 2014).

For the residents that freeze, the institution created another resource. Rent collection staff monitor non-payment and share information about those behind with the frontlines. These staff call and knock on doors, particularly for those residents that are not frequently late on rent. As it gets closer to the court date, staff also reach out to neighbors, family, and caseworkers of the delinquent resident to see what can be done to prevent an eviction action. If we recall Annette’s story in the introduction, an attentive property manager noticed she was behind and reached out to her personal care attendant. “I consider myself to be lucky because a lot of people don’t have that safety net… If it wasn’t for that that fact…” before trailing off.

While some of these biased responses were obvious, others were more difficult to see. After repeatedly hearing about the negative outcomes associated with the 14-day letter, I worked with MPHA to redesign it and convened a resident focus group to review the changes. To my chagrin, they detailed meaningful context I missed. As focus group members shared their feedback about the letter with others in the room, it became clear they were interpreting the words through their impressions of the sender. Like automatic withdrawal, their past interactions with MPHA weighed heavily on the understanding of the message. For this reason, many saw the letter as a tool to bully residents into paying; they believed fear was the point. When asked to point to passages they found to be intimidating, they connected seemingly neutral phrasing with their past interactions with the agency.

For instance, in a 14-day letter draft reviewed by residents, I followed the literature in indicating payments go to repairs that improve the building. Residents responded harshly to this suggestion. The group found that suggestion “demeaning” and “discriminatory”. In this way, benign words combined previous resident interactions with staff to absorb a hostile attribution, a hereto missed bias (Nasby, Hayden, and DePaulo 1980).

Unlike the intent received by residents, MPHA’s intent was not intimidation. Instead, it was a federal requirement mechanized by the bureaucracy and routinized over time. HUD only requires housing authorities sends a notice of termination; it does not specify the contents. MPHA created a compliance-driven letter. With an average of over 800 households late each month, central office staff got used to them. When asked, staff didn’t believe reactions to the letter were related to any fear or confusion, but “due to this pattern [residents] have established for themselves.”

This reaction by street-level bureaucrats is documented in the literature. Public sector workers often move towards residents to provide them meaningful support in times in need (Tummers et al. 2015; Jilke and Tummers 2018). As they do, the

> Behaviors associated with low executive functioning[44] (poor planning, lack of initiative, missed deadlines, etc.) can prove frustrating to state actors who may easily confuse such behaviors with lack of motivation or laziness, which may, in turn, lead them to categorize citizens as undeserving. Such negative categorizations make it easier for state actors to rationalize imposing burdens and maintaining rules and requirements that they might otherwise relax for someone they perceive to be trying harder." (Christensen et al. 2020, 4).

In this way, the choice architecture is the most difficult to overcome for the most vulnerable. The scarcity-induced behavior creates the perception of undeserving poor, obviating the need to make changes. The design-based approach was able to identify schemas that impeded change. To motivate change, organizational participants need to reflect and learn. In the final section, I'll discuss how the design-based approach facilitated momentum to create a new letter.

Emergency assistance

In the first two examples, paying attention to structure revealed new interpretations of and influences on cognitive errors, as well as identified implementation considerations. In some cases, the organization structured architecture—intentional or otherwise—that led to biases that undermined residents' progress. In other cases, the institution's public

[44] Executive functioning is defined as the ability to "engage in purposeful, goal-directed, and future-oriented behavior." (Suchy 2009, 106).

mission facilitated choices that advanced goals. The latter is the case in helping residents navigate Hennepin County's Emergency General Assistance (EGA) program.

MPHA uses staff and fellow residents to be the early warning system for tenants in need. To build resident leaders, MPHA provides an allocation of funds to highrises for an elected building council to plan communal activities and services. These social events create networks and knowledge amongst residents.[45] Given the resident council's position, other residents see them as resources and look for them in times of need. The responsibilities of the council members put them in increased contact with staff, building trust and helping to dispel myths. This helps dampen the ever-present resident rumor mill that ascribes motives to even the most routine administrative actions. As one long-time resident that recently joined a council put it, "the more I got involved with Resident Council, the more I realized that, if you express your concerns, [MPHA] will try to address them. They're better than you assume."

Council members, social workers, and property managers engage with residents to help to raise the salience of resources available for residents in need. There are residents—especially those without the routines that put them in touch with staff or residents—unaware of the availability of these services. In mapping potential interventions, one idea was to increases salience of emergency resources that may be valuable. Interrogation of how residents apply for assistance, however, raised concerns of whether notification alone would be enough.

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[45] This is an example of a "Think" strategy. See the Nudging and design section for more discussion.

As noted in the process section, EGA requires residents in a crisis to complete detailed paperwork proving eligibility. Residents first do an intake interview with a county services employee. In the intake, program staff ask intrusive questions that can exact psychological costs. After the interview, residents must supply more paperwork. In many cases, residents are unable to complete the process or, having interacted with EGA in the past, are unwilling to go through the experience again. “[MPHA] wanted me to go to county and apply for emergency assistance, but I did that four years ago. They were not nice. Very rude. I told MPHA, I’m not going down there; I wasn’t going to do it.” When asked to talk more about the experience, the resident added, “The lady threatened me. She told me you know we’re going to take over your finances. I said you’re not touching my money. I’m very independent.” Though the resident was eligible for help, she refused to go through the process again, instead finding a member of her church who was able to assist with paying back rent.

Taken in the context of the population, failure to start or complete the process is unsurprising. In public housing, half of residents live on less than $10,000 annually and 80 percent of residents are elderly, disabled, or both. Staff and residents had stories of themselves or neighbors with injuries, memory loss, mental health episodes, or addiction that prevented timely payment. These periods of permanent or temporary diminished executive functioning all humans exhibit under conditions of scarcity can make it difficult to engage in “deliberate thought processes such as forming goals, planning ahead, carrying out a goal-directed plan, and performing effectively.” (Dean, Schilbach, and Schofield 2016, 6), with the impact of poverty on cognition the same as going a full

night without sleep (Mullainathan and Shafir 2013b). In that way, the factors that give rise to the need for help are the same that make it difficult to overcome burdens.

Frontline staff, in particular VOA, are familiar with the conditions of scarcity and advocate in the agency to put in place resources to help residents. To help navigate EGA, MPHA used their institutional clout to push Hennepin County to accept a 14-day letter as a proof of emergency. While this sounds small, it means removing one more roadblock to getting help. By comparison, private-sector residents often can't get this paperwork from the landlord until they receive a court summons (Lewis et al. 2019). In those cases, MPHA residents have 30 extra days to seek EGA.

Reducing procedural frictions can increase the chances residents apply. Process mapping, however, revealed few residents seek EGA by themselves. Social workers encourage application, help residents collect the needed paperwork, fax in the form, and sit with them during an interview with county staff. As one social worker put it, "We usually fill [the EGA] form out. Most people aren't comfortable [completing it alone]... Any situation that they think they're going to have to battle with the bureaucracy, they're going to try to avoid it." Social workers also use their positionality to advance the claims of residents. If Hennepin County workers request new paperwork or the process stalls, the workers can give the county a call and negotiate on behalf of the residents. If the EGA paperwork is delayed and a resident is about to receive an eviction action, they often ask property managers and rent collections for an extension so the assistance can finish processing. For one highrise residents, VOA social workers made the EGA process feel "pretty seamless."

For low-income tenants without access to social workers—like those in scattered sites, on section 8, or without a subsidy—they viewed the EGA process differently. In two illustrative interviews of those residents completed by Lewis et. al, (2019), one shared “It's always demeaning because they act like it’s something that they're giving you out of their pocket and you have to explain why you need it, what brought you to needing it, and if they really, really want to help you.” Another noted, “I had to give everything but blood to show why I needed to get that assistance.” There was correlative evidence of this disparity with MPHA residents faring better than other low-income Hennepin County residents.[46] From 2017-2018, only 31 percent of MPHA residents were rejected for EGA, compared to more than half of residents county-wide (Hedin 2019). The public mission of MPHA leads to investment in these structures that preserve housing in a way in which private landlords may not be incentivized. For MPHA, the default position of finding a way to keep residents in their homes creates the formal and informal schemas to maintain housing. This mission of public service is a powerful mobilizer for making it easier for residents to pay rent, get help when they need it, and find agreements to avoid evictions.

Table 8: Individual-level behavioral biases and relation to structure[47]

Example	Desired action	Inhibiting bias/schema	Diagnostic mistake type	How organization may act to overcome failing schema
Automatic withdrawal	Sign-up	Lack of salience	Implementation	Simple, clear notification by organization
		Status quo bias	Interpretation	Change notifications to encourage implementation intentions

[46] In addition to procedural frictions, an impediment for non-subsidized renters is their current rent must be deemed affordable, or less than 70 percent of their income. For MPHA residents, this isn’t a consideration.
[47] Examples of the automatic withdrawal and 14-day letter can be found in Appendix 5 andAppendix 6, respectively.

Late payment reminder	Pay rent or seek help	Ambiguity aversion	Influence	Enhance ease; engage staff and peers to support sign-ups
		Optimism bias	Interpretation	Reshape choice architecture on notification; improve tools for staff to engage early in the late rent process
		Hostile attribution	Interpretation	Emphasize procedural justice in notification and in outreach to resident and staff
		Locus of control	Influence	Ease process and reframe the choice architecture in notifications to emphasize action
Emergency assistance	Complete application	Salience	Interpretation	Mass notification on program availability and how to get help
		Scarcity	Interpretation	Enhance available assistance for staff to assist in application completion
		Inertia	Implementation	Encourage and educate residents to ask staff for help earlier in process

Summary and implications for nudge experiments

In these three examples, we see how important understanding the context is to identify, influence, and implement solutions that reduce behavioral errors and improve residents' self-defined outcomes. The schemas, resources, and routines play a role in how a resident understands and reacts to the extant choice architecture. In this context, it's plain how heavily scarcity weighs on a potential intervention, as well as frontline staff's understanding of the problem and their role in the outcome. In the next section, I will discuss efforts with two experiments to validate the impact of changes identified through the behavioral design process, before returning to how the design process created change.

Chapter 5 - Nudges to reduce eviction actions

Introduction

For this work, the effort to integrate behavioral science and design isn't just theoretical, but also practical. The mixed-method approach that identified the theoretical importance of burdens and structuration also helped identify and co-create behaviorally-informed interventions to reduce eviction actions in public housing. The underlying method identified a range of system choke points, or places where residents suspected cognitive biases created negative outcomes. I worked with Minneapolis Public Housing Authority (MPHA) staff and residents to winnow these ideas to two valuable and viable interventions: an automatic withdrawal notification and a redesigned lease termination warning (14-day) letter. This chapter will explore the two nudges, while Chapter 6 will talk about how the organizational structure needed to shift to allow for the nudges.

The larger purpose of this dissertation is to interrogate how integrating the methods and logics of the behavioral science and design-based literatures may improve public outcomes. In that way, the experiments described in this chapter were designed to help the organization assess whether an intervention was effective and encourage change through experimentation. Though it's possible to create generalizable knowledge through field experiments, sample size and organizational limitations means this study was not designed to tests mechanisms or moderators of behavioral biases;[48] instead, these remedies were designed to meet the context and organizational arrangements of MPHA.

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[48] While the experiment cannot make causal claims about the influence of moderators and mechanisms, the qualitative work tells us a lot about these features. This is a strength of mixed-method approaches and is meaningful for understanding how the results may generalize to other settings.

Literature review

In Chapter 2 and elsewhere, I covered the use of behavioral nudges to improve participant outcomes, but I will briefly review key elements related to design and implementation of these experiments. The bounded nature of humans means we make choices at odds with our self-defined long-term interest (Kahneman 2003; Thaler and Sunstein 2008). While we make seemingly irrational choices, the extent of our boundedness is heavily influenced by environmental conditions. When we are busy, hungry, or impoverished, our brain orients its focus on these pressing deficits, at the expense of long-term decision-making (Mullainathan and Shafir 2013b; Christensen et al. 2020). For those interacting with social safety net programs, including public housing residents, poverty is a given. Under these conditions of scarcity, welfare programs add administrative burdens that residents must overcome to get or keep assistance. This decreases participation. Even small changes to design of welfare programs, when thoughtfully developed, can, however, reduce procedural frictions and increase participation. In this way, the altered choice architecture better aligns near-term actions with long-term interest (Thaler and Sunstein 2008; Herd and Moynihan 2018). These behavioral techniques, called nudges, help overcome burdens in a wide range of citizen-government interactions.

As Madrian (2014, 678) notes, "individuals care not just about their own behavior in isolation, but evaluate it in a social context, that is, in terms of what others around them are doing and the judgments others may pass on their behavior." It is, therefore, imperative to understand how individuals make choices in a time and place. In the case of MPHA, the design-based approach identified a range of potential nudges. Two of these

appeared to have value for the self-defined interest of participants, were viable given organizational constraints, and were amenable to an experimental trial: notifying residents about an automatic withdrawal program and altering the 14-day lease termination notification letter.

Contextual setting and intervention design

MPHA's automatic withdrawal program was started in 2017 and allows rent to be automatically removed from residents' bank accounts on the fifth of each month. As of December 2019, only 12 percent of residents participated in the program. A resident survey, however, showed nearly 50 percent of residents would be interested in paying for rent electronically. For most residents, paying rent involves remembering to pay, purchasing a money order and a stamp from the bank or post office, and mailing it to MPHA. These compliance costs were meaningful for many, particularly for vulnerable and cognitively-taxed residents. It also exacted a psychological cost that the check would arrive on time to MPHA. From MPHA's perspective, this program meant less processing time for staff, mailing fewer reminders, and receiving rent earlier. While beneficial for both sides, MPHA staff were surprised to learn from surveys and interviews many residents did not know about the program or thought the sign-up period had ended.

On those merits alone, the program offers value. But automatic withdrawal also represents a default change—moving from needing to act to pay rent to needing to act to not pay rent. Since there is no penalty to late payment until unlawful detainer receipt on day 45 of delinquency, some residents shared they held on to their rent payment to buffer against emergencies. This sometimes resulted in a strategy of doubling their rent, meaning they would pay one month back rent and current rent at the same time. If they

make this second payment on time, there is no penalty. In many ways, this is a rational response. The action, however, places residents near the precipice of eviction. For instance, one could imagine a resident loaning money to a child that promised to repay soon; if their child comes up short, a resident may be two months behind and staring down an additional $352 fine to avoid losing their home.

Creating a default forces rent payment early in the month, meaning it is no longer in the account to be spent. Under scarce conditions, the need to pay future rent can be an abstraction compared to very real current needs. Indeed, medical or family emergencies do come up for which the money earmarked for rent may be needed. But, when the rent money is in the account, resident interviews and past research suggested residents may also shift the definition of what constitutes an emergency. (Mani et al. 2013; Mullainathan and Shafir 2013b; Christensen et al. 2020; Spears 2011). MPHA residents mentioned spending money rent funds on funerals, Christmas gifts, or helping friends in crisis; all reasonable activities, but those also undermine residents' self-defined desire to maintain their housing. In establishing automatic withdrawal that pulls payments early in the month, the intervention can "[create] situations in which spending is often the safest way to save." (Bertrand, Mullainathan, and Shafir 2006, 15).

The second intervention is a revision of the 14-day lease termination warning letter. This notifies a resident they are 14 days behind on rent and will be served with a court summons and fine in 30 days, if they do not pay. The letter, however, reads more like an eviction notice than a warning. In interviews, this letter was universally described as eliciting "confusion," "fear" and "despair." In response to this letter, many residents report simply shutting down, believing eviction was inevitable (For more details on

residents' reactions to the letter, see Chapter 4.) In a system that rapidly punishes nonpayment, but takes time to produce assistance, delays have consequences.

While good design seeks to prevent errors in decision-making, poor design can accentuate them. To remedy bad design, the behavioral sciences offer a rich literature. In this work, I relied heavily on Faulkner et al.'s (2018) INSPIRE framework (Table 8). This method was designed for written communication and seemed to offer solutions to problems described by system participants for the two selected experiments.

Table 9: INSPIRE framework for improving written communication

Technique	Description
Implementation intentions	Make plans clear and ask participants to commit to an action
Norms	Use comparisons to appropriate behaviors to prompt action
Salience	Make important messages stand out to target audience
Procedural justice	Emphasize a fair process and respectful treatment
Incentives	Receive benefit or consequence to motivate behavior change
Reputation	The credibility of the source of information is an important factor
Ease	Make complying with instructions easy

Adapted from Faulkner et al. (2018)

For the automatic withdrawal intervention, the iterative, qualitative design work suggested salience, incentives, and implementation intentions, may bridge existing biases to sign-up (notification letter is available in Appendix 4). Salience is the degree to which residents have knowledge available for use (Fiske, Morling, and Stevens 1996); naturally, it's difficult to sign-up for a program of which you're unaware and simple reminders can lead to increases in positive actions (Bhargava and Manoli 2015).

The letter is also designed to promote the creation of implementation intentions, or "if-then" plans that allow residents to visualize a path to a new behavior (Gollwitzer 1999; Conner and Higgins 2010). To quickly explain the reasons for sign-up, the letter starts with a short, bullet-pointed list that bolds benefits to residents (Szaszi et al. 2017; Balz, Sunstein, and Thaler 2014) and uses a colored set of boxes to create an action-oriented plan. The first box in the checklist is complete, which is targeted to help overcome inertia. Similar to salience is ease—making change easier enhances the chance it will happen (Bertrand, Mullainathan, and Shafir 2006; Thaler and Sunstein 2008). Putting important information first, keeping text at an appropriate reading level, and using clear instructions and active voice enhances the likelihood to change (Faulkner et al. 2018).

For the 14-day letter, I focused on enhancing ease, procedural justices, and incentives (Appendix 6). The new letter clarifies the responsibilities for residents. To reduce friction, it uses action-orientated language arranged in a readable fashion, including pop-out boxes to summarize action (Bettinger et al. 2012; Fitzhugh, Park, and Nolan 2018).

Another feature shared in resident focus groups was the importance of respectful language, which they felt was lacking from agency communication. This idea of fair treatment aligns with the concepts of reciprocity and procedural justice (Fitzhugh, Park, and Nolan 2018; Lind and Tyler 1988). "Reciprocity means that in response to friendly actions, people are frequently much nicer and much more cooperative than predicted by the self-interest model." (Fehr and Gächter 2000, 159). This follows the lessons of a tax-compliance study that found letters to late taxpayers emphasizing fairness yielded higher compliance (Wenzel 2006). The revised MPHA letter acknowledges it can be hard to

pay, but when you signed your lease you agreed to pay rent on time, presenting a firm, but fair reminder of the compact between the agency and the resident.

Residents also shared a feeling of helplessness that can overcome them when they receive the 14-day letter. The letter gave the sense an eviction was a "foregone conclusion." The new letter attempts to return a sense of agency to residents ("It's not too late to save your housing"), but also notes the clear incentive to action or disincentive to inaction.

Table 10: Biases and potential actions

Example	Desired action	Inhibiting bias/schema	Approaches to change to address error
Automatic withdrawal	Sign-up	Lack of salience	Improve program salience
		Status quo bias	Emphasize implementation intentions
		Ambiguity aversion	Enhance ease and make call to action clear
Late payment reminder	Pay rent or seek help	Optimism bias	Make clear negative incentives for inaction
		Hostile attribution	Emphasize procedural justice
		Locus of control	Give agency by easing process and encouraging a sense of procedural justice

From this context, I defined and pre-registered[49] two hypotheses:

[49] Pre-registrations at: https://osf.io/8qnys; https://osf.io/3udw8

Hypothesis 1:

Buildings that receive behaviorally-informed automatic withdrawal notifications will have increases in automatic withdrawal sign-ups and increases in on-time payment,[50] relative to buildings that don't receive the notification.[51]

Hypothesis 2:

Residents that receive a revised lease termination warning letter (14-day) will have a decreased likelihood of receiving a second late-payment notice and decreases in eviction actions relative to residents that receive the original late payment reminder.

In line with these hypotheses, there is also an interest in exploring how these nudges may be affected by building features and subpopulations. As discussed, behavioral responses are informed by the past, oriented toward the present, and anticipating of future conditions. There may be ways in which certain types of residents may have a different response to administrative burdens or interventions intended to reduce them.

Research design

Data

MPHA collects and maintains a wide range of administrative data on residents. Self-reported data on household characteristics is collected from residents at entry to housing, annually or bi-annually at recertification, or any time income or housing composition changes. Rent payment or non-payment is collected monthly by staff and entered in an

[50] I measure on-time payment by receipt of 14-day notification or an unlawful detainer warning letter.

[51] Theoretically, we'd expect positive impact on eviction actions, however, we do not expect to be able to detect that effect given the sample size and relative rarity of evictions.

accounting system. Frontline staff separately tracks mailing of 14-day lease violation notices and unlawful detainer warning letters in Excel documents. MPHA provided data for those who lived in publicly-owned units from the period January 2018 to March 2020. The files were merged on unique household identifier. As all elements are required each month and frequently verified, the administrative data is relatively complete and accurate.

While MPHA tracks data on all household members, the housing unit is tied to the Head of Household (HoH). Additionally, most households only have one member (77 percent). For simplicity, I used HoH for many of the demographic characteristics and household for income and size. The population of public housing tends to be elderly (61 percent of HoH) and disabled (60 percent HoH). The average resident has lived in MPHA for nearly eight years with about a third living in housing for 5 years or fewer and nearly half longer than 15 years. Most HoH's self-report as Black (75 percent) with white the second most common race (17 percent); self-reported Hispanic or Latino ethnicity is low (2 percent). Nearly half of HoHs were born in a country other than the U.S, with Somalia the most common country of origin. The population is poor, with an average household income of $15,200. Only 17 percent of residents have wage income, while 42 percent have welfare income (TANF or General Assistance) and 74 percent use Social Security.[52]

About 85 percent of resident live in highrises. These buildings differ in size—ranging from 27 units to 325 units. Of the 42 total highrises, 13 are designated for elderly residents and eight have assisted living programs. Residents are sorted in building by availability of units and the needs of the household. Upon acceptance to public housing,

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[52] Administrative data had two forms of Social Security: those for elderly and disabled and those for immigrants. It appeared those categories were used inconsistently by frontline staff. For this reason, I aggregated it into one category.

residents can decline one apartment offer, but must accept the second or return to the waiting list. For those reasons, buildings tend to attract similarly-situated residents. For instance, the highrise with the oldest occupants has an average age of 75 and the youngest has an average age of 51. They also differ in country of origin—in one building 95 percent of residents were born outside the US, while in another only seven percent were. Because of the sorting, buildings differ in income source and level, disability status, and likelihood of eviction actions. This sorting allows MPHA to concentrate social workers, staff with language proficiency, and other resources for vulnerable populations.

Table 11: Data and sample

	Frequency	Percent	Mean	SE	Minimum/Max
Age (HoH)			62.88	15.29	19/105
Household members			1.63	1.58	1/15
Years living in MPHA			7.71	4.26	0/25
Elderly (HoH)	3,501	61.4%			
Disabled (HoH)	3,392	59.5%			
Migrant (HoH)	2,593	45.5%			
Race (HoH)					
Black	4,332	75.9%			
White	972	17.0%			
Asian	310	5.4%			
American Indian	78	1.4%			
Other	13	0.2%			
Hispanic or Latino (HoH)	119	2.0%			
Household income					
Gross income	5,705		$15,198	$12,780	$0/$120,517
Wage income	1,716		$6,321	$14,245	$0/$120,517
Welfare Income	3,133		$594	$1,123	$0/$12,720
Social Security	4,203		$7,714	$5,200	$0/$39,000
Other income	733		$515	$1,511	$0/$34,987
Live in a high-rise	4,829	84.6%			
Live in scattered site	876	15.4%			

For income, frequency refers to residents with any income from source. Mean includes all residents, including those with zero income from the source. In later sections race and hispanic/latino are combined into POCI.

Source: MPHA administrative data (December 2019)

In addition to buildings, MPHA operates around 950 single or multi-unit family homes (called scattered sites) throughout the city. These HoHs are younger (average age of 46),

have higher income ($22,240) and tend to have more household members. From interviews, these residents prefer homes because the added space for kids.

The different building types—scattered site, highrise, and elderly-designated—are meaningful because they offer different community and building resources. My qualitative work showed individuals in highrises seem to have much more contact with social workers and property managers who can help identify resources in times of need. They also benefit from connections to other residents when they are trying to understand a notification or need help with an expense. Residents that live in scattered sites tend to be more disconnected; this, combined with a high reliance on wage income and other demographic factors, may make them at risk—residents in scattered site were twice as likely to get an unlawful detainer in a given month than those in highrises. In practice, the non-random sorting makes it difficult to understand if it is a lack resources, household characteristics, or a combination of the two that puts residents at risk of eviction actions.

Measures

For MPHA's Eviction Prevention team, the ultimate outcome of interest is, of course, eviction actions. Eviction actions include both unlawful detainers (and an associated $352 court fine) and, if the fine and back rent is not paid, an eviction from the unit. Eviction actions are relatively uncommon events (with a total of 98 evictions and 325 unlawful detainers in 2018). Given the size of the population and infrequency of the event, the Eviction Prevention team also monitored more common and timely proxies: the 14-day lease termination letter and the unlawful detainer warning letter. As residents must receive the notifications prior to eviction, they act as early indicators for eviction actions.

In each case, sign-up for automatic withdrawal is correlated with a decreased likelihood to receive a notice or unlawful detainer (Table 12).

Table 12: Frequency of outcome measures

Measure	Type	Count of residents	Percent of residents	Standard deviation	Correlation with AW
Automatic withdrawal (AW)	Binary	703	12.3%	0.33	1
14-day letter receipt	Binary	654	11.5%	0.32	-0.13
Unlawful detainer warning letter	Binary	228	4.0%	0.20	-0.06
Unlawful detainer	Binary	21	0.4%	0.06	-0.02

Source: MPHA administrative data (December 2019). AW = automatic withdrawal

Controlling for observable characteristics and building-level differences, unlawful detainer receipt has a significant, negative relationship with a resident ever having signed-up for automatic withdrawal. Between Jan. 2019 and March 2020, only 1.7 percent of residents who had ever made an automatic withdrawal payment received an unlawful detainer in a given month, compared to 4.9 percent of those who had not. This relationship is only correlative, as there are likely important, unobservable characteristics associated with sign-up. That said, making payment the default may be associated with reductions in evictions, and automatic withdrawal reduces cost for residents and MPHA.

Implementation of random assignment

The two interventions targeted current residents of MPHA. Each month, MPHA mails the 14-day letter to each resident who has not paid rent by the 14th of each month. For automatic withdrawal, all residents were eligible to receive a notification to sign-up for

automatic payment.[53] The forms were distributed by staff to residents in their mailbox or attached to clipboards on resident's doors. For scattered sites, notifications were mailed.[54] These mailings took place in late December 2019 and mid-February 2019, respectively.

Randomization occurred in different ways for the two experiments. For the automatic withdrawal notification, I randomized the 42 highrises and 950 scattered sites. For the latter, I grouped units into six clusters, based on shared or adjacent zip codes. This form of cluster randomized trial are widely used in the social sciences—for example, where people are nested in geographic areas or classrooms (Hayes 2009; Conner and Higgins 2010; Jitendra et al. 2015; Jilke, Lu, et al. 2019; Chandar et al. 2019). This randomization was practically easier for MPHA to implement than individual-level randomization, and it also limited contamination effects between conditions.

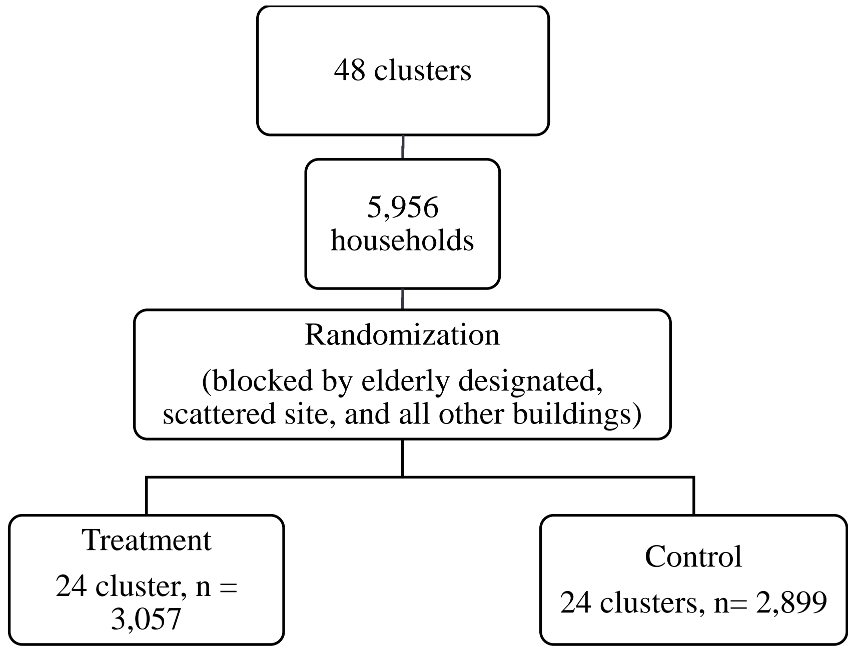
I created three blocks or rounds of randomization: scattered site clusters, elderly-designated highrises, and other highrises. I randomly assigned six scattered site clusters, then the 13 elderly-designated buildings, and finally the remaining highrises. Treatment and control each have 21 units. While there are an equal number of clusters, the clusters vary in size. The treatment clusters contain 3,057 households and an average of 119 units. The comparison has 2,899 households with an average size of 158 units. The intracluster correlation—or variation in an outcome explained by variation in clusters—for the

[53] By policy, MPHA translates official notices into any language exceeding three percent of the public housing population. At the time of the intervention this was only English and Somali. The letter also included a language block in Oromo, Spanish, Somali, Laotian, Amharic, and Hmong stating that this is an important notice and they should contact an MPHA representative help if they need understanding it.

[54] From fieldwork, residents and frontline staff noted residents diligently check mail and knew to open letters from MPHA because they contained information about retaining housing. The program has existed prior to this intervention; some residents were received the notice already had the treatment, but excluding them was not feasible. Residents not randomized to the treatment received the letter later in the year.

primary outcome variable, participation in automatic withdrawal, is relatively small (ρ = 4.9%). This sample has sufficient power to detect a medium size impact (Cohen 1992) in the binary outcome variables. This seems reasonable compared to prior research (Fitzhugh, Park, and Nolan 2018). Because buildings differ in size, the design is unbalanced. The data panel covers 15-months; in total, there are 85,974 observations.

Figure 7: Automatic withdrawal experiment



In the balance test (Table 14), only welfare income had a statistically significant difference between the treatment and control in the baseline covariates. This is true both at the individual level and the mean of the clusters. It's probable this difference in welfare income is by chance, but I expect this variable could be a predictor of using automatic

withdrawal. Therefore, I added it as a covariate in the final analysis.[55] Importantly, no significant difference exists in uptake of automatic withdrawal.

Table 13: Automatic withdrawal balance test

	Individual-level			Cluster-level		
	Treatment (obs 2,946)	Control (obs 2,745)	Difference	Treatment (obs 48)	Control (obs 48)	Difference
Age (HoH)	63.44	62.39	1.05	63.70	61.80	1.90
Household members	1.67	1.57	0.10	1.51	1.52	0.00
Years living in MPHA	7.73	7.68	-	8.03	7.64	0.39
Elderly (HoH)	0.54	0.50	0.03	0.53	0.47	0.06
Disabled (HoH)	0.62	0.57	0.05	0.64	0.57	0.07
POCI (HoH)	0.85	0.83	0.02	0.85	0.80	0.05
Immigrant (HoH)	0.59	0.50	0.09	0.55	0.47	0.08
Rent amount	$308.80	$322.55	-$13.75	$303.89	$324.40	-$20.51
Household gross income	$15,530.04	$14,829.78	$700.26	$14,476.36	$15,822.56	-$1,346.20
Household wage income	$6,126.55	$6,474.75	-$348.20	$5,618.00	$6,679.74	-$1,061.74
Household welfare income	$667.64	$514.04	$153.6**	$643.52	$478.49	$165.032***
Have automatic withdrawal	0.13	0.12	0.01	0.13	0.11	0.02
Building resident count				122.79	114.96	7.83
Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1						

Source: MPHA administrative data (December 2019) [56]

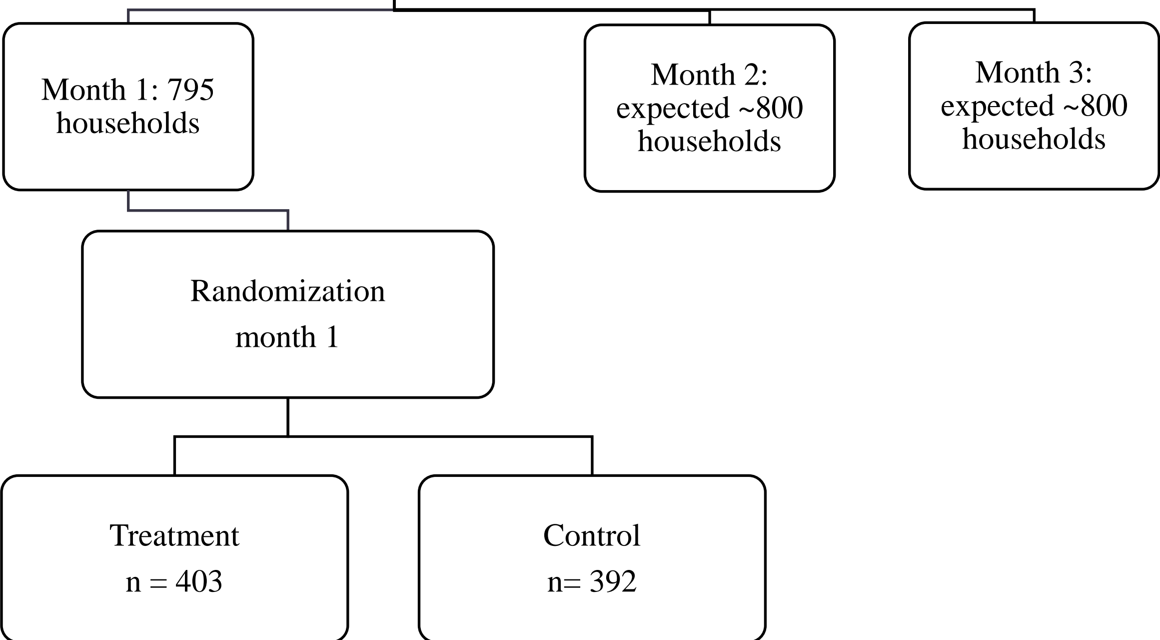
For the 14-day letter, I use a simple, two-group, individual-level experimental design to test the letters. Each month, around 800 residents receive the 14-day letter. Over a three-month period, the design randomly assigned those renters to receive the original letter or the revised letter. Households during the study period could have been in both the treatment and the control group. Some residents receive this letter monthly, while others may only receive this warning letter once (or not at all) during the study period. To create the groups each month, I used historic administrative data to predict the likelihood of an eviction action for current residents that have not paid their rent by the 14th of the month. The model included age, disability status, household size, income source, race, prior

[55] Person of Color and Indigenous (POCI) is a dummy variable that includes those all non-white races and those reporting Hispanic or Latino ethnicity.

[56] The balance test is the raw difference. It does not take into account an building level fixed effects. Once these are accounted for there are no statistically significant differences.

receipt of unlawful detainers, and household geographic region. The population was ranked by likelihood to be evicted; for the two with the highest likelihood score, one was randomly assigned to treatment and one to control. This process was repeated for all delinquent residents. In line with past research, (Cadario and Chandon 2018; Hummel and Maedche 2019) the study could detect a medium-sized effect (Cohen 1992).

Figure 8: 14-day eviction warning letter experiment



The morning of the 14th of each month, I received a list of delinquent residents and randomized them. I then sent this randomization to frontline staff to mail the appropriate letters that day (Table 14). While sample sizes were equal at randomization, residents could pay rent before the end of the day on the 14th. In these cases, they were not mailed a letter, and I removed them from the pool. This means the number of residents in

treatment (403) and control (392) are unbalanced in the first month of randomization, but attrition should be random between the two groups.[57]

Table 14: Balance test 14-day rent termination warning letter

	Individual-level		
	Treatment (obs 2,946)	Control (obs 2,745)	Difference
Age (HoH)	63.44	62.39	1.05
Household members	1.67	1.57	0.10
Years living in MPHA	7.73	7.68	-
Elderly (HoH)	0.54	0.50	0.03
Disabled (HoH)	0.62	0.57	0.05
POCI (HoH)	0.85	0.83	0.02
Immigrant (HoH)	0.59	0.50	0.09
Rent amount	$308.80	$322.55	-$13.75
Household gross income	$15,530.04	$14,829.78	$700.26
Household wage income	$6,126.55	$6,474.75	-$348.20
Household welfare income	$667.64	$514.04	$153.6**
Have automatic withdrawal	0.13	0.12	0.01
Building resident count			

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Source: MPHA administrative data (February 2020)

The above only reflects the first of three planned months of randomization. The only significant difference between the two groups was in household welfare income. I selected these baseline covariates because they were important predictors of eviction actions; they were the same covariates as I used to create groups for the randomization.[58] I use these characteristics in future models to improve the model precision.

[57] This is a relatively small group (per staff, ~1-2% of the randomization pool). There is also reason to think this would impact treatment more than control in the same way. Moreover, observable characteristics of those that paid that day did not differ between the two groups.

[58] One variable used to predict eviction actions was past receipt of unlawful detainer warning letters. Since I use this as outcome measures in latter analyses, I will not include it as a baseline covariate.

Experiment halted due to pandemic

In March 2020, COVID-19 halted normal operations for public housing. In response to the pandemic, state and congressional actions halted evictions. MPHA also stopped sending associated warning notices. For the automatic withdrawal experiment, the plan was to conduct follow-up after six months to see the impact on 14-day, unlawful detainer warning letters, and unlawful detainers. But only two 14-day letter and unlawful detainer warning letters were sent and only one set of residents received unlawful detainer after automatic withdrawal sign-ups took effect in February. For the 14-day modification, only one month of three planned months of interventions were sent, and no future 14-day day or unlawful detainer warning letters were sent. Evictions did not restart until 2021. Given the dissertation timeline and the ethics of withholding treatment, I was unable to complete this experiment. I have sufficient data to examine the impact of the automatic withdrawal treatment on sign-ups and can explore the underpowered follow-up on warning notifications. I am not able to conduct analysis on the 14-day letter experiment.

Automatic withdrawal experiment empirical strategy

The data is a 15-month panel covering January 2019 to March 2020. I rely on a Linear Probability Model to estimate the impact of automatic withdrawal. For any individual-i in building cluster-k, the model is:

$$Y_{ik} = \beta_0 + \beta_1 Treatment_{ik} + \beta_2 X_i + \varepsilon_{ik}$$

Where:

Y_{ik} is the dependent binary variable for the relevant outcome measures (e.g., sign-up for automatic withdrawal, late payment, and eviction actions).

β_0 is the constant.

β_1 is the causal difference in probability of the relevant outcome measure for the treatment group.

X_i is a vector of the control variables that includes household size, income, age, disability, and race.

ε_{ik} is the error term

I employed cluster-robust standard errors (Bertrand, Duflo, and Mullainathan 2004; Chandar et al. 2019). The cluster-robust standard error estimator nears the true standard error as the number of clusters approaches infinity. Kezdi (2003) shows that 50 clusters is sufficiently close to infinity; and this experiment has nearly that number of clusters (48). To improve the precision, I estimate the parameters using household-level observations, but conduct a robustness check with cluster-level means (Chandar et al. 2019).

I tested several specifications, including the addition of fixed effects of time-variant and time-invariant conditions at the building and household level. Assuming randomization worked these covariates and fixed effects are not necessary but may enhance precision. Comparing them can also provide information on the nature of the underlying data.

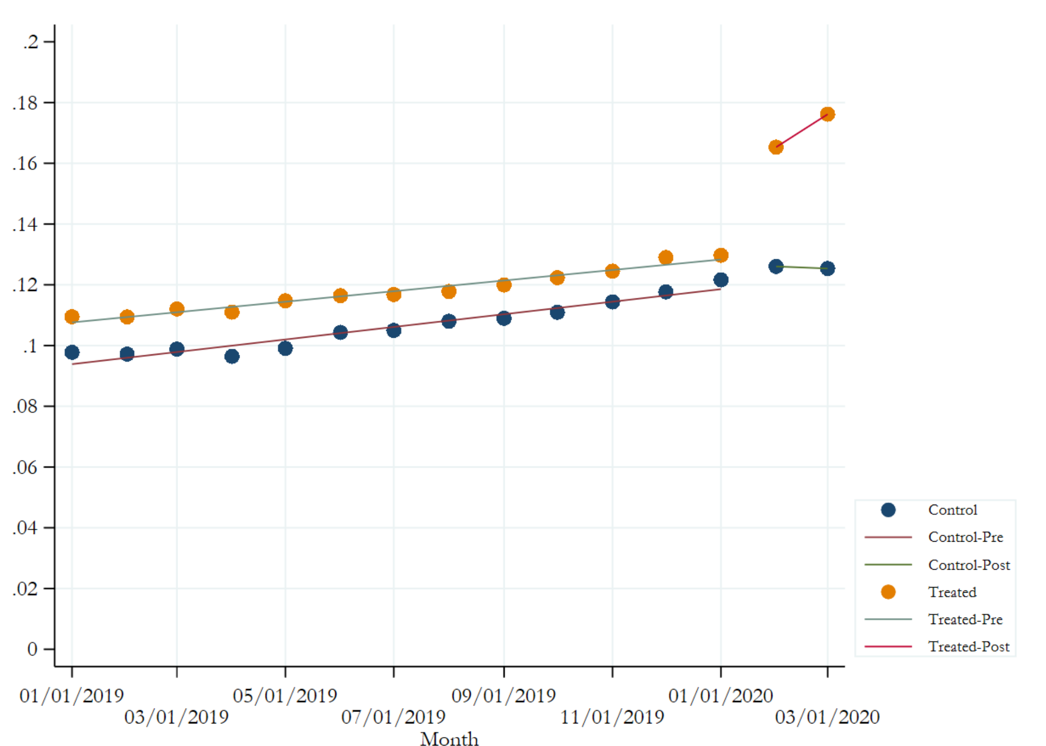
Results

Figure 9 provides a time-series chart of participation in automatic withdrawal intervention. In 2019, treatment and control buildings showed similar participant levels and trends. Notification reached residents near the end of 2019. If a resident chose to participate, the very first possible payment was removed from resident accounts on February 5, 2020. Because of slow response by residents and the need to process sign-ups, some residents that received the notification did not have their first payment processed until March.[59] From January 2019 to March 2020, the number of automatic

[59] Higher than average sign-ups and conversations with finance staff that processed these claims indicated as much. The automatic withdrawal intervention used a new form, allowing us to have some certainty in whether residents were signing-up with the new notification or the old notification.

withdrawal participants in treatment buildings increased from 384 to 521, a 26 percent increase. The control buildings saw smaller increase over the period from 323 to 346 (7 percent increase), which was consistent with historic growth rates.

Figure 9: Automatic withdrawal intervention



Source: MPHA administrative data (2020)

Table 15 shows the results of specifications on the impact of the treatment on automatic withdrawal sign-up. The effects represent an intent-to-treat measures, as it's not possible to confirm whether residents received or opened the letters. Overall, there are 85,690 observations with 5,956 unique households. Model 1 is a Linear Probability Model with cluster robust standard errors to account for heteroskedasticity. This found a 5.8 percentage point increase ($p<.001$) on sign-up for automatic withdrawal for residents that

received the treatment.[60] Model 2 adds a series of covariates, increasing the precision of the estimate with a small reduction in the impact of the treatment (5.3 percentage points). Of the models presented, model 2 has the highest adjusted R-squared, but it is still only able to explain 4.9 percent of the variation in program participation in each month.

Table 15: Automatic withdrawal experiment results

Model	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	0.058***	0.053***	0.052***	0.054***	0.033***	0.035***
	(0.013)	(0.011)	(0.007)	(0.007)	(0.008)	(0.008)
HH gross income		-0.000**	-0.000*	0.000	-0.000*	0.000
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
HH welfare income		-0.000***	-0.000***	0.000	-0.000***	0.000
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Minimum renter		-0.076***	-0.075***	-0.017**	-0.075***	-0.017**
		(0.015)	(0.016)	(0.007)	(0.016)	(0.007)
POCI (HoH)		-0.066***	-0.057***	0.026	-0.057***	0.044**
		(0.012)	(0.012)	(0.021)	(0.012)	(0.022)
Immigrant (HoH)		0.090***	0.098***	0.012	0.098***	0.024
		(0.015)	(0.016)	(0.039)	(0.016)	(0.038)
Disabled (HoH)		0.017*	0.012	0.029**	0.012	0.021*
		(0.009)	(0.010)	(0.011)	(0.010)	(0.011)
Elderly (HoH)		0.053***	0.050***	0.018**	0.049***	0.007
		(0.010)	(0.009)	(0.008)	(0.009)	(0.008)
HH members		-0.015***	-0.008***	0.000	-0.008***	0.003
		(0.003)	(0.003)	(0.005)	(0.003)	(0.005)
Constant	0.113***	0.126***	0.106***	0.057	0.097***	0.033
	(0.011)	(0.014)	(0.011)	(0.040)	(0.011)	(0.039)
Cluster robust SEs	Yes	Yes	Yes	Yes	Yes	Yes
Cluster FEs	No	No	Yes	No	Yes	Yes
Household FEs	No	No	No	Yes	No	Yes
Time FEs	No	No	No	No	Yes	Yes
Observations	85,761	85,690	85,690	85,690	85,690	85,690
Adjusted R-squared	0.002	0.049	0.031	0.016	0.032	0.021
Number of FEs	0	0	48	6,497	48	6,497

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Source: MPHA administrative data (2020)

[60] Results were consistent with logit analysis. Given the similarity, I used a linear probability model because it is easier to compute and interpret the results (Deke 2014; Gomila 2020).

The remaining four panel regressions add fixed effects. In models 3 and 4, fixed effects are tested at the building level and at the household level, with both finding similar impact on the treatment. In models 5 and 6, a time fixed effect is added, which reduces the impact of the treatment to between 3.3 and 3.5 percentage points. Given that the intervention occurred at the same time for all households, a portion of this reduction may be due to collinearity between treatment and time. Time invariant fixed effects had little impact on automatic withdrawal and only modest impact on the other covariates. By expending degrees of freedom, the fixed effects model has a lower adjusted R-squared. These results and the balance test support randomization was effective; for the examination of other outcome measures and subgroup analysis I will use model 2.

Table 16 examines the other relevant outcome variables—automatic withdrawal, receipt of 14-day letter, or an unlawful detainer warning letter. While there was an impact of automatic withdrawal sign-up, there was no detectable effect on receiving a 14-day notification or an unlawful detainer warning letter. As noted, the design called for a six-month follow-up period, but only two 14-day letters and unlawful detainer warning letter were sent after the first automatic withdrawal accounts were established post-treatment. From those two months, there was no detectable difference between treatment and control on the 1,422 14-day letters and 489 unlawful detainer warning letters sent. There was only one month of unlawful detainers (39) executed by the court after the treatment began with no detectable treatment effect (not shown in table).

Table 16: Panel regression of outcome measures

VARIABLES	(1) Automatic Withdrawal	(2) 14-day letter	(3) UD warning letter
Treatment	0.053***	-0.001	-0.003
	(0.011)	(0.007)	(0.003)
HH gross income	-0.000**	0.000***	-0.000***
	(0.000)	(0.000)	(0.000)
HH welfare incon	-0.000***	-0.000	0.000**
	(0.000)	(0.000)	(0.000)
Minimum renter	-0.076***	0.016	0.022***
	(0.015)	(0.010)	(0.007)
POCI (HoH)	-0.066***	0.101***	0.044***
	(0.012)	(0.011)	(0.004)
Immigrant (HoH)	0.090***	-0.138***	-0.065***
	(0.015)	(0.016)	(0.005)
Disabled (HoH)	0.017*	-0.053***	-0.008**
	(0.009)	(0.009)	(0.003)
Elderly (HoH)	0.053***	-0.075***	-0.032***
	(0.010)	(0.007)	(0.003)
HH members	-0.015***	0.001	0.001
	(0.003)	(0.002)	(0.001)
Constant	0.126***	0.160***	0.065***
	(0.014)	(0.016)	(0.005)
Observations	85,690	85,690	85,690
R-squared	0.049	0.079	0.035

Robust standard errors in parentheses. Pooled-regression.
*** p<0.01, ** p<0.05, * p<0.1
Source: MPHA administrative data (2020)

Table 17 investigates whether the automatic withdrawal intervention had differential effects by subgroup. Each shows the affirmative dummy-variable, compared to the other case (e.g., a minimum rent compared to a non-minimum renter). The first two columns examine building features—living in scattered site house or an elderly designated building. In my qualitative research, these appeared to be proxies for the access to human capital resources—property managers, social workers, or other residents—that encourage

automatic withdrawal sign-up. In this case, however, a Chi-square tested showed no difference in sign-up for automatic withdrawal for those who lived in scattered site compared to highrise or for those in elderly-designated buildings compared to others.

I did a similar analysis for all baseline covariates (gross income, welfare income, minimum renter, disabled HoH, elderly HoH, household members, Persons of Color and Indigenous (POCI) HoH, and immigrant HoH). Though many of these variables were significant covariates in the full model, there was no difference in the Chi-square test between the conditions, except for minimum renters. The impact on minimum renters is intuitive, as this status is reserved for residents with a temporary loss in income. With unstable income, signing-up for a consistent method of withdrawal of payments is not reasonable. I also added a variable that was not in the full model: English-language reading proficiency. Logic suggests those that cannot read English would be less likely to sign-up; but, again, there is no significant difference between the two groups.[61]

Despite no difference in impact between POCI or immigrants these variables are aggregated in a way that obscures different experiences: white, non-immigrants, white immigrants, POCI non-immigrants, and POCI immigrants. For POCI, immigrants compared to POCI, non-immigrants, I found a statistically significant difference between sign-up in the two groups. POCI immigrants were much more likely to sign up for automatic withdrawal, particularly for Hmong and Spanish-speaking communities. There were not significant differences between the other permutations.

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[61] As noted, the letter was translated into Somali. It also had a language block at the bottom of the letter in Somali, Hmong, Laotian, Amharic, Oromo, and Spanish that advised this notice is important and residents should go to an MPHA representatives if they need help understanding it.

Table 17: Automatic withdrawal subgroup analysis

	(1) Scattered sites	(2) Elderly designated	(3) POCI	(4) Doesn't read english	(5) POCI, non-immigrant	(6) POCI, immigrant
Automatic withdrawal	0.070**	0.066***	0.054***	0.061***	0.015	0.072***
	(0.010)	(0.014)	(0.010)	(0.016)	(0.008)	(0.016)
Observations	13,289	31,111	72,220	39,250	26,764	45,456
p-value (Chi2 of effect differing by dv=0)	0.156	0.264	0.628	0.246		
p-value (Chi2 of effect relative to white, non-immigrant)					0.039**	
p-value (Chi2 of effect relative to POCI, non-immigrant)						0.002***

Coeffecients from pooled regression, controlling for baseline covariates (from tables 17 & 18).
Robust standard errors in parentheses. , *** p<0.01, ** p<0.05, * p<0.1.
For 1-4, Chi2 test is relative to the alternative (e.g., non-scattered site)

Source: MPHA administrative data (2020)

Summary and implications for mixed-methods approaches

This study planned and implemented a large-scale, low-cost field trial to validate findings from a design-based approach. Mixed-method fieldwork identified two potentially viable and valuable nudge-style interventions tailored the messages to the biases present in the environment. Unfortunately, the COVID-19 pandemic shortened the follow-up for the first experiment and cancelled the second.[62] This disruption notwithstanding, the research showed a significant effect on the likelihood residents would sign-up for automatic withdrawal. For the cost of printing and delivering a behaviorally-informed letter, MPHA was able to increase sign-up by more than five percentage points or 25 percent.

This intervention means residents get to avoid the compliance cost associated with paying rent and MPHA enjoys more timely and consistent payment. The study intended to track

[62] After the initial results of the first experiment revealed a positive impact on automatic withdrawal, I felt the ethical action was to encourage MPHA to send the notification to residents in the comparison group. The rent moratorium was still in place at that time, meaning both groups will be treated by the time eviction actions restart. I don't see a viable path to complete either experiment as intended.

the impact on warning notifications for eviction, but due to the COVID-19 pandemic, the planned six-month follow-up period was cut short, and there was no detectable impact on those outcome measures after two months. Historical data, however, shows there is a negative correlation between sign-up and eviction actions, even controlling for observable characteristics. This is also supported by behavioral science theory that setting default options can improve the alignment of short-term actions and participants long-term goals (Bertrand, Mullainathan, and Shafir 2006; Thaler and Sunstein 2008).

Prior mixed-method work hypothesized there would be differences in sign-up rates based on the availability of social capital and human resources. Using building type—elderly designated and other highrises have more of these resources—as a proxy, there was no statistically significant impact on likelihood of sign-up. That said, it may be this is not the strongest proxy for a household's connectedness.[63] Qualitative research and theory suggested there may be differences in sign-up by age, income, disability status, and household size, but for these characteristics, there was no significant difference. Overall, there was also no difference by overall immigrant or POCI status. POCI, non-immigrant residents were less likely to sign-up when they received the treatment than both white, non-immigrants communities and POCI, immigrant communities.

In designing the letters, I turned to the behavioral-science literature. In the automatic withdrawal experiment, the notification used behavioral principles, including enhancing

[63] In immigrant communities, qualitative work found in-group frontline staff and community elders may use their social capital to encourage automatic withdrawal sign-up to reduce burdens for residents. Qualitative evidence also suggests lack of sign-up for mostly black, non-immigrant residents may have to do with lack of trust in MPHA's bureaucrats to handle their money appropriately, as well as less access to the formal banking system. These responses are consistent with research on social cohesion, networks, and trust in public assistance programs (Reagans and McEvily 2003; Kumlin and Rothstein 2005; Furtado and Theodoropoulos 2016). The available data does not have measures of social capital or trust to explore this more thoroughly.

salience, ease, and incentives. For the 14-day letter, it emphasized ease, procedural justice, and incentives. In many behavioral science experiments, the study is designed to test the mechanisms or moderators of an outcome. This is accomplished by varying the behavioral concepts used in each letter or types of interventions received. In this trial, our goal was less about understanding generalizable mechanisms, and more about advancing the behavioral design methodology. While these aims may not necessarily be mutually exclusive, in this case, I could not identify a way to design experiments that both had a sufficient sample size and met organizational constraints. As such, this experiment does not seek to speak about the aspect of the treatment that was meaningful to residents.

While creating generalizable research should be an aim of design-based research, it can conflict with creating interventions that fit in a context. Schemas used by residents are interpreted in relation to existing knowledge and institutional arrangements; to intervene effectively designers need to use that context, complicating its transportable to other settings (Richburg-Hayes, Anzelone, and Dechausay 2017; Cartwright and Hardie 2012; Sandfort and Moulton 2019). The use of co-production to design interventions is another challenge for transportability. Staff and residents played a central role in identifying the intervention and its design. Their attention on the task is not neutral, as co-production can enhance buy-in to the intervention (Ansell and Torfing 2014; Sandfort 2018; Buuren et al. 2020). Bringing together staff and residents in this way may also create new skills, knowledge, or networks that are related to the outcome variable through a mechanism other than the treatment (Bovaird 2007). I will return to this generalizability puzzle later.

That aside, the automatic withdrawal intervention was low cost and had a significant impact on the percent of residents that signed up. This contributes to a body of research

that shows behavioral interventions have consistent—though moderate—impacts on resident behaviors. In the following section, I will examine more about how integrating behavioral and design science promotes organizational change that can reduce participants' administrative burdens.

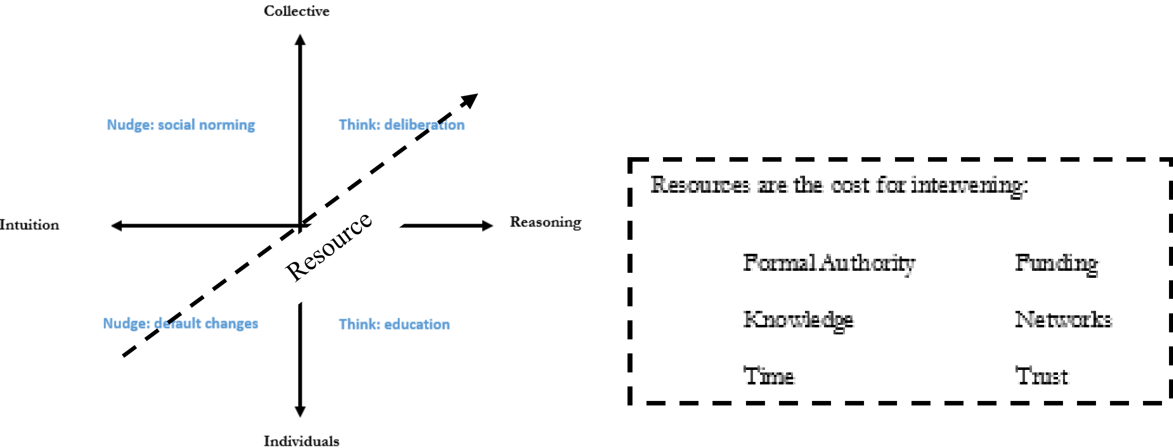
Chapter 6 – Applying design to change organizational structure

In Chapter 4, I used mixed-method approaches to describe how individual-level decision-making was related to meso-level structures; Chapter 5 followed in describing the development and impact of two nudges. This detail was collected through typical social science methods and the description moved temporally from finding structures causing behavioral errors to measuring the impact of altering choice architecture. In that description, however, I passed over how design-based methods allowed us to make the organizational changes necessary to implement interventions. This chapter will start by taking a step back in time, moving through the design process of understanding the problem space, generating alternatives, and evaluating ideas (Bason 2017).

It begins with a snapshot of the salient features of MPHA at the project's outset and my work to understand that context and build trust. The description then moves to how the organizational structure began to shift through reflecting on new information generated through the design process, allowing for small changes. As the process continued, the knowledge of the Eviction Prevention team members grew, changing their collective conceptual map (or schemas) of the organization and its problems. This accumulation of resources built the foundation necessary to pursue more entrenched changes. The case illustrates the pragmatic idea "that ambitious efforts at collaboration must be scaffolded upon a series of 'small wins' and up on the establishment of trust and recognition among opposing stakeholders." (Ansell 2011, 190). The path is unpredictable and messy, so I'll also highlight unexpected, but illuminating, failures and victories in the work with the Eviction Prevention team.

Through the exploration, I develop the foundation for a conceptual model of behavioral design. This precedent recognizes circumstances for change will be different across organizations, but the basic process is about employing local knowledge to prompt reflexivity, which then builds the resources necessary to make change. As we get to firm, collectively held organization preferences (top right, Figure 10), change is harder and requires more resources to hold the space for reasoning.

Figure 10: The relationship between resources and firm, collective preferences



Understanding and entering the problem space

During the 25-year tenure of Cora McCorvey, the executive director of MPHA, stability was the watchword. Despite massive societal shifts in housing and social service delivery, the agency in 2017 was largely operating in the same fashion as it had in the early 1990s. Long-tenured bureaucrats adhered to a principle of “if it’s not broke, why fix it.” But change was thrust on them. Cora McCorvey retired, and the city Council turned to an outsider, Greg Russ, to modernize the agency. To execute this vision, Russ shifted agency resources, including the formation of a Research & Analytics team.

Around the time of Russ's introduction to the agency, cities across the U.S., in part due to Mathew Desmond's bestselling novel, *Evicted*, started to look at their own eviction practices. In 2017, the City of Minneapolis issued a report showing MPHA as the city's top user of evictions (Thiel 2017). Politicians, reporters, and community leaders pushed the agency for explanation and change. MPHA staff themselves resented the report, feeling it emphasized the absolute number of evictions, instead of the per resident rate of evictions. MPHA was the largest landlord in the state and served an especially vulnerable population. In ignoring that context, the report failed to see "all we do to prevent evictions" and that evictions are a last resort for only a handful of delinquent renters.

Figure 11: MPHA monthly eviction funnel

Non-Payment Letters 744
Unlawful Detainer Warning 217
Unlawful Detainers Filed 27
Writs of Eviction 5

Source: MPHA eviction charter (2018)

Russ and his deputy, Tracey Scott, responded to this external pressure by asking the new Research & Analysis team to identify the average number of residents that enter the "eviction funnel," or a set of meaningful landmarks in the removal process (Figure 11). They wanted to convey to stakeholders that only a small number of delinquent residents get evicted. Leadership shared this visualization at community events and with the media to argue the agency already takes proactive steps to protect residents. While ostensibly created for outreach purposes, the visualization framed the problem in a way that raised questions from Russ and Scott about what more the agency can do to prevent entry in and

progression through the funnel. To work the problem, the agency formed the Eviction Prevention team with a self-described mission to reduce eviction actions and mitigate the negative impacts of court filings on residents' current and future finances.

The new team had representatives from each department—research, rent collections, legal, finance, and operations—that oversees publicly-run housing. The Research & Analytics team's organizational function was to provide analysis on agency functions, including performance monitoring, identifying best practices from other housing authorities, and leading internal staff training and development. Rent collection agents' roles were in recording and tracking payments, notifying residents and staff of delinquencies, and monitoring settlement agreements for those behind. The staff attorneys oversaw the rent collection efforts, created eviction-related policies, and represented the agency in court. The Director of Operations' office had wide purview over enforcing agency procedures and ensuring functioning buildings. To that end, this office supervised street-level bureaucrats, including property managers, maintenance works, and recertification staff. The Finance team managed vendors that process rental payments and assist residents with up automatic withdrawal.

These staff members also interact with nonprofits and government entities that frequently work with residents, including Volunteers of America (VOA) social workers, Mid-Minnesota Legal Aid attorneys, Minneapolis Highrise Representative Council (MHRC) organizers, and Hennepin County staff. VOA are social workers embedded in buildings who help residents maintain their health and housing. Legal Aid represents low-income residents in court and assists with other legal matters. MHRC staff oversee election of resident representatives that advocate on behalf of tenants and a small amount of

discretionary funding for events. Hennepin County oversees the Emergency Assistance program—the primary lifeline for renters behind on rent—and other social safety net programs. These groups are important stakeholders, but they are not employed by MPHA and are not members of the Eviction Prevention team.

In pulling together MPHA units with widely varying professional normal and experiences, it was important to lay out the mission and values of this new team. The Eviction Prevention team members negotiated a team charter that put making internal process and policy changes in the team's scope. The charter also put the creation of any new internal services or lobbying for external changes out of their purview. In interviews, the team noted the charter was heavily influenced by leadership's interest in taking incremental steps. In other words, the group's role was refining the agency's processes, not overhauling them. It was in this environment I joined the work in February 2019.

Identifying existing structure to support future change

One fundamental question is whether public housing agencies should evict vulnerable residents at all. MPHA is responsible for the poor and elderly, a portion of whom are dealing with profound cognitive decline, mental illness, and substance use disorder. Many residents have conditions that should be receiving care in higher-intensity residential or supportive housing settings, but there aren't enough beds available in these facilities. Given the clientele, Should public housing use evictions for rent nonpayment?

Eliminating evictions, however, would likely decrease the rent collections that public housing systems are reliant on to maintain services. Absent substantial federal investment, eliminating evictions would decrease the chance for needy individuals to get of lengthy housing waiting list and diminish the agency's ability to maintain current

housing stock. For those reasons, staff believe it is their duty to faithfully collect rent.[64] While residents may need help, they also must pay their rent or find a new place to live.

The qualitative work surfaced the inherent tension between helping needy individuals and collecting the required rent. As one founding team member put it:

> That was really the question of what is the housing authority? Is the greatest duty to those on the waiting list or [those already] housed? I wouldn't say we fully reached an agreement on that. But it was very important to discuss and to raise in the context of this work. And I know for myself and [colleague's name omitted], when we talked about it separately, we felt that the greatest duty was to the people who are currently housed and to keep them housed. I think you know, [other members] did agree that that's important. And so we leaned that way in the [Eviction Prevention team] charter. But we didn't state in the charter that our goal was to prevent all evictions and have no evictions for nonpayment of rent.

Staff held both conflicting schemas—landlord and social assistance— simultaneously. This not surprising, as the elements are embedded in the structure of the system. These schemas are learned through organizational routines, and, when activated by environmental ques, become heuristics that simplify otherwise complex decision-making. One important que seemed to be whether the specific group of residents at issue were perceived as worthy of help. It mattered whether a resident's non-payment of rent was due to circumstances deemed to be beyond their control or was due to "a pattern they have established for themselves." When this latter schema was in use, process

[64] The institution, itself, is exceedingly adept at fulfilling this mandate with less than 1 percent of rent going uncollected each year.

improvements were viewed as ineffective because non-payment is not due to confusion but a lack of personal responsibility. In this mode of thinking, staff may believe residents only respond to the threat of consequences.

When, however, a more socially-conscious view was engaged, it was easier to justify process change. One property manager member likened the imperative to improve the system to the golden rule; "most of the time, we think of what are easy for us, versus what's easy for them. We have to sometimes take a step back and put ourselves in their shoes and say, if that was me, would I be able to do this? Would this be something that's easy for me? And if we look from that perspective, maybe these are things we can change in the policy?" The qualitative exploration with MPHA surfaced these critical schemas, and their influence on discretionary policy changes.

Like many public entities, MPHA's mission presents a paradox, whereby its employees are asked to uphold a range of conflicting values, such as, fairness, equity, and efficiency (Stone 1997). These opposing mandates are ever-present in the individual and collective conscious, and, without agreed upon first principles, can make decision-making challenging. To avoid conflict, parties must reach incompletely theorized agreements that allow for consensus on practical questions without resolving the more fundamental ideas (Sunstein 1995; Zacka 2017). This form of decision-making by tradeoff is common to street-level bureaucrats who must implement often conflicting policy goals. Lack of agreement on decision-rules means each choice requires a form of collective casuistry or reasoning using rules from a prior case to resolve the conflicting moral problems. In that way, new initiatives or resident claims are not taken in a vacuum but are interpreted through a lens of past precedents.

The design process affords us the ability to understand the salient features of this form of sense-making and what stories, microcultures, or morale principles (collectively referred to as schemas) may be able to advance change (Zacka 2017; Schein 2010; Barzelay 2019; Sewell 1992). The design practitioner frequently comes to their projects as part of insider-outsider or researcher-practitioner partnerships (Bartunek and Louis 1996; Romme and Meijer 2020). As an outsider, they must first learn about the social context from observation of and interaction with insiders. Once the outsider has familiarized themselves with the setting, they can use their position to question the nature of existing arrangements. "The outsider's assumptions, language, and cognitive frames are made explicit in the insider's questions and vice versa. The parties, in a colloquial sense, keep each other honest – or at least more conscious than a single party working alone may easily achieve." (Bartunek and Louis 1996, 40:62). In other words, system participants know more than they can tell, and, by questioning inconsistent social actions, outsiders can reveal the tacit knowledge of insiders (Polanyi 1966; Schön 1983, 283–92). Once the designer understands how the participant schemas generalize, they can be "transposed or extended to new situations when the opportunity arises." (Sewell 1992, 149).

Another factor revealed in the exploration of structure is the nature of the problem. In the case of MPHA, it wasn't a simple or complex one, but a wicked one. Reducing eviction actions offers all the characteristics of wickedness—fundamental indeterminacy in definition, incomplete information on causal relationships, conflicting values and goals of stakeholders, and no stopping rule for interventions (Rittel and Webber 1973; R. Martin 2009). When these characteristics are present, technical solutions are not possible. Instead, we can only probe and reframe problems to incrementally improve outcomes

(Buchanan 1992). For MPHA, the design work balanced the “problem, needs, and requirements on the one hand and solution possibilities on the other.” (Lawson 2004, 28).

This probing approach is important because changing structure too quickly can have unintended consequences. As Sandfort (2018, 479) addresses, “while change is impossible to predict, it can be documented and influenced through the intentional use of catalytic probes to create a pattern of activity that can be either stabilized and amplified if generating positive results or dampened if there are no positive consequences.” Probes become a low-cost way to test and refine new ideas. With MPHA, these were often merely proposing a narrative of a future state to get the reaction of informants.

The more I learned about the important stories participants tell about their work, the better able I was to position these narratives to advance productive change. In this way, we can use organizational casuistry to activate helpful schemas and avoid harmful ones. In the case of MPHA, I refined these oral probes over time to work to sideline the landlord perspective and active the social assistance schema. This refinement happened first in one-on-one meetings with staff before using them in the Eviction Team meetings. Some of these probes gained traction, while others failed.

An initial (failed) attempt to shift organizational behavior

In the following sections I’ll illustrate how I moved from observation to literature to probes to prototypes to facilitate change. But I want to start with a probe that failed. Failure is normal in design, but this specific failure reveals something important—I didn’t understand the problem space. One *a priori* hypothesis I had coming into the work was introducing the concept of scarcity could promote change to administrative burdens. While this was grounded in research, it wasn’t grounded in the specifics of MPHA.

At the beginning of the work, I presented research to the Eviction Prevention team about how scarcity makes even small procedural frictions meaningful. In these meetings, the team reviewed and discussed the evidence as to why having so little makes long-term planning hard. The seemingly irrational spending decisions by residents that the staff often talked about may be a byproduct of the inherent boundness of all humans, not a character defect in an individual resident. I also pointed to how even small burdens, like getting a stamp, can be difficult for certain residents and may inhibit a rent payment. I created one-pagers and framed conversation in the language of scarcity and burdens.

In contemporaneous notes, I recorded the ostensibly positive reception to the information from staff. It seemed to prompt constructive conversations. One of the eviction team members even told me that they shared the research on how scarcity and burdens may interact to discourage citizen engagement at a meeting of MPHA's executive team. In the initial months, it felt like this framing may promote more willingness to change processes to benefit residents. Over time, however, it became clear these concepts didn't stick.

When I started tested probes that sought to use this rationale to motivate change, like allowing for a way to pay rent in buildings, the group did not respond as expected. The scarcity framework often ran against their personal experience with residents. As Christensen and colleagues (2020, 4) write, scarcity can be frustrating "to state actors who may easily confuse such behaviors with lack of motivation or laziness." In turn, it may lead them to think of residents as undeserving. Making it "easier for state actors to rationalize imposing burdens and maintaining rules and requirements that they might otherwise relax for someone they perceive to be trying harder." Their existing schemas ran counter to this new knowledge.

As for administrative burdens, staff interpreted these as the “red tape” they had to overcome to do their jobs, instead of the barriers residents had to overcome to get services. For instance, if there was a policy change to allow for rent collection drop boxes directly in buildings, the staff lamented the “administrative burdens” they’d have to overcome to accomplish this work. Indeed, in retrospective interviews of staff in the months after the intervention, when asked to define nudges, all had a clear understanding. But administrative burdens were described in terms of staff workload; this makes sense when we consider their everyday tasks involve a lot of red tape.

The existing understanding of the two concepts was tied strongly their professional experience, while the schemas I was trying to introduce were abstract and ran against daily interactions. Within a few weeks, it was clear the scarcity and administrative burdens concepts were not yielding the intended results, and I stopped using it.

In design, we know most probes don’t work and are retired. They especially prone to failure when the designer fails to understand the specifics of their case.

Trust

One last, oft discussed, but not to be dismissed component of laying the groundwork for change is building trust. As an outsider, it takes time to show you respect the deep knowledge of participants and create goals that are aligned. Entering with humility and not moving too quickly to solutions helps trust to form. In the case of MPHA, this included observation, interviews, and interactions with system participants to identify underlying norms, motives, and power dynamics. Through that process, the outsider learns the behaviors that make up the social conventions. Moreover, the one-on-one interviews and shadowing generated important data to shape interventions but also

allowed me to create rapport with staff. As I built trust, participants were more open about their perspectives, and afforded me the chance to probe without them questioning my motives or intent.[65]

My positionality as a PhD student also provided a measure of legitimacy, especially in an organization looking for ways to innovate. These factors created goodwill that was later needed to advocate for change. As one system participant reflected after the work:

> I think that starting with the process mapping was a very good start starting move because it helped you get to know people and start to build relationships. People had this idea of outsiders just coming in and telling us what to do. I think people were wondering if that was what you were going to be like. And then you did a great job of building relationships and learning and listening and not trying to initiate any interventions in those early days. I think that was very, very important. That laid the groundwork for the eventual interventions that we were able to do, because people trusted you by that point.

Later in the same interview, this participant offered a direct comparison to my approach relative to a consultant. In the months before I started, MPHA received pro-bono assistance from the Behavioral Insights Team—a respected consultancy that advises governments on implementing nudges. This group worked to review the housing literature for potential changes, but the limited duration of the pro-bono assignment meant they couldn't build trust. As a result:

[65] I also showed value early in the process. We know that academic timelines are largely impractical for practitioner decision-making. To ameliorate the mismatch, I shared early products (e.g., survey results, interview summary memos, and process maps) to demonstrate value and show I understood their work.

> [MPHA staff] saw them as these people from New York who were just trying to tell us how to do our business and who didn't really understand. The property management side felt that these outsiders didn't understand how hard we work and how much we accommodate residents and try to work with their situation. The Legal department felt similarly that each case that we file is carefully considered and there are no alternatives at the point we make the filing because we have a fiduciary responsibility to collect rent. If we allowed people to live in public housing units without paying rent, we would be derelict in our duty to the taxpaying public to provide this resource in the manner it's intended, which includes the resident paying their rightful portion of rent.
>
> They felt strongly about the way we were operating, and that it was right and that we had to continue operating the way we were. So, they did not see the need for any change in any of our policies. When the Behavioral Insights Team provided me with their report, MPHA basically said, 'Thank you for your comment' and put it on a shelf.

The design-based, insider-outsider arrangement allowed me to create an identity as a trusted partner intent on respecting the history and mission of their institution. As Giddens (1984, 86) notes, tact and trust are basic properties of social encounters. These facets are unique to time and space, but their successful reproduction leads to ontological security amongst participants (Giddens 1984; Forester 1999). In other words, tact sustains trust. If that groundwork isn't built well, changing social practices may not be possible.

Making change in organizational structure

Behavioral science focuses on altering choice architecture to activate heuristics that align humans' short-term actions and long-term interest. Sometimes these choices are subconscious and held individually—like a resident saving for a rainy day or frontline staff using discretion to assist a resident. Others are jointly constructed, like the norms of when offices are open or the rules that govern where rent can be collected. Weak preferences may be amenable to a nudge. A strong preference may take considerable deliberation to move. As described in previous chapters, the design process identified several relatively weak preferences amendable to nudges. Often left unsaid in behavioral science research is that to change choice architecture, one must almost always change something in the structure administration of the program. These structures, too, have their own firmness of preferences that can make change easy or hard.

In MPHA, ideas to make changes that reduce evictions actions were often woven into collective wisdom.[66] The firmness of these preferences is informed by the collective identity of the organization and reinforced by social action (Giddens 1984). The organizational structure, professional norms of practitioners (e.g., attorneys, social workers, or rent collectors), and associated routines create informational silos that reinforced the present structure. As noted, when the agency was pressed by outsiders about the scale of eviction actions, staff would reflexively defend their current efforts.

[66] Staff hold behavioral biases just as residents do. Two particularly strong ones in this case were the availability and status quo bias. In staff believing residents know about the services available to them, they may be exhibiting the availability bias, whereby the residents they interact with most frequently are most often those behind on rent and in need of the most help. A staff member's desire to maintain current processes, despite evidence suggesting the potential for improvement, may suggest a status quo bias.

Evictions don't occur "until we have no other choice." To change this stance, there needed a safe place to deliberate, reflect and problem solve.

Holding the space to allow for new information to surface

By pulling together an Eviction Prevention team composed of units that do not usually meet, Executive Director Russ shifted the resources to create a new routine. Cohesion in these new routines is not, however, an inevitable result. Skilled managers often need to hold these groups together in the early, seemingly unproductive, periods where the group is forming a shared identity. In first few months of the Eviction Prevention team, there was limited tangible progress, threatening continued participation of group members. One member openly lamented in consecutive monthly meetings, "we haven't actually done anything." While some areas of the organization started attending less frequently, losing important perspectives and sapping momentum. During this early period, a core group of participants kept the group moving by expending their own professional capital.

Another feature holding the group together was continued outside pressure and attention. In Minneapolis, as across the country, there has been a renewed focus on limiting evictions. Through articles, conferences, forums, and lobbying, affordable housing activists were able to keep the issue on the agenda. As the largest landlord and evictor, this put MPHA's actions in the spotlight. While agency staff found the focus unfair, this pressure held open a policy window.

These macro forces were difficult to separate from Director Russ's own continued call for changes in other parts of the organization. The organization's stable, bureaucratic culture under Director McCorvey was changing. "People were somewhat adapting. Not really eagerly, but they were at least getting used to the idea of like, well, 'we have to try

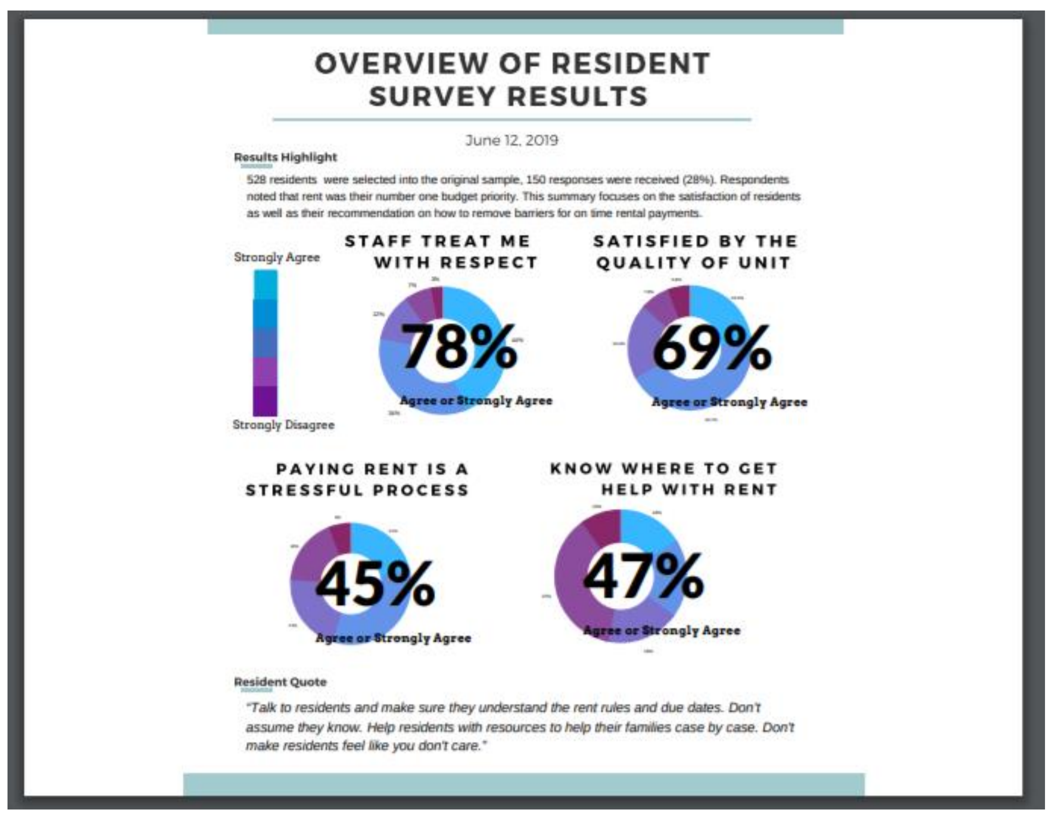
new stuff now.' In the context of that, there was pressure for a lot of change." This evolving pattern of shared beliefs about the need to change means ideas got more attention. Combined with the mandate, the Eviction Prevention team had the right positional authority and knowhow to make changes.

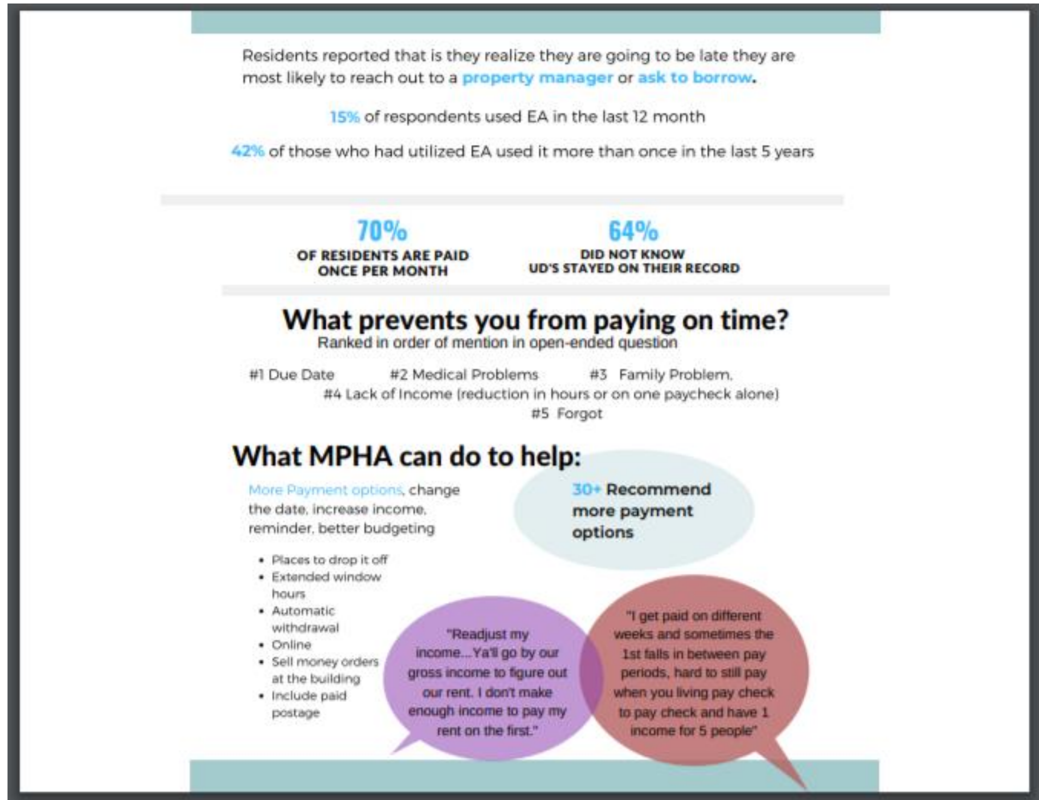
As noted, for the team to be successful, it took time to establish a common understanding of the problem facing residents. Even several months into the team's existence, it was apparent that different departments had different assumptions about the nature of the eviction problem, each drawn from their own interactions with residents. Some of the members worried these beliefs were not representative of the average resident's experience. Residents that interact with legal and rent collections regularly represent a small, but visible, subset of the population. Drawing inferences from these interactions could lead to poor predictions on the impact of process improvements.

To bridge the gap, the Research & Analytics and I administered a resident survey. In June 2019, the results of the survey were processed and brought back to the team for review. In the meeting, the group was eager to hear resident views and pored over the findings (Figure 12). They drew unexpected comfort at how many residents were satisfied with their housing and with the way they were treated by staff; staff weren't used to hearing these positive comments from residents. The team was also surprised to learn half of residents didn't know where to go to get help if they were behind on rent or that nearly two-thirds did not know an unlawful detainer stayed on your permanent housing record. One write-in comment stood out to the group, "Talk to residents and make sure they understand the rent and due dates. Don't assume they know."

The survey data was delivered tactfully and free of judgement by the research team, and it was well received by the group. This was not a given, as the data ran counter to the articulated beliefs of some members. Instead of ignoring or rejecting this information, the staff deliberated and reflected on it. In addition to the adroit delivery, I suspect this new information sunk in because staff held multiple, and often conflicting, understandings of the mission of MPHA (as a landlord and as a social assistance agency). If the latter schema didn't exist, the survey results may have been rejected as inconsistent with their views, like my efforts to introduce the concept of scarcity. Instead, the results evoked the mission social assistance-aligned mission of the organization, producing a group eager to learn and consider changes that improved the process for residents. That's not to say the landlord scheme went away (indeed it remains central to the mission of MPHA), but it was set aside in framing this specific problem and the potential solutions.

Figure 12: Resident survey summary





Source: MPHA resident survey (2019)

My notes of the day the survey was presented reflected a productive, but standard meeting. It was only later I understand the probe created a meaningful moment. In retrospective interviews, even nine months later, team members accurately recalled the meeting and the findings.

> The one that stands out most in my memory is this finding about the automatic withdrawal program. We learned through people's comments on the survey that they thought that that program was closed that they could not sign up for it. Since they missed the initial signup. People were saying things like, Oh, I wish I could get into the auto withdrawal program because that would be so nice. [The team] was really surprised, because we all I guess, assumed that residents would know that they could just sign up at any time.

They added that “the residents who are responded to the survey that those who were enrolled in automatic withdrawal, loved it. They loved the convenience and not having to remember to pay their rent and worry about getting a stamp and everything. So, it was a great program to promote.” Another staff member noted, “I think it did renew certain conversations and get things happening on the ground that some people thought already were occurring or some people had different definitions and different ideas of how it was actually operating.” Getting the lived experiences from the survey helped staff “fight their own biases” about what residents needed. The survey created a boundary object that allowed the team to update prior beliefs and coalesce around a common understanding. The public deliberation of the survey analysis in the meeting added social validation.

From the survey, the automatic withdrawal program became low-hanging fruit. It was popular with residents and uncontroversial for the agency. From the survey and

qualitative work, the primary impediment appeared to be salience. To this problem, the behavioral science then offered a range of lessons to bring attention to the program.

In addition to a new intervention, the survey brought other ideas forward that the team started to consider, including creating flexible payment dates, updating the 14-day lease termination warning letter, and increasing the available hours for VOA staff and for the rent collection window (for a full list see Appendix). The survey made the team more willing to question their prior assumptions that it wouldn't be helpful to make the system more user friendly. As one team member put it, "Residents do know the policies well, and it's just it's difficult for them to carry it through and pay their rent on time… [the survey] brought to the forefront residents aren't purposely being vindictive. They're not just forgetful and don't understand. It's just that like their daily lives don't align with these policies that we've created."

The survey became a meaningful artifact for the team that helped bridge different mental models, enhance, cooperation, and legitimize the Eviction Prevention enterprise. This progress was reinforced by agency leadership. Tracey Scott, now the Interim Executive Director[67], touted the team and survey as part of the effort to slow evictions in an interview with the Star Tribune, adding these efforts are examples of ways "we're getting better at working through the needs of residents, working with policy issues, working with partners at the county to facilitate residents keeping their housing." (Evans 2019).

The literature supports the potential for a shift of resources that enable new routines to change the flow of information. Organizations are "decision-making units" within

[67] Executive Director Russ was named the head of New York's Public Housing Authority in June 2019.

discursively mobilized forms of information flow (Touraine and Coltman 1979 as cited in Giddens 1984, 203). These information flows combine with existing mental models to assimilate or reject new knowledge. This is, initially, uncomfortable as groups working from a different understanding of the organization and its problems. From discussion and deliberation, teams can start to bridge organizational boundaries through the creation of artifacts with a shared meaning (Star and Griesemer 1989; Lam 2009). This makes dialogue more likely to succeed, facilitating reflection on areas of dissonance and updating the collective mental map or theory-in-use (Argyris and Schön 1978; Schön 1983). As Innes and Booher share in their book *Collaborative Rationality* (2010, 162):

> For knowledge to be influential in public action, it must be built and interpreted through inclusive dialogue so it meshes with understandings and desires of the players. It can become influential in part because players learn and come to understand it and its implications, in part because it can come to have shared meaning and contextual relevance, and in part because learning about it can change the players themselves.

To facilitate this change, it is necessary for skilled actors to establish continuity between the changes and core institutional logic, rules, and values between supervisors and frontline staff (Kingdon and Thurber 1984; Moulton and Sandfort 2017). Such espoused beliefs "often become embodied in an ideology or organizational philosophy, which then serves as a guide to dealing with the uncertainty of intrinsically uncontrollable or difficult events." (Schein 2010, 27). The Research & Analytics team and I were able to present data that evoked a social assistance frame that resonated with team members, including those frontline staff that had to implement the program. Given the multiple, conflicting

schemas present, the intentional framing of the intervention as part of the social assistance mission preempted dissonance between the espoused values and frontline practices. When present, this dissonance can mean programs are not implemented at the frontlines as intended (Sandfort 2000; Zacka 2017).

Individual choices and patterns of choices are shaped and reinforce by schemas, resources, and routines (Giddens 1984; Sewell 1992; Feldman 2004). These characteristics are nested in individual, organizational, and institutional context, and the success of any changes to organizational direction is dependent on organizational context for effective change to stick. As Perlow, Gittell, and Katz note, changing the architecture of choices necessitates consideration not just of the individual pattern of actions, but the "context that enable and constrain them." (2004, 534). In the case of automatic withdrawal, rearranging resources to allow to form an interdisciplinary team disrupted extant routines. This disruption combined with careful stewardship by policy entrepreneurs, a viable policy window, and pressure from internal and external stakeholders allowed for reflection on information drawn from actual participants and creating a change in the choice architecture. Automatic withdrawal was a rather uncontroversial change, but the efforts of coalescing, reflecting, acting, and memorializing built scaffolding that may help address issues with firmer antecedent precedents (Schön 1983; Lam 2009; Schein 2010; Innes and Booher 2010).

An unexpected role for experimentation in making change

One technique that helped ideas gain traction in the case of MPHA was framing interventions as experimentation. When opposition arose to an idea, like changing the 14-day lease termination warning letter, the idea of a critical test often bridged the views. If

the sides disagreed about its efficacy, a skilled system participant could affirm both theories were reasonable and offer to test which worked best. As one staff member noted, "just introducing the idea of experimentation and that we could actually measure the results" made people feel better that it wasn't just a "gut feeling" something worked. And given each member held both sides of the incompletely theorized agreements in their head simultaneously, they could feel at the end of the experiment to have anticipated the results. In other words, if a social assistance-informed nudge failed, staff also had access to the opposite schema and could affirm they knew this result would be the case.

New ideas were picked up, and staff became more comfortable with taking risks. By evaluating the impact, they could try new ideas, and, if the results were not promising, return to the old way of solving a problem. Noting that these are pilots and not a permanent state also seemed to make it more palatable to staff. While this outlet existed to return to the steady state, by the time a change was enacted, there was acceptance of the new way of doing things. In addition, the presence of these experiments could be pointed to as places where the group was affirming leadership's mandate for innovation.

The instrumental use of experimentation combines the positivist expertise of behavioral scientist and pragmatic instincts of designers to promote change. This syncs with psychologists Donald Campbell's (1991) vision of a society "committed to action research, to action as research rather than research as a postponement of action. It will be an evolutionary, learning society." Political Scientist Christopher Ansell (2011, 10) speaks to similar notion, adding, "When individuals and groups learn to use experimentation and inquiry to reconstruct their experiential knowledge and skills, this approach can lead to continuous learning or growth."

Deliberating to address firmly held biases

As the team coalesced, I played a behind-the-scenes role, gathering data, considering potential probes, and advising on next steps. As my understanding of the context and the team's trust in me grew, I played a more active role in leading interventions.[68]

In April 2019, members of the Eviction Prevention team and I met with attorneys from Legal Aid about ways to improve services and reduce eviction actions. One idea Legal Aid raised centered around resident about the 14-day rent termination warning letter. They worried this letter was confusing residents and leading to negative outcomes. The confusion was easy to understand (see letters in Appendix). The first line read "MPHA is terminating your lease [two weeks from the letter date" because you owe [$xxx] in rent as required by your lease in Section 4B, 11.B.1 & 13.3". In addition to the dense legalese, it didn't make clear whether paying the listed amount would prevent an eviction. The letter was also silent on where a resident should go if they needed help. In the meeting with Legal Aid, MPHA staff agreed to review the letter, but, internally, "there was a lot of pushback at that point to the idea of making any change to the 14-day letter. It was like this sacred cow, not be touched." The first page of the letter had remained virtually unchanged for decades—one 20+ year veteran of the agency didn't recall a major change in their tenure. The sentiment was if "not perfect, it was perfectly good enough."

These were not unfounded concerns. Staff worried changes may confuse residents who are used to the letter. This, in turn, would generate questions and additional work for already time-strapped frontline staff. The Legal department also worried changes could

[68] Editorial note: to accurately describe the more active role of designing, necessitates a shift in tone. I make this note because the change can be a bit jarring.

mean the courts would rule it as an improper notice of eviction, invalidating evictions actions stemming from a modified letter. Both concerns were meaningful, but the latter was significant because of the ramifications and the positional authority of the Legal department; they were viewed in the agency as a fair arbiter and received wide deference.

To better understand the problem, I started asking residents about their experience with the 14-day letter. Each had a story about the terror it provoked in them or their neighbors. The stories catalogued seemingly irrational responses to receiving the notice, like waiting to respond or ignoring its contents entirely. Over the following weeks, I began probing MPHA staff about a potential change. These moves framed the intervention as a potential low-cost pilot to be responsive to the concerns of residents and stakeholders. Skepticism persisted about the need to change, but there was a willingness to entertain revisions.

I composed a prototype letter that used mechanisms from the behavioral literature that may generalize to the local context of Minneapolis. This prototype went through an iterative review—starting with the Research & Analytics team. They refined the language to ensure accuracy and appropriateness. I then reviewed it with counsel, walking line by line through the statutory requirements, and highlighting places where language in the letter may need to change. While legal requirements were said to be a major barrier to changing the 14-day letter, there were few regulations governing the letter's wording and layout. The requirements included a 30-day notice of termination, a procedure for filing a grievance, the amount they were behind, and a notice to victims of their rights if they were experiencing domestic abuse. Beyond that, the letter was largely free to tailor. After review, I brought the prototype to residents in a design lab. This session, discussed in Chapter 4, revealed insights that were incorporated for final draft (Appendix).

In iterating on these prototypes, the team had not yet agreed to implement any change. Each successive step, however, added legitimacy and momentum towards adoption. In staff giving their time to improve the notice, they became more committed to the change. The agency shared drafts with Legal Aid, VOA, and Hennepin County, further committing the agency, lest they lose face with these stakeholders. As one Eviction Prevention team member noted in a retrospective interview, the adoption of the changes was "so gradual…it'd be hard for me to pinpoint" when it was accepted, but it proceeded because the credibility that was built together as a team. After months of iterative review, it needed only final approval agency leadership and the frontline staff to implement the experiment. These steps proved more difficult than expected.

The final review proposed significant changes. The first recommended change was to add back the header "NOTICE OF LEASE TERMINATION FOR NONPAYMENT OF RENT." (see Appendix 6). The rationale was the letter requires MPHA provide notice for termination because they didn't "want a tenant to argue that he/she had insufficient notice of what the termination is for." The second change (underlined) was added to the opening paragraph. "I'm writing from MPHA's rent collection team to give you notice of a lease termination due to nonpayment of rent and to inform you of resources available to assist you at this critical time. MPHA wants to help you get your rent payments back on track right away." They argued, without the change, it may create the perception MPHA has control over getting their rent on track when it is the tenant's responsibility to pay the rent. While the logic made sense, the commentary hadn't surfaced in prior reviews.

In part, this points to how information diffuses through an organization. In previous rounds of review, I was present to frame the discussion in a social assistance schema and

reference evidence from residents and the literature to support this approach. But in this final review, the reviewers met separately. In retrospective interviews I learned the conversation was framed in a more conservative, landlord-centric approach. This meeting included members that were not Eviction Prevention team members, and who had not been part of the collective inquiry of the last few months. Because of this, they had a different understanding of the need to change. As one put it, “I think a lot of some people's notions are well, why fix it if it's not broken? You know, this is how we've always done it.” Inside the room, it took advocacy from Eviction Prevention team members to move the project forward. They pointed to the collaborative approach to make the change and leadership’s call to innovate. To bridge the dissent, the proposed additions to the language head and introduction became sticking points for proceeding.

I engaged one-on-one with staff to push back on these changes, reminding them of the resident interviews where a similar header in the original letter was found to be a source of confusion. I pointed to our finding that residents felt the letter was threatening and demeaning and that these additions may undermine our goal of reducing eviction actions. While other members on the Eviction Prevention team also disagreed with the additions, leadership maintained the changes were necessary to protect the agency. To provide a workable solution between the two sources of competing authority, the changes were incorporated into the letter. The experiment was scheduled, and planning proceeded.

Yet, a few days before implementation, I received an email about retrenchment at the frontlines. Frontline staff voiced new concerns that the change would generate unsustainable levels of work, and they did not see the need to change. Members of Eviction Prevention team engaged to push the experiment forward, pointing to the

process, losing face with stakeholders, and even a recent Star Tribune article where a Legal Aid attorney was quoted as saying “Many times people who are in housing court facing a [Minneapolis Housing Authority] eviction are genuinely surprised. They didn’t even realize it was happening. They didn’t realize they were at the stage where they could be homeless in a matter of days.” (Evans 2019). The application of internal social capital and external pressure won the argument. Formal authority was used to say the change would proceed now. The experiment was put into the field.

Unlike the automatic withdrawal letter, changes to the 14-day letter faced strong antecedent beliefs. The letter articulates the landlord-centric approach and was viewed by many in the agency as successful in motivating resident payment. While the technical solution was a changing of the letter, it would not have been possible to make this change without the long process of scaffolding skills and knowledge. To make it work took gathering of information from system participants, establishing trust and legitimacy in the organization, and learning as a group. It also required using social capital accumulated through the process to engage other resources, like informal and formal authority.[69]

For the 14-day letter, behavioral science offered the literature to implement a technical solution and tools to evaluate the impact of that nudge. The science of design offers the complementary skills to engage in a process of learning and reflection with participants to create the environment to effectuate change (Jasanoff 2007; Ansell and Torfing 2014;

[69] Lewin (1951) referred to the small situation shifts that can start or stymie a behavior as Channel Factors. This comes natural to humans, even small kids know to frame requests of their parents by tying them as part of another value or commitment.

Barzelay 2019).[70] While pure technical changes to choice architecture are possible where antecedent preferences of stakeholders are weak and formal authority is high, adaptive work of design can help with complex, instable, and uncertain problems common to the public sector (Buchanan 1992; Ansell 2011; Buuren et al. 2020).

Summary and implications for a conceptual model of behavioral design

This chapter considered, in the case of MPHA, how design approaches can help promote organizational changes that lead to reductions in administrative burdens. While these partnerships can vary dramatically in sector, means, and ends, the literature and case emphasize working with system participants to find structures causing cognitive errors that may be remedied by nudges and introducing this knowledge to promote reflection and deliberation. It also noted that the scale of the resources needed to make change is related to the firmness of organization preferences. Here too, initial explorations can help designers align preferences with viable solutions given the resources at hand. In doing so, public agencies can find ways to implement changes to choice architecture that may improve resident wellbeing. In the final two chapters, I look to formalize a conceptual model of behavioral design, its strengths and weaknesses, and where we may head next.

[70] Informal power created the environment for change, but formal power was ultimately needed to push through the change. The change of the 14-day letter followed Innes and Booher's (2010) contention that, for a collaborative to succeed, there needs to be negotiated guiding texts, dedicated facilitation staff, aligned incentives, inclusive and deliberative decision-making, and leadership support.

Chapter 7 – Behavioral Design and administrative burdens

Administrative burdens are the compliance, learning, and psychological costs associated with interacting with government. These impositions can be intentional impediments to ration resources or unintentional outcomes of poorly designed systems. In either case, they restrict access to benefits and undermine faith in public institutions.

For residents in public housing, these burdens can be small, repeated annoyances like going to a convenience store each month to buy a money order and a stamp to mail your rent. Or they can be more significant, like spending hours collecting paperwork to get access to Emergency Assistance only to be told by a county worker that your meager savings make you ineligible. Burdens are taking time off work to spend the afternoon in court, the shame of facing a judge for non-payment of rent and agreeing to an agency repayment plan that you have no idea how you'll meet. For some, the result is getting evicted and losing affordable housing. With an unlawful detainer retainer now on your record, many residents face prolonged housing instability. As one resident put it, "if you screw up here, you end up on the floor at Harbor Lights or under the bridge."

All Americans contend with administrative burdens, but these hurdles tend to be greatest for those on public assistance. From food stamps to health insurance to student financial aid, procedural barriers are omnipresent. Failing to overcome these burdens means not getting access to the programs you need with reverberating impacts on residents' trust in their government. Perversely, recent scholarship has shown individuals under poverty-induced scarcity are often the least able overcome these procedural frictions.

This is the social safety net America has. But it's not the one we must live with.

Prior literature and this design-focused case study of public housing in Minneapolis shows the potential of the behavioral and design sciences to reduce ordeal mechanisms. Integrating the logic of these two sciences, when appropriate, strengthens our ability to identify underlying structures associated with cognitive errors, work with participants to make changes that fit the context, and measure the impact of the endeavor. I refer to this approach as behavioral design.

A conceptual model of behavioral design

The first relevant reference to behavioral design appears to be Datta and Mullainathan (2014) with others writing about similar concepts (see: Richburg-Hayes, Anzelone, and Dechausay 2017; Fitzhugh, Park, and Nolan 2018; John et al. 2013; Cash, Hartlev, and Durazo 2017; Cho, Schoop, and Murphy 2018). Most of the entities wrestling with this approach are consultants working in the public sector, like the Behavioral Insights Team, MDRC’s Center for Applied Behavioral Science, and Ideas42. This makes sense as the framework emphasizes entering a new organization and offering remedies to cognitive errors. Their use of behavioral design is practical, and the cases that follow tend to emphasize one of the two sciences, often resulting in a facile description of the utility of the other. In my view, the approach to-date, as described in the articles and reports by early adopters, has been more borrowing of methods than a synthesis of logics.

The above behavioral-science-aligned authors commonly talk about the utility of a design approach to diagnose problems and brainstorm ideas, but less often use its immense power to promote change through reflection and deliberation. Design practitioners often cite the need for randomized control trials to validate impact of their interventions, but

offer few examples of rigorous, well-powered field experiments.[71] To integrate the logics and support theory and practice, I offer a conceptual model of behavioral design (Table 18). This model builds on Peter John and colleagues' (2009; 2013) comparison of nudge and "think" strategies to change civic behavior. It's informed by the theory, but also, importantly, reflects the slow scaffolding of knowledge and skills it took to bring about change for public housing in Minneapolis.

The first step in bridging the two sciences is contending with their different epistemological starting points. The positivist behavioral sciences often view researchers as an objective observer capable of restraining prior assumptions to discern truth (Crotty 1998, 26–41; Van de Ven 2007, 24–29). Pragmatists believe no scientists is neutral, but instead, all are "actively seeking discovery." (Polanyi 1966, 79). In my conception, I combine the two perspectives with a pragmatic approach to intervention development and structural change and post-positivist approach to assessing the impact of the interventions. I say post-positivist, instead of positivist, because it acknowledges social science is not an objective observer of natural laws, but, instead, studies actions set in a social context in which a researcher is an active agent (Crotty 1998, 29–41).

Naturally, the prospective work will have implications for the design of any retrospective study. This could lead to conflict between the two epistemologies. When conflict arises, I argue pragmatism should be the first principle. Take, for instance, a problem I faced in the MPHA case. In behavioral science, one may try multiple texts or letter layouts to test what bias mitigating techniques (e.g., salience, peer norms, incentives) are most

[71] Design authors are also often applying the framework to private sector problems. While behavioral design is appropriate there, it's particularly well-suited for the wicked problems common to government.

meaningful. For MPHA, sample size and frontline implementation challenges meant this was not possible, but the Eviction Prevention team believed the change would meaningfully improve resident wellbeing and wanted an experiment to test whether to continue the practice. So, the experiment advanced, despite the inability to test variants of letters. For that reason, we can't say which behavioral concept had an impact, but we did improve practice. In other cases, it may be possible to complete these novel factorial designs, but the first responsibility of the researcher should be to advance wellbeing.

Another subtle, but challenging, problem I found in integrating this case is the tendency for each science to focus on different levels of analysis. Behavioral science typically focuses on interventions that address individual-level cognitive errors, while design often studies meso-level phenomena collective action (John et al. 2013; Grimmelikhuijsen et al. 2017; Jilke, Olsen, et al. 2019). This dissertation points to the importance of considering multiple levels of analysis in both the design and implementation of altered choice architecture. I found in this case, unsurprisingly, residents made decisions in the context of past interactions with institutional structures. Who the nudger is and how are they perceived is of central importance to getting the outcomes we expect from choice architecture. This requires oscillating between two levels of analysis. While I'm hardly the first person to suggest looking at problems at multiple levels of analysis in behavioral science research, it warrants explication here because it requires time and planning (Feitsma and Whitehead 2019; Jilke, Olsen, et al. 2019). Researchers need to be "explicit about the level of analysis at which their individual pieces of research situate" and thoughtful in planning on how to present findings from each level (Jilke, Olsen, et al.

2019, 251). Thoughtfulness here can advance our understanding of the constant conversation between organizational structure and individual decision-making.

The methods employed by behavioral design flow from this dual epistemology and levels of analysis. This means using mixed methods to understand decision-making and the resources, routines, and schemas that make up meso-level structures (Giddens 1984; Pawson, Tilley, and Tilley 1997; Feldman 2004; Small 2011). The process can uncover cognitive errors, as well as what may be causing them and what we may do about it. As Carboni et al. (2019, 269) put it, “research that is conducted without knowing the context not only fails to inform practice, but also leads to a poor understanding of the very mechanisms being tested.” A purely quantitative approach may struggle to understand the context, diminishing the potential to intervene, and may fail in outlining the conditions necessary for replication in new settings.

This connection with participants also gives them a voice. Qualitative research puts us face-to-face with those impacted by choice architecture. In listening to and learning from participants, we may “transfer[s] some power from professionals to users, as it means that both parties contribute resources and have legitimate voice.” (Bovaird 2007, 855), easing criticisms that choice architecture can be coercive (Fischer 1993; Hajer 2003; Jasanoff 2007). In MPHA, for example, that meant eschewing behavioral techniques, like peer norming, that elicited an unexpected response from residents that it violated their desire to be treated with dignity. In this way, we may both better respect the needs of participants and use their knowledge to reduce producing unintended adverse responses.

Table 18: Conceptual model of behavioral design

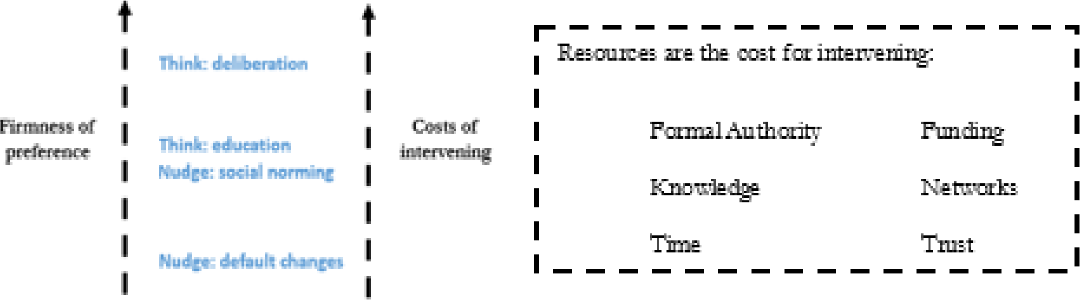
	Behavioral Science	Design	Behavioral Design
Theoretical perspectives	Positivist	Pragmatic	Pragmatic in prospective design, post-positivist in measuring effect
Primary unit of analysis	The individual (micro)	The group or organization (meso)	Both
Methodology	Experimental	Mixed-methods and engaged scholarship	Both
Costs to individual	Low (and often) repeated	High but intermittent	High and intermittent to design participants, low and repeated to non-participants
Change process	Shift in choice framing results in new decision	Value led discussion leads to new shared choice	Learning and reflection for design participants, shifting choice architecture for others
Civic conception	Increasing the attractiveness of positive-sum action	Addressing the general interest	Both
Role of state	Expert-driven identification of biases and shaping choice environment messages	Create new institutional spaces to support citizen-led investigation, respond to citizens	Facilitate co-production and evaluation of choice architecture with partnerships between participants and experts

The methods of behavioral design also diverge from objectivist social science research, as the inclusion of scholars changes the research dynamics (Van de Ven 2007). This engagement is necessary because scholars have the knowledge, perspective, and authority to promote change (Innes and Booher 2010; Sandfort 2018; Van de Ven 2007). In the case of MPHA, it required skilled facilitators to host meetings, negotiate guiding

principles, and surface incentives. In interviews, staff reported they didn't believe change would have occurred at MPHA without outside help. That said, scholars must suss out how their engagement in a complex organization social system may challenge replication of findings to other contexts (Colander and Kupers 2014; Sandfort and Moulton 2019).

As noted, behavioral design takes significant investment for researchers and system participants. This is due to the mixed-methods approach and to the priority placed on understanding and influencing the mechanism of change. In shifting choice architecture, there is an effort to alter the subconscious system 1 processes (Kahneman 2011). In making organizational change, dialecticals look to engage conscious System 2 reasoning. In altering the former, the responses are automatic and often one-time. In the latter, the costs (e.g., time, identity) are much higher but are more durable (Figure 13). The stronger the preference, the more investment in authoritative (power over people) or allocative resources (power over resources) is necessary to make a change (Giddens 1984). These resources come from inside the organization, from outside, or can be created together.

Figure 13: The relationship between preference strength and resources



This type of change also presents risk, as adjusting social behavioral to promote change can backfire in unanticipated ways (Feldman 2004; Innes and Booher 2010; Krijnen, Tannenbaum, and Fox 2017). That said, careful probing can reduce the chance of adverse

reactions an the investment can reap the ongoing rewards associated with developing knowledge, skills, and networks that "strengthens professional practice within public organizations." (Ansell 2011; Barzelay 2019, 11).[72]

Finally, the conceptual model of behavioral design has ramifications for the role of the state. To use this conceptual model, the state becomes a research broker and convener. It invites researchers to explore areas ripe for change and "hold the space" to allow for deliberation, reflection and collaborative decision-making (Quick and Sandfort 2014). This represents a shift from the typical, rational "decide, announce, defend" model of governance, and takes a risk to devolve power to the frontlines (Innes and Booher 2010). The public sector must encourage the use of field experiments and facilitate access to administrative data that allows for low-cost evaluation. They also must be willing to alter their structure through new combinations of resources, routines, and schemas.

The MPHA case showed, in a small measure, the potential for long-term partnerships to use reflection, deliberation, and experimentation to solve important problems. If public agencies extend and institutionalize this type of open, responsive pursuit, they can become the "linchpin" of a problem-solving democracy that builds public consent to pressing problems (Ansell 2011, 190–96).

Behavioral design as a design precedent

Datta and Mullainthan (2014) call for the creation of the new science of behavioral design. My view is that behavioral design is not a science, looking to create empirically defined, generalizable rules through systemic analysis. Instead, I view it as a design

[72] For a brief discussion on institutionalizing a design mindset in organizations, see Appendix .

precedent that uses problem solving to link requirements to solutions. These are partial or whole pieces of design that may we may employ to advance a project (Cross 1989; Barzelay 2019). They're a move—like the Queen's Gambit in chess, a cross-over dribble in basketball, or a slight of hand in a magic show—that links where we are with where we want to be. The behavioral design precedent is useful when a designer is faced with:

1) Present choice architecture that induces cognitive errors that cause poor outcomes;
2) A desire for solutions that allow participants to maintain choice; and
3) An organization willing to invest in resources to change routines and schemas, and measure impact of the changes

This model could be applied for privately operated programs, but behavioral design has built-in advantages for public programs. The method is meant for wicked problems, those with incomplete information, conflicting goals of stakeholders, and no stopping rules, that are common to the public sector. Under these conditions, this design precedent can probe for solutions that balance constraints and desired outcomes, while also maintaining choice-preserving liberty.

Eviction actions in public housing offers all the characteristics of wicked problems. The agency has opposing mandates to be both a social assistance provider and be a landlord. They're left to execute this mission without access to the resources or support necessary to get at the root causes, like poverty, inequity of opportunity, and underinvestment in the social safety net. As they balance that dual mandate, they often move towards residents to provide assistance, but, in some cases, their efforts reveal frustrating behaviors, like frivolous spending or missing of deadlines, "that can lead them to categorize citizens as

undeserving". (Christensen et al. 2020, 4). These behaviors that look like self-indulgence or laziness may just be signs of poverty induced scarcity (Mullainathan and Shafir 2013b) with root causes, again, in poverty, inequity of opportunity, and underinvestment in the social safety net; problems that MPHA neither has the mandate, nor resources to address. Instead, approaches to improve on wicked problems requires probing for better information about the causes and offer creative solutions that balance competing interests (Buchanan 1992; Cross 2011).

To work towards incremental improvements, MPHA refocused staff resources to create the Eviction Prevention team. Over time and with the participants' skill, together we were able to reshape routines and alter schemas. This slow march was accomplished through engaging system participants, and then reflecting and deliberating on what was learned. In turn, the team produced a myriad of ideas, several probes and prototypes, and two interventions that incrementally improved service offerings for residents.

While this case offered a unique set of challenges, wicked problems and administrative burdens are omnipresent in public programs. When agencies and researchers see structure creating behavioral biases, want to maintain participant liberty, and can reallocate resources to promote reflection, behavioral design offers a robust framework for change. In my view, these features make behavioral design generalizable to a range of other settings. That said, even when behavioral design is appropriate, there are still three, perhaps less obvious, considerations for the designer: incrementalism, transportability, and power dynamics. Assuredly there are other considerations, but these warrant exploration because they may be fundamental parts of all behavioral design applications.

Transportability

Behavioral design is engaged and time-intensive. If applied correctly, designers can't help but to build knowledge, networks, skills, and motivation that advances an intervention. Let's say, hypothetically, the behavioral design process identifies a need for a salience-informed nudge to improve access to emergency funding to prevent eviction actions. The process pulls together frontline stakeholders and residents, building new understanding of how access program to avoid evictions and new relationships between participants and staff. The presence of these knowledge and networks may make this nudge more likely to succeed. If future researchers or practitioners replicate only a salience-informed intervention in a new place, due to the lack of the collaborative process, they may not see the same impact. Even if the design process is replicated, too, the fundamental social actions and context are different.

This is at the core of the policy implementation critique of the evidence-based practices movement. Their construction of policy diffusion as a technical one of "controlling 'replication' and reducing confounding factors" instead of one of understanding the social system (Sandfort and Moulton 2019, 2). While we may not be able to assume perfect replication of interventions created under a design scenario, the mixed-methods data collected can help us get into the black box of causal inference to understand the why, when, and to what extent interventions may work (Small 2011; Burtless 2013; White 2013; John et al. 2013). This information can be documented to help future would be replicators understand if this intervention fits their circumstances (Cartwright and Hardie 2012). By engaging in the early inquiry and problem-solving stages of a project,

we provide support for broader questions that are more applicable to future application, enhancing both theory and practice (Dewey 1938; Forester 1999; Schön 1983).

I also don't want to conflate the challenge of replicating an intervention with the generalizability of a behavioral design approach. At the center of behavioral design is the truth that humans are boundedly rational and employ heuristics to ration finite cognitive resources, but humans and organizations also can learn and update those rules of thumb. In that way, behavioral design is a design precedent to encourage reflexive learning. "This requires attention to how the choice of means shapes subsequent ends and to how present problem solving can scaffold competencies for future problem solving." (Ansell 2011, 11). The resulting mixed-method approach can help us converge on the nature of the behavioral biases, target the structures that need to change to address the error, motivate partners to change structure, and measure the impact. As noted previously in the chapter, there need to be certain conditions (a cognitive error, interest in protecting choice, and investment in resources), but, when met, the method has wide application.

Incrementalism

Another worry of the behavioral design approach is that its incremental nature may undermine wholesale reform. The scale of the public housing crisis in this country is massive, with one study showing that in Minnesota, only 41 affordable and available units exist for every 100 household in poverty (National Low Income Housing Coalition 2018). In 2019, Minneapolis Public Housing Authority opened the section 8 housing voucher for the first time in 10 years; in one week, 14,000 Minnesotans applied for a lottery for a chance to be placed at the end of the current waiting list (Minneapolis Public

Housing Authority 2019a). To credibly address the affordable housing crisis would take massive investment, not incremental reform.

This design-focused case study offered modest, pragmatic changes in public housing choice architecture. While COVID-19 interrupted our ability to understand the impact on eviction actions, behavioral science shows us nudges tend to have reliable, but small impacts (Cadario and Chandon 2018; DellaVigna and Linos 2020). This work can pursue ambitious research and practice change agendas. For instance, the Federal Office of Planning, Research and Evaluation funded MDRC to undertake 15 design-based RCTs that reached 100,000 individuals, and demonstrated consistent impacts on outcomes like payment of child support, participation in work support grams, and uptake of high-quality childcare at a cost of a few dollars per month (Richburg-Hayes, Anzelone, and Dechausay 2017). Here again, the impact on any individual household was relatively small and may only last for a short while. On the other hand, improving in small measures is meaningful to blunt the effect of poverty.

Pushing further, however, behavioral design is about deliberation and reflection, which is not limited in scale. Inviting publics into discussion builds skills and knowledge that can advance current and future wellbeing (Innes and Booher 2010; Ansell 2011). The scaffolding affords the potential to make incremental change during times of stasis, but also provides the knowledge and networks that can facilitate more rapid change during periods punctuated equilibrium. For MPHA, units with disparate views of the organization and its problems came together to incorporate new information, update their priors, and take a different approach. They worked inside a policy window to make

changes that were incremental but still entrenched. If the policy window were to shift, this new team resource may be employed to champion larger system change.

Like democracy itself, the ambition for behavioral design to promote widespread deliberation will always exceed its actualization. But it's a positive step for organizations. And "without such communication the public will remain shadowy and formless, seeking spasmodically for itself, but seizing and holding its shadow rather than its substance. Till the Great Society is converted into a Great Community, the Public will remain in eclipse. Communication can alone create a great community." (Dewey 1927, 142).

Power

While the pragmatic approach provides a response to the dualism of empiricism and rationalism, there are legitimate critiques that pragmatism ignores power dynamics and accommodates the status quo (Flyvberg 2001, 49–61; Crotty 1998, 61–63). Beneficiaries from the status quo can use their discursive power to set the "premise of decisions." (March and Simon 1958; Ansell 2011). Disenfranchised communities don't have comparable access to set and drive the agenda (Forester 1982; Soss, Fording, and Schram 2011; A. Dahl and Soss 2014).

In my reading of the literature, pragmatist tend to acknowledge with this critique and offer three ways power's coercive impact can be mitigated: First, they point out, correctly, that while the formal levers of power are not always accessible, policies are never implemented as intended. Instead, diverse stakeholders with varying viewpoints and levels of positional power adapt the proposal to make it fit in their context (Sabatier and Jenkins-Smith 1993; Sandfort 2018). Second, skilled government actors can use the coercive power of the state to countervail the discourse (Galbraith 1952; Innes and

Booher 2010). For representative democracies, this means proactive outreach and inclusive forums to allow all ideas to be heard and arbitrated. Third, and relatedly, pragmatist point to conceptions of leveling the playing field by using dialogue and education to build coalitions of empowered publics (Dewey 1927; Follett 1942; Ansell 2011).

None of this is easy, but it can help ensure choice architecture is shaped in a way that is reflective of participants' long term, self-defined interests (Sunstein 2019; 2020). That said, I accept the skepticism these propositions are too sanguine, and encourage protective efforts to not recreate present power structures. Pragmatic approaches need to identify systemic power differences, work to build inclusive forums to hear from system actors with less power, allow those participants to identify the projects measures of success, and be willing to walk away if a compromise undermines participants' self-defined goals.

Researchers should weigh the impact of transportability, incrementalism, and power dynamics whenever they are considering if behavioral design is the proper tool for a project. The researcher may not be able to remove their influence entirely, but their careful consideration may be able to blunt some of the resulting effects.

Conclusion

In considering this dissertation, I was acutely aware of how administrative burdens impact all of us and wanted to explore what researchers and agencies may do to improve service delivery. In this pursuit, there is an optimism that we can change our institutions to meet those needs, as well as a pragmatism we should make that change now.

In seeking a way forward, I was struck by Herbert Simon's understanding of public administration as the study of human decision-making. Humans satisfice, but public systems are often designed as if we are perfectly rational. Given this boundedness, Simon saw the need to help managers and administrators become better problem solvers, bringing life to the design sciences. After their inception, these ideas, regrettably, diverged from each other and from public administration.

Like orphans separated at birth, the two sciences learned the customs and language of their adopted homes. Behavioral science saw boundedly rational humans making cognitive errors and sought to subtly change choice architecture to align individual actions with their long-term self-interest, while preserving freedom of choice. While pragmatic-informed design saw unsound decision-making coming from a lack of attention or understanding, and mutable through learning and collective inquiry. In the language of behavioral science, nudges looked to change unconscious system 1 preferences (Kahneman 2003; 2011), while design approaches sought to influence active system 2 reasoning. In this way, both approaches offer promises and perils in their application to the wicked problems common to government.

For behavioral science, a common critique is its expert-driven, positivist-informed nudges fail to understand the actual heuristics used by individuals and the criterion by which they judge success. It is also mute on how to alter organizational structure to adopt new choice architecture. While design science, by its own admission, fails to collect post-intervention data, limiting the creation of generalizable knowledge to advance science. The existing literature and case of Minneapolis Public Housing demonstrates that, taken together and under the right circumstances, their complementary nature advances policy.

This dissertation presents behavioral design as an approach to create change that can reduce the compliance, learning, and psychological costs of administrative burdens. It works by applying the knowledge and knowhow of system participants, modifying structures to support change, and rigorously testing the results. In this way, we better understand complex social context that produces individual errors in cognition. By recognizing structure, we can create choice architecture that reflects the gravity it exerts on individuals and collective decision-making.

Public administration as a home for behavioral design

This dissertation is admittedly eclectic. It pulls together literature from economics, psychology, public administration, sociology, political science, architecture, business administration, amongst others. While the behavioral design precedent is the product of a combination of disciplines, for it to advance, it needs a permanent home. This field must be actively engaged in interdisciplinary conversations, if for no reason than the problems behavioral design faces—transportability, incrementalism, power, etc.—are significant.

For behavioral design, I see a parallel with another eclectic concept, administrative burdens. This framework similarly touches a wide swath of social science literature,

including the feedback (political science), administrative exclusion (sociology), ordeal mechanism/take-up (economics), frictions (UX design), and consumer red tape (public management) literatures. It found a home in public administration where it could grow through robust conversations with other disciplines. As an integrative field, public administration has “room for those who heed Waldo’s call for big questions and for those who are inspired by Simon’s focus on micro level behaviors and meso level consequences.” (Carboni et al. 2019, 268). Like administrative burdens, situating behavioral design in public administration can advance both science and governance.[73]

In my view, this isn’t a trivial call for public administration to adopt and advance behavioral design, but an urgent one. The public sector is increasingly using behavioral insights to respond to wicked problems, like poverty, public health, crime, and climate change. At the same time, there is growing skepticism of the beneficence of government and its experts (Pew Charitable Trust 2017). Nudging, as currently employed as a policy instrument, often follows the technocratic decide, announce, defend model of governance, instead of a more open and collaborative standard.

If we continue to design choice architecture that fails to reflect the knowledge and self-defined goals of residents, we risk a backlash that will undermine the advances of the behavioral revolution. For researchers, practitioners, and agencies, this means working together to use principles of design to foster dialogue that reveals what people know about their world and create solutions that matter.

[73] It’s intuitive, yet comprehensive nature captured the public zeitgeist in a way few policy books are able, even earning a tweet from prominent member of the House of Representatives, Katie Porter.

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Appendices

Appendix 1

Identifying and intervening to remove behavioral biases

The administrative burden framework is useful because it makes explicit all the costs that impact program participation. Identifying and articulating the full range of burdens is helpful because U.S. public policy operates in a complex environment. The complexity, while problematic in many respects, also means a diversity of levers exist to influence change. For instance, a conservative legislator may not be sympathetic to the burden of recertification for participants on food stamps, but he may be swayed by the argument it would save time and taxpayer dollars to have bureaucrats complete this paperwork less frequently. Alternatively, it may not be possible for a state or county to change the complexity of federal paperwork for college aid programs, but they could send students reminders to apply for financial aid or increase the availability of local counselors to help navigate the process. In this way, any level in our federalist system—from Congress to street-level bureaucrats—can identify and seek to reduce burdens in a way that fits their authority and context.

Extending this heuristic, I've identified three categories of burden reduction interventions in the existing literature (Table 19). Ease, speed, or danger refers how feasible it is to comply with bureaucratic demands; danger specifically highlights possible legal ramifications that could come from interactions with law enforcement. Information, marketing, and salience speaks to the awareness by clients of a program and their eligibility; this can also increase the perceived benefits for participation. These interventions also seek to reduce the stigma of participation, including interventions that

normalize use. Community and caseworker relationships are interventions that change the discretion, availability, or actions of participants. Similar to the idea of therapeutic-alliance literature (see Horvath and Luborsky 1993; D. J. Martin, Garske, and Davis 2000), the relationship itself can affect the other two categories.

These heuristics are important because they provide rules of thumb to identify organizational change efforts. I'll discuss this more in later sections.

Table 19: Types of interventions to reduce burden

Intervention type	Example
Ease, speed, or danger	Increased leniency in state vehicle exemption policies, longer recertification periods, and expanded categorical eligibility increase food stamp receipt (Ratcliffe 2007).
Information, marketing, or salience	Behavioral interventions that sends mailings to alert clients to their eligibility for EITC (Bhargava and Manoli 2015)
Community or caseworker relationship	Performance measurement regimes that encourage frontline workers for refugees to punish compliant non-compliant participants (Darrow 2018)

In this review of administrative burden, I've highlighted the negative impacts that procedural hurdles have on citizen participation in social programs. A long line of research has shown ways to reduce learning, compliance, and psychological costs. Some of these interventions take the traditional approaches of altering resident incentives or motivating action through education and reasoning. Other interventions discussed, however, targeted humans' cognitive limitations.

Appendix 2

Deduction, induction, and abduction in design

While deductive reasoning can come to concrete, technical solutions, the nature of design problems is often one that can't be solved. Instead, design "creates proposed solutions that be judged on a sliding scale of better or worse relative to the needs of stakeholders." (Dorst 2015, 43). This means designers hold the project requirements, available elements, and desired, user-defined outcomes simultaneously together. As the what and how are highlight dependent upon each other, the designer works to develop them in parallel.

Table 20: Deduction, induction, and abduction

Reasoning	Description	Application
Deduction	What + How = ?	Know elements and how they interact; reason to outcome
Induction	What + ? = Outcome	Know element and outcome; hypothesize and test mechanism/pattern of relationships
Abduction	? + ? = Outcome	Re-arrange elements and relationships to create new concepts

Source: Adapted from *Frame Innovation* (Dorst 2015)

In my case, Bason's three phase of design-research offer overlap to the types of logic outlined in Table 20. In data collection, I used deductive and inductive research (e.g., interviews, observation, and descriptives) to understand what is. In the final stage, evaluating alternatives, experiments evaluated the outcome of our interventions inductively. In the middle, I used inductive logic, where pieces of coherent information led to hypothesizing about a piece of the puzzle—let's say the what—and see the impact on interactions and outcomes. There is, of course, overlap in the phases, but, due to the realities and timelines of dissertations, I may follow a more structured approach.

Appendix 3

Date Collection elements

Research question	Data sources (see data collection elements sheet)	Further explanation of analytic procedure and their ability to answer the research question	Question details	Contribution
In the case of Minneapolis Public Housing, what conditions contributed to the 1) current organizational choice architecture and 2) resident cognitive biases that are associated with negative housing outcomes?	Staff interviews (Qs 2-5) Resident interviews (Qs 2, 4-6) Observation (Qs 1-5) Document review (see guide) Descriptive/statistical analysis of admin data (see guide) Survey (Qs 3, 7, 15-16)	Use qualitative interrogation to identify places where the current choice architecture and flawed resident heuristics appear to contribute to negative outcomes. This includes identifying the values and logic that underlie these conditions. The quantitative analysis will assess the generalizability of qualitative findings and potential scale of impact if the architecture is altered and identify predictors of eviction actions.	Type: Descriptive Unit of analysis: Organizational and individual	Develop the theoretical understanding of the non-neutrality of default choice architecture and how understanding this context is critical to identifying viable and valuable behaviorally-informed interventions.
How do modifications to the choice architecture emerge and evolve over time through the application of a design-based approach?	Staff interviews (Qs 2-6) Resident interviews (Qs 2-8) Survey (Qs 1-8, 12-13, 15-16) Document review (see guide) Design labs/focus groups	Use data generated from interviews, surveys, and design labs with system participants to track the identification and evolution of behaviorally-informed ideas to either failure or to implementation. Explore how the design process refined the interventions and what, if any, contributions it made to legitimating the change in the default choice architecture. 0	Type: Descriptive Unit of analysis: Organizational	Methodological contributions from integrating design to improve the contextual fit and organizational legitimacy of behavioral interventions.

What impact did the design-based intervention(s) have on eviction actions in Minneapolis Public Housing?	Administrative data (see guide) and qualitative accounts of the process	Use administrative data to estimate the results of a design-based behaviorally-informed intervention to a previously attempted "steady state" intervention (that used neither a behavioral nor design approach) and a behaviorally-informed intervention (that did not use a design approach). Complement this analysis with qualitative data.	Type: Comparative Unit of analysis: Individual	Test of whether, in this case, the integrated approach (discussed in contribution two) was associated with better resident outcomes.
What does combining the tools of behavioral and design science add to our understanding of reducing the administrative burdens of interacting with government?	Abstraction of the data sources from above	Use the case to see if the integration of core logics and methods adds anything new to our understanding of reducing administrative burdens.	Type: Descriptive Unit of analysis: Organizational	Interrogate how combining the core logics and methods of design and behavioral science changes our understanding of burdens. What does this new lens add?

Semi-structured interviews of supervisors and staff

Purpose: My goal is to understand the current rent collection and eviction process. To do so, I will ask the staff to walk through their roles. I will probe the system bottlenecks that seem to be associated with negative outcomes, why the system is designed in that manner, and how staff and residents work around these impediments. This probing will include both the values and logic that underlie the current choice architecture and potential interventions.

Implementation: The below interview is semi-structured. I will change the ordering and structure of questions as appropriate. In general, I will have staff talk through the monthly rent collection and eviction process, probing along the way for additional detail. This strategy is appropriate because there is a recurring monthly rhythm to rent collection and evictions.

Script: Thanks for taking time today to meet with me and talk about your experience with public housing. I am a doctoral student at the University of Minnesota's Humphrey School of Public Affairs, and I am working with Minneapolis Public Housing trying to ease rent collection and reduce eviction actions. The first step of this research is to understand the present process and system costs that lead to bad outcomes. [Provide and explain consent form. Note the data is private and information will only be released in the aggregate]. To make sure that we capture all the discussion, is it alright if I record our conversations today?

1. What's a typical day like for a [position]?
2. When do you typically first learn that a resident is struggling to pay rent?
    a. What barrier are they hitting?
    b. What do [your staff/you] do to intervene? Probe if their intervention differs from formal operations manual or from how other staff responded
    c. What's the resident perception of this barrier? Probe for how residents respond to the barrier
    d. Has this barrier/policy always been in place? Probe institutional, operational/organizational, attitudinal, and resource limitations
    e. What could we do to reduce this barrier?
    f. What happens next in the process? [Repeat process above]
3. What message do you think [these system barriers] delivers to residents?
4. You described your role to me, what do residents think your job is? Probe to review how they perceive residents and relative roles
5. Have there been any recent changes that have reduced or increased barriers to on-time payment?

6. What ideas do you have for changing the process to make it easier for residents to pay rent or get help if they need it?
    a. Probe for how that would reduce learning, compliance, or psychological costs?
7. Is there anything else I should know about this system?

Post data collection:

Complete memo of most important takeaways. Save audio files (using Otter) in Box and delete from phone. Update user-centered journey map documents. Add in narrative accounts of the program process flow from the interview. Document informant participation on data collection catalogue. Code audio version in Nvivo then have transcribed by automated software (Otter), and complete inductive coding of transcript in NVIVO.

Semi structured resident interview protocol:

Purpose: To understand resident's perception of the rent collection process and how they deal with shortfalls in rent. I will probe areas where they are discussing decision-making and tradeoffs to rent payment. I am also interested in places where their understanding of the system is different than written procedures and staff interviews. Finally, I will probe areas staff interviews revealed as potential places for interventions.

Implementation: The below interview is semi-structured and will change the ordering and structure as appropriate.

Script: Thanks for taking time today to meet with me and talk about your experience with public housing. I am a doctoral student at the University of Minnesota's Humphrey School of Public Affairs, and I am working with Minneapolis Public Housing trying to improve services in public housing. [Community member name] suggested that'd you be a good person to talk to. We really appreciate your taking the time to share with us your experiences. [Consent and payment process discussion]. To make sure that we capture all the discussion, is it alright if I record our conversations today?

1) How long have you lived at [xxx]?
    a. What do you like about living here?
    b. What do you dislike?
2) How do you pay your rent each month?
    a. What do you think of this process? Probe for what's hard in the process
    b. Is there a way they could make it easier to pay?
3) If a property manager needs to get a hold of you, how do they do so?
    a. Is there a better way to do that?

4) Has there been a time in the last year where you've been late on your rent?
    a. Can you share your experience? Probe on tradeoffs they were facing and how they managed those tradeoffs.
    b. Where did you go when you needed help?
        i. What'd you think about this process/processes?
        ii. How did [organization] staff treat you. Probe on how this made them feel
5) If, in the future, you knew you wouldn't have enough money for rent (maybe because of another emergency), where will go to find help?
6) Have you ever used Emergency Assistance? Tell me about that process. Probe for administrative costs
7) What ideas do you have on how MPHA might improve their services?

As was mentioned at the beginning, we are going to use this information and that provided by other residents, to help MPHA improve their overall services and support for residents.

8) To that end, is there anything else we should have asked you to make sure that we are as informed as we can be about your experiences?

Post data collection

Procedures same as for staff interview.

Contextual observation:

Definition: Ethnographers task "is not to determine the truth, but to reveal multiple truths apparent in others' lives." (Emerson, Fretz, and Shaw 2011, 3). Designers, instead, are actively searching for ways to frame and address problems (Cross 2011; Ansell and Torfing 2014). They use "contextual observation" to understand how participants interact in a setting and find ways to change those interactions (Barab et al. 2014; Norman 2013; Hanington and Martin 2012). This approach, however, tends to be less emergent and theory-generation focused than traditional ethnography.

Setting: Concurrent to interviews, I'll incorporate observations of important sites. These places will be where clients face critical moments that levy burdens, like MPHA's late-payment window, provider waiting rooms, social worker offices, housing court appearances, and income recertification meetings.

I will observe and, from time to time, discuss with staff and residents' questions to contribute to my understanding of:

1) The current choice architecture

2) How the formal process described in documents and interviews differs from the process in practice
3) Staff and resident workarounds for barriers and application of discretion
4) Aspects of the process residents are confused by or concerned with
5) The nature of interactions between staff and residents

Observations will last 2-4 hours for a total of around 20 hours. I will jot notes, as appropriate, and complete memo's after each observation. These memos will then be coded in NVIVO.

Administrative data:

The review of this data will help identify specific impediments in the process or trends in eviction actions. It will also help me understand if intervention ideas generated from the qualitative section are generalizable to the broader MPHA population and the potential scale of the impact. I plan to use multi-variate, multiple regression analysis and other econometric techniques to identify predictors of eviction actions. After we've identified interventions, this data will let me evaluate the impact of changes.

Data elements in the longitudinal administrative dataset includes (but are not limited to): Age, gender disability status, race, address, household members, income, rent portion, payments, date of payments, unlawful detainers, evictions, phone number, emergency contact, income sources, assets, English speaking and reading status, and primary language.

Document review:

I will review and code public and internal public housing documents. These documents are valuable because they express the current choice architecture, operationalization of MPHA's mission and values, reveal how they view residents' claims for assistance, and highlight places for potential interventions. I will code this data inductively in NVIVO.

Current documents include (but is not limited to): housing applications, MPHA operations manual, income recertification form, direct deposit/vendor pay set-up, MPHA annual reports, reminders for late payment, unlawful detainer warnings, eviction team charter, late payment settlement agreements, writs of recovery, past interviews from other housing-related products, and other organizational documents.

Field survey

(April – May 2019)

This survey sought to get client opinions on impediments to rent payment and what they do when they feel cannot pay. I also added questions on their experiences with administrative burden. The survey included an identifier so we could link the responses to the administrative data on late payments and evictions. As needed, I can field additional surveys.

Mr./Mrs. Resident XXX

1234 Main St. #782

Minneapolis, MN 55XXX

Dear _________,

Minneapolis Public Housing Authority (MPHA) values our residents and knows you have good ideas on what makes for quality housing and strong communities. This survey offers you a chance to tell us ways we can improve.

This survey is voluntary, and your responses are confidential. By completing and mailing back this survey, you are helping the agency learn more about your experience as a resident. There are no "right" or "wrong" answers, and your replies will help the agency better serve residents.

To submit, your completed survey, put it in the pre-paid return envelope and drop it in the mail!

Survey of Residents

1. In the last 12 months, how have you mostly paid your rent? Circle one.
   a. By mail
   b. By automatic withdrawal from my bank account
   c. In person at 1001 Washington Ave N after receiving a letter
   d. I have a rep payee
   e. Other____
2. What day of the month do you think rent payments are due to MPHA?
   ____
3. For the next set of questions please rate how much you agree or disagree with each statement

	Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
If offered, I'd pay my rent online					
I feel my rent payment amount is fair					
Paying rent is a stressful process					
I am satisfied by the quality of my unit for the rent I pay					
The paperwork MPHA sends me is hard to understand					
If I'm having trouble paying rent, I know where to get help					
It takes me a long time to pay my rent					
Public housing staff treat me with respect					

4. How many months in the last year have you worried about not being able to pay rent?

0 1-3 4-6 7-9 10-12

5. In the last 12 months, have you received emergency assistance from Hennepin County?

Yes　　　　　　　　No

6. How many times have you utilized emergency assistance in the last 5 years?

0　　1　　2　　3　　4　　5

7. In the list below, please rank in order (1-8), the order in which you'd pay the following items. Pay first = 1. Pay last = 8.

__________ friends who need it

__________ health insurance

__________ rent

__________ grocery

__________ past debt

__________ transportation

__________ funeral costs

__________ material items

__________ other (list below)

8. If you realize that you are going to be short on rent, what do you do? Please select all that apply:

- ☐ Contact an agency that assists in emergency services
- ☐ Contact property management
- ☐ Contact Volunteers of America (VOA)
- ☐ Contact rent collections
- ☐ Wait until you have enough money to pay the full amount
- ☐ Wait to pay double rent the next month
- ☐ Ask to borrow money from a family member or friend
- ☐ Other____

  ____

  ____

  ____

9. If you got charged $332 in court fees for having an Unlawful Detainer filed, how many months would it take you to pay that amount?

Less than 1 2-3 4-6 7-10 10-12

10. Did you know that Unlawful Detainers stay on your rental history for up to 10 years?

Yes No

11. How often do you receive your income or benefit payments?

    a. Monthly
    b. Weekly
    c. Every other week
    d. No monthly income

12. On what day of the month do you usually receive these benefit payments?

____

13. Would you be interested in receiving a reminder from MPHA when your rent is due through your phone, such as a text or a phone call? *Note: Selecting yes does not sign you up for text or phone call reminders. This service is not currently available.*

No Yes Do not have a telephone

14. Have you ever been evicted from a rental unit?

Yes No Not sure

15. Think of the last time you were late paying your rent. What prevented you from paying on time?

____
____
____

16. What would make it easier for you to pay your rent on time? Is there anything MPHA can do to help with that?

____
____

Appendix 4

Ideas to prevent evictions and improve resident experience

Intervention	Timing	Feasibility	Impact	Implemented?
Add rent payment drop boxes to buildings or have office hours in the building where payment is accepted	Prevention	Low	High	n/a
Allow payment of non-rent fees (e.g., damage repair or AC rental) through automatic withdrawal	Prevention	Medium	Low	Will be implemented with new rent payment system implemented in 2020-21
Allow residents to self-select payment date, to better align with when they receive their checks	Prevention	Medium	High	Will be implemented with new rent payment system implemented in 2020-21
Confirm by text message when a rent payment is received (all rent or for direct deposit only)	Prevention	Medium	Medium	n/a
Create a website page for what to do if you're behind on rent	Prevention	High	Low	Completed
Encourage eligible residents to sign-up for vendor pay through Hennepin County.	Prevention	Medium	Medium	n/a
Encourage sign-up for automatic withdrawal at initial move-in	Prevention	High	Medium	n/a
For residents with late Social Security payment dates, create a fund to get them a month ahead and then set-up automatic withdrawal	Prevention	Low	High	n/a
Get bank accounts behind Direct Express SSA to allow for automatic withdrawal	Prevention	Not feasible	Medium	Explored in detail. SSA will not release that information

Have VOA become a rep payee	Prevention	High	Medium	n/a
Increase the available hours for VOA and the number of buildings they serve	Prevention	Low	Medium	n/a
Increase the hours for the rent collection window	Prevention	Medium	Low	n/a
Make automatic withdrawal the default for all eligible residents on entry into public housing	Prevention	High	Medium	n/a
Make having an emergency contact the agency can contact in case of delinquency the default option in recertification	Prevention	High	Low	n/a
Offer payment of rent by credit or bank card	Prevention	Medium	Medium	Will be implemented with new rent payment system implemented in 2020-21
Provide incentive/lottery for on-time payment	Prevention	High	Low	Implemented, descriptive data showed modest impact
Send behaviorally informed notification to sign-up for automatic withdrawal	Prevention	High	Medium	Implemented, evaluated (26% increase in sign-ups for treatment)
Send pre-paid envelopes to mail rent	Prevention	Medium	Low	n/a
Simplify sign-up for direct deposit form; in particular, do not require a voided check or bank statement	Prevention	High	Low	Completed
Survey/interviews residents annually to better understand barriers	Prevention	High	Low	Implemented for 2019
Take 13 rather than 12 payments to create a rent payment holiday	Prevention	Low	High	n/a

Outreach to resident if resident receives NSF charge. Do not automatically remove from automatic withdrawal, if resident pays and sets a plan to avoid NSF.	Early intervention	High	Low	n/a
Provide more timely and detailed data on who is behind on rent to VOA and property managers	Early intervention	High	Low	Implemented, evaluation impractical
Revise the 14-day lease termination warning letter	Early intervention	Medium	Medium	Implemented and evaluation planned, but halted due to COVID
Send text reminders to residents that are behind on rent	Early intervention	High	Medium	n/a
Create a checklist of what to do and what paper you need to apply for EGA/EA, send to all residents	Curing	Medium	Low	n/a
Create a fund to waive the court filing fee, if back rent is paid	Curing	Low	High	n/a
Create an emergency fund for residents ineligible for EGA/EA	Curing	Low	High	n/a
Follow-up with residents that have settlement agreements to ensure understanding and compliance	Curing	High	Medium	n/a
Send text reminders to residents that are in danger of violating a repayment agreement	Curing	High	Medium	n/a
Send text reminders to residents that need to go to court	Curing	High	Medium	n/a

Appendix 5

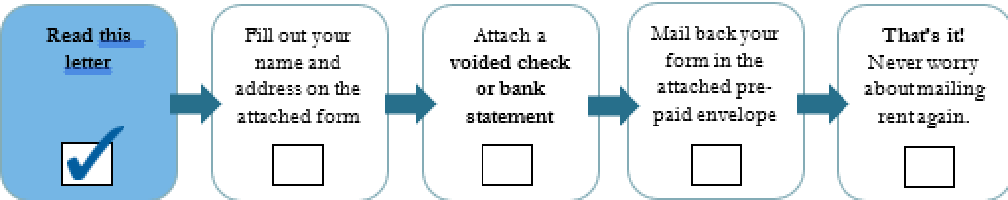
Automatic withdrawal letter

Automatic Withdrawal Authorization Form

You may qualify for MPHA's auto-pay rent service, a convenient and secure way to pay your rent on time every month directly from your bank account. No checks, money orders, or stamps needed. Here's why we think automatic rent payment is a great option for you:

- **We do all the work for you.** Your rent will be sent automatically from your bank account to MPHA on the 5th of every month. You never have to worry about mailing your rent again.
- **Never worry about paying late.** With automatic payment, your rent will always be on time.

Here's how to sign up:



Important Information:

- After returning the enrollment form, you will receive a letter telling you when automatic withdrawal will start. Until then continue to pay your rent as usual.
- If you have questions, call MPHA at 612-342-1984, talk with your property manager or VOA staff.
- If you submit a bank statement, it must include your entire account number and bank routing number.
- MPHA will withdraw rent on the **5th of each month** or next business day if the 5th is a weekend or holiday.
- Tenants must notify MPHA of a change in bank account information by re-submitting this form.
- Changes or cancellation must be received **prior to the 15th of the month** for them to take effect by the first of the next month. Tenants must cancel automatic withdrawal if they move out of MPHA housing.
- If you don't have enough money at the time of withdrawal, you will be charged a **$15** fee.

To sign up for this program, complete this form, attach a voided check or bank statement, and mail it to:

Minneapolis Public Housing Authority
Attention: Finance Department
1001 Washington Ave. North
Minneapolis, MN 55401

OR

Give the form to your Property Manager

Find the form online at www.mphaonline.org/rentpayment

QUESTIONS? Take the form to VOA worker, your property manager, or call MPHA at 612-342-1984

********************RETURN THIS COMPLETED FORM TO MPHA*************************

☐ Please check if this is a **change/update** to an existing Automatic Withdrawal Program Authorization.

Resident Information:

Name		Last 4 Social Security Number **XXX-XX-** ____
Address		Apt #
City	State	Zip

Bank Account Information:

Type of Account (check 1): Checking ☐ OR Savings ☐	
Bank Account Number	Bank Routing Number

Minneapolis Public Housing Authority (MPHA) is authorized to collect amounts owed by me for monthly rent due by withdrawing funds from the above account. I understand that amounts due for charges other than rent will not be withdrawn from my account and must be paid through another method.

I understand that MPHA will make withdrawals on the **fifth (5th) of the month**, or next business day if the 5th occurs on a weekend or bank holiday, for current month's rent owed as of the first of the month. **MPHA will notify me of the date that the withdrawals will begin.** I understand that I am responsible to notify MPHA of a change in bank account information by completing and submitting a new Authorization Form. I understand that any changes or cancellation must be received by MPHA prior to the fifteenth (15th) of the month for the changes to be in effect by the first of the subsequent month.

Joe Smith
1234 Anystreet Court
Anycity, AA 12345
1234
Pay to the order of
Dollars
VOID
Bank Anywhere
Routing Number
Account Number
Check Number

I understand that if my bank denies the automatic withdrawal, MPHA will not be liable for my losses. If through no fault of MPHA, I do not have enough money in my account or have closed my account, this will be considered a non-payment of rent and in addition I will be charged a **$15** processing fee for non-sufficient funds (NSF). I understand that after returning the enrollment form, I will receive a letter telling me when automatic withdrawal will start. Until then I will continue to pay rent as usual. If your rent is paid through auto-withdrawal, you must cancel automatic payments at the time you give Notice to Vacate. If you fail to do so, rent payments will continue with auto-withdrawal until your account is settled (approx. 21 days after the day you vacate.)

Signature ______________________ Date ______________________

Electronic communication (optional)

If you would prefer communications regarding your automatic payments to be electronic only, check the box and provide your email address. **NOTE:** Selecting this option means you will NOT receive physical mail regarding your automatic payments.

☐ **YES—Sign me up for electronic communication |Email Address:** ______________________

English

This information is important. If you do not understand it, please call your MPHA representative for free language assistance.

Hmong

Yog koj tsi to taub txog cov nqi lust seem ceeb no, thov hu mus rau ntawm tsev luam qhov chaw ua hauj lwm MPHA peb yuav pab ntxhais rau nej.

Somali

Halkan waxaa ku qoran war ama akhbaar aad u muhim ah, haddii aad fahmi kari weydo, fadlan ula tag wakiilka hay'adda MPHA, si aad tarjumaad bilaash ah uga hesho.

Oromo

Beeksifni kun hedduu barbaachisaa dha. Yaadni isaa hoo isinif hin galle ta'e, bakka bu'aa "MPHA" (Bulchiinsa Mana Mootummaa Magaalaa Minneapolis) akka afaan isinif hikamu gargaarsa tolaa gaafadhaa.

Amharic (Ethiopian)

[illegible]

Laotian

[illegible]

Spanish

Esta información es importante, si usted no lo entienda, por favor póngase en contacto con MPHA para asistencia lingüística gratuita.

Appendix 6

14-day letter – original

If you do not resolve or pay the past due rent by **March 29, 2019** or pay all of your unpaid rent including next month's rent by **April 9, 2019**, MPHA will file an eviction action in court against you for **all past due rent including April's rent**.

Phone: 612-342-1216 Fax: 612-335-4484

Minneapolis, MN

UNIT ID #

NOTICE OF LEASE TERMINATION FOR NON-PAYMENT OF RENT/RETRO

Dear MPHA Resident:

MPHA is terminating your lease on **March 29, 2019** because you owe **$159.00** in rent as required by your Lease in Sections 4B, 11.B.1 & 13.3. Your unpaid rent may include monthly or retroactive rent but does not include other charges that you may owe. MPHA will withdraw the lease termination if you pay all past due rent by 4 p.m. on **March 29, 2019**, or the above amount including April's rent by April 9, 2019.

Do not mail your rent payment. You must pay all past due rent at MPHA's Rent Collection Department at 1001 Washington Avenue North, Minneapolis. Also, the Rent Collection Department is closed every Monday and Wednesday. MPHA will not accept rent payments on Mondays and Wednesdays.

You must pay your rent by money order or cashier's check. **MPHA will not accept a personal check or cash at the payment window.** MPHA's records show that you owe rent as follows:

PAST DUE	MAR '19 Monthly Rent	FEB '19 Monthly Rent	JAN '19 Monthly Rent	DEC '18 Monthly Rent	NOV '18 Monthly Rent	OCT '18 Monthly Rent
Monthly Rent	$159	$	$	$	$	$
Retro Rent	$	$	$	$	$	$

A. Only For Minimum Rent Tenants

If you do not have an income and cannot pay your minimum rent because of a qualifying financial hardship, you may ask for an exemption to paying minimum rent. MPHA will suspend this lease termination if you submit a written request for a hardship exemption to your Property Manager on or before March 29, 2019. For more information about a minimum rent hardship, contact your Property Manager.

B. Your Rights

1. You may have an attorney or person of your choice represent you at your own expense.
2. You may review your tenant file and other documents upon which MPHA may rely.
3. If you dispute the amount of rent owed, you may request an Informal Settlement Conference (ISC).
4. You may present defenses at the ISC, Formal Hearing and in a court eviction action.

1001 WASHINGTON AVENUE NORTH MINNEAPOLIS, MN 55401-1043 PHONE: (612) 342-1400 FAX: (612) 342-1407 WWW.MPHAONLINE.ORG
EQUAL HOUSING OPPORTUNITY – EQUAL EMPLOYMENT OPPORTUNITY

14-day letter – post design lab

September 13, 2019

Tenant Name
Tenant Address
Minneapolis, MN Zip Code

UNIT ID #

Dear MPHA Resident:

YOUR RENT IS LATE AND YOU MUST PAY NOW TO AVOID TERMINATION OF YOUR LEASE

I'm writing from MPHA's rent collection team and MPHA wants to help you get your rent payments back on track right away.

We know it can be hard to pay all your bills. However, when you signed your Lease you agreed to pay rent on time (Sections 4B, 11.B.1 13.3). Late payments put your home at risk and can impact our ability to fund community services. If you need help, make a plan today to meet with Volunteers of America or your property manager.

Our records show you owe: **$900 in unpaid rent, which includes $450 from July and $450 from August.** MPHA will remove this notice of lease termination if you pay all past due rent by 4pm on September 29 or the above amount and October's rent by October 15, 2019. This amount does not include air conditioner, sales, or other services charges you may owe. If you've been notified of a for-cause lease termination, this payment will not resolve that termination.

Sincerely,

Jack Smith

John Smith

Rent Recovery Agent

To avoid losing your housing:

Pay $900 by September 27, 2019.

You must pay past due rent at the rent collection window at 1001 Washington Avenue North, Minneapolis.

Rent collections is open Tuesday, Thursday, and Friday 8am – 4:30pm.

To pay your rent, you must use a money order or cashier's check.

For questions, please call:
Agent's Name
Phone: 612-342-XXXX

Having trouble paying?

If you have questions about your rent payment or need to help find help paying, contact:

1) Volunteers of America (call 612-821-2189 to reach VOA Social Service Staff),
2) Your property manager,
3) A list of resources can also be found here: https://mphaonline.org/rentpayment/ .

Has your income or living situation changed?

Contact your property manager to see if your rent needs to be changed.

14-day letter – final version

September 13, 2019

NOTICE OF LEASE TERMINATION FOR NONPAYMENT OF RENT

Tenant Name
Tenant Address
Minneapolis, MN Zip Code

Dear MPHA Resident:

YOUR RENT IS LATE AND YOU MUST PAY NOW TO AVOID LOSING YOUR HOUSING.

I'm writing from MPHA's rent collection team to give you notice of a lease termination due to nonpayment of rent and to inform you of resources available to assist you at this critical time. It's not too late to save your housing.

We know it can be hard to pay all your bills. However, when you signed your lease you agreed to pay rent on time[1]. Late payments put your home at risk and can impact our ability to fund other MPHA activities. If you need help, make a plan today to meet with Volunteers of America or a property manager for resources to help you.

Our records show you owe: **$900 in unpaid rent** (see the table on the next page for more detail). You have two options to repay:

1) Pay all past due rent by 4pm on September 29, or
2) Pay all past due rent and October's rent by October 15, 2019.

To avoid losing your housing:

Pay $900 by September 27, 2019.

You must pay past due rent at the rent collection window at 1001 Washington Ave N, Minneapolis.

Rent Collections is open Tuesday, Thursday, and Friday 8am – 4:30pm.

To pay your rent, you must use a money order or cashier's check.

For questions, please call:
Agent's Name
Phone: 612-342-XXXX

Either option will get your rental payments back on track and you will avoid the filing of an eviction action and the court service fee of $337.

Having trouble paying?

If you have questions about your rent payment or need help paying, contact:

1) Volunteers of America (call 612-821-2189 to reach VOA Social Service Staff)
2) Your property manager
3) Hennepin County Emergency Assistance (Highrise call 612-596-1300; Families call 612-596-1900)

Has your income or living situation changed?

Contact your property manager to see if your rent needs to be changed for future months.

[1] *See lease sections 4B, 11.B.1–13.3* *Entity ID*

1001 WASHINGTON AVENUE N. MINNEAPOLIS, MN 55401 | PHONE: (612) 342-1400 | FAX: (612) 342-1407 |
https://mphaonline.org/ | EQUAL HOUSING OPPORTUNITY – EQUAL EMPLOYMENT OPPORTUNITY

A. Income or financial hardships

If you do not have an income and cannot pay minimum rent ($75) because of a qualifying financial hardship, you may ask for an exemption to paying minimum rent. MPHA will suspend this lease termination if you submit a written request for a hardship exemption to your property manager before September 27, 2019. For more information about a minimum rent hardship, contact your property manager.

B. Your rights and resources

1) If you need to locate resources to help you pay your late rent, please contact the Volunteers of America-MN social service staff in your building.
2) If you dispute the amount of rent owed, you may request an Informal Settlement Conference (ISC). You must deliver a written request to your property manager by September 27, 2019 or you will waive your right to the grievance process. You retain the right to contest the lease termination in a court proceeding.
3) You may have an attorney or person of your choice represent you at your own expense. You may present defenses at the ISC, Formal Hearing and in a court eviction action. You may review your tenant file and other documents upon which MPHA may rely.
4) If you want a copy of MPHA's grievance procedure, please contact your Property Manager.
5) If you are an assisted living participant or have a qualifying disability, you may request a reasonable accommodation.
6) If you are a victim of actual or threatened domestic violence, dating violence, sexual assault, or stalking and the incident is directly related to your nonpayment of rent, you may request protection under the Violence Against Women Act (VAWA).

C. Court eviction action and settlement agreement if lease compliant

MPHA will file a court eviction if you do not: 1) pay all rent that is owed by the due date 2) timely submit a written request for an ISC or a hardship exemption to paying minimum rent; 3) request a reasonable accommodation or VAWA certification, or 4) vacate your unit and remove all personal belongings.

If you do not pay all rent that is owed before October 15, 2019 MPHA will file an eviction action. If this occurs, you will be responsible for all rent that is owed and the court service fee of $337. Acceptance of partial payments of rent does not waive MPHA's right to file an eviction action.

D. Total rent owed by month

Your unpaid rent may include monthly or retroactive rent but does not include other charges you may owe. If you've been notified of a for-cause lease termination, this payment will not resolve that termination.

Past due	April '19	May '19	June '19	July '19	August '19	October '19	Total owed
Monthly rent					$450	$450	**$900**
Retro rent							

Sincerely,
[E-Signature from Chris and Yolanda]

[Agent's name]
Rent Recovery Agent

cc: Tenant File

English
This information is important. If you do not understand it, please call your MPHA representative for free language assistance.
Hmong
[illegible]
Somali
[illegible]
Oromo
[illegible]
Amharic (Ethiopian)
[illegible]
Laotian
[illegible]
Spanish
Esta información es importante, si usted no la entiende, por favor póngase en contacto con MPHA para asistencia lingüística gratuita.

Appendix 7

Reflections on institutionalization

In behavioral design participants aren't passive informants, but active participants in the design work. They gather data, collectively reflect, and consider how to change. Just as shift resources creates new routines that product data, so to do these routines produce new resources-—in the form of knowledge, skills, and networks. These resources are then available for future work. The collaborative processes "are not only about finding new ways to move forward, but they are ultimately about building community and governance capacity to be resilient in the face of the inevitable new challenges." (Innes and Booher 2010, 192)

Participants become more accustomed to collecting and deploying data. For MPHA, this was particularly true of the Research & Analytics team most intimately involved in collection, analysis, and planning. Following the ethos of pragmatic research, I took intentional steps to build up MPHA's internal capacity to do similar work in the future (Dewey 1927; Lewin 1946). Every other week, I'd meet with the Research & Analytics team to share new insights, the purpose of research methods, software code for statistical analysis, and resources for further development. We both acknowledged the intent for their team to continue the work after I left. That said, institutions are complex and dynamic, and conditions need to be right to embed these practices.

In post interviews with the Eviction Prevention team, they saw the team's growth over the 12 months of work. The operations and attorneys appreciated getting more timely data to make decisions, and Research & Analytics learned more about operations at the frontlines. In particular, staff appreciated the systematic efforts to hear from residents,

whether through surveys or interviews. The learning allowed the team to operationalize the mandate they were receiving from leadership to innovate. “I feel like that kind of was like the biggest thing to come out of [the Eviction Prevention team] is that you were starting conversations that were like pulling teeth initially, and started kind of snowballing different ideas. I think when we first started the letter itself was like, crazy new and exploratory. But by doing that and kind of pushing through and working as a team, we are able to have more conversations and build that trust together as a team.” Another noted they tended to decide and then find data that backs that change. The shifting of resources and accompanying new routines was changing how this team viewed the agency culture and their agency in it. But institutions move slow and culture needs constant tending.

In June 2019, Director Russ left the organization to become the Head of the New York Housing Authority. He was replaced internally, on an interim basis, by Tracy Scott. The two analysts on the Research & Analytics team also departed for new positions, and, because of “budgetary constraints”, the team’s Director was unable to replace them. This left the Director with no staff and a tremendous workload, sapping their ability to facilitate the work of the Eviction Prevention team. In March 2020 the Minneapolis City Council named Abdi Warsame to be the next Executive Director. Shortly thereafter, interim Director Scott was departed to run the Chicago Public Housing Authority. Leadership changes, disinvestment in the team, and the resulting burnout left the Research & Analytics Director to leave the organization—leaving zero research staff. I also stepped took a planned step back from designing to analyze data and write. Within six short months, the Eviction Prevention team lost it’s executive champions, group

facilitators, and staff that gathered and analyzed resident data. Not to mention, right at this time, the agency was presented with its largest challenges in decades—protecting its vulnerable residents from COVID-19. Staff had affinity for the work but recognized the impact of losing the catalysts. Given their day-to-day work (with a pandemic no less), no other members of the team stepped into the facilitation role, and the group stopped meeting.

Design work takes resources. In addition to conveners, it's necessary to have members skilled in to collect and collate data. The Resident survey that served as a catalyst for change was a massive undertaking to do well. Without this resource, it's difficult to mobilize the information necessary to make informed change. As one Eviction Prevention team member noted, "Nothing will replace talk to residents," but then lamented the lack of time to do so. We may expect the team would return to sharing the anecdotes they see and hear from the non-representative set of residents they interact with.

While it can take years to build the trust and reflective capacity necessary to do the work well, the loss of key stakeholders and new organizational priorities can remove the capacity to operate quickly. To institutionalize a culture of using evidence to drive decision requires the prioritization of resources to sustain routines that allow data to move across silos. MPHA could reinvest and restore the resources necessary to do the work; most of the Eviction Prevention team remains at the agency, and only a few months has lapsed. As time passes, however, more staff attrition will happen, and the skills, knowledge, and networks developed during the design-based work will fade.