

The Demand for Employer-Provided Childcare Benefits and Women’s Professional Advancement[†]

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Abstract

In liberal welfare regimes like the United States, some employers provide private childcare benefits to offset low state spending while others do not. What outcomes for women’s professional advancement and socioeconomic inequality more broadly should we expect from greater, more even provision of childcare benefits? In this project, I argue that the low overall level of employer-provided, on-site childcare benefits in particular stems from a supply problem, not a demand problem. Using a first-of-its-kind field experiment conducted in the top ten largest metropolitan areas of the United States, I test whether women of child-bearing age are more likely to apply for a management position requiring longer hours when “extended-hours” on-site childcare is offered by the hiring company compared to “regular-hours” childcare or none. I find a statistically and substantively significant increase of 18.4% in the number of female applicants in this age group when extended-hours childcare is offered. These results are independent of salary, indicating that women at the peak of their child-bearing years – who may also be in the most crucial period of their professional trajectories – prefer on-site childcare over the equivalent in salary substitute. I then discuss the political and policy ramifications of this finding.

I Introduction

A broad political science literature has taken up the issue of gender imbalances in political representation and leadership (see e.g., Celis, Childs, Kantola, and Krook 2008). At the same

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time, considerably less attention has been devoted to private-sector leadership, where women are consistently outnumbered by men at all levels, but especially so in senior management ranks (Grant Thornton 2018). Yet given the intimate links between politics and business (Hacker and Pierson 2010), a lack of gender diversity in who runs a country’s corporations is a major indicator of low democratic inclusiveness in the Lijphart (2012) tradition. Because the wealthy are disproportionately influential in politics (Page et al 2018), women’s political power is closely related to their power in the business world.

Of the various ways politics can shape gender diversity in business leadership, perhaps none is more consequential than the politics behind childcare policy. Even in advanced economies, childcare issues and the policies deployed to address them produce highly gendered outcomes. Women continue to be the primary caregivers of children regardless of labor force participation or educational attainment, and motherhood is still the single largest factor explaining the gender pay gap (Blau and Kahn 2017, Weeden, Cha, and Bucca 2016). In particular, having children negatively impacts professional women’s ability to work the long hours demanded by leadership positions (Blau and Kahn 2017; Bertrand, Goldin, and Katz 2010; Cha and Weeden 2014). In liberal welfare regimes like the United States, in which there is no public provision of childcare at the national level, some employers have effectively replaced the social democratic state by providing private childcare benefits in lieu of public ones. Still, unlike other private benefits such as healthcare, which have been extensively studied,¹ we know surprisingly little about the politics driving variation in employer-provided childcare benefits in liberal welfare regimes – and the consequences of this variation.

These gaps in the literature are problematic for three reasons. First, private, employer-provided childcare located on-site at the workplace is qualitatively different from childcare available in the open market because it tends to be open more hours per day, more days per year.² Childcare availability tailored to the needs of employers and employees rather

¹For a review of this literature, see Gruber (2017)

²Author’s analysis of 2012 National Survey of Early Care and Education (US Office of the Administration for Children and Families) data.

than the preferences of childcare providers may be a critical support for women with young children – and those who would like children – in pursuing senior positions. This, in turn, impacts their lifetime earning potential, human development, political clout, and ability to influence societal outcomes.

Second, employer-provided childcare benefits are unevenly distributed in the population. In 2018, only about 10% of US private-sector workers had access to childcare benefits of any kind. Furthermore, these benefits are concentrated in industries with more highly-paid workers, often male-dominated. For example, 42% of workers in the information sector have access to employer-provided childcare benefits while 5% of health and education workers do.³ Therefore, although childcare benefits could be especially helpful to women in fulfilling their professional leadership potential for the reasons outlined above, the status quo of private provision is unlikely to attenuate gender-imbalance in top positions in the business sector.

Third, national and sub-national governments play an important role in incentivizing private employer-provided childcare benefits through tax and regulatory policy. Therefore, the political forces that shape those policies can lock in a status quo of unequal private provision of childcare benefits – which is sub-optimal for professional women – making it difficult to alter over time. We have observed as much in the case in US healthcare (Hacker 2002).

The central question this paper addresses is what outcomes for women’s professional advancement, and socioeconomic inequality more broadly, should we expect from greater, more even provision of employer-provided childcare benefits. My analysis focuses on on-site childcare (i.e., childcare centers located at the workplace for the benefit of employees), conceived of as a segment of the larger childcare market with its own unique supply and demand logic. I argue that because relatively few employers offer on-site childcare, employees – especially women – cannot simply “vote with their feet” by changing jobs to employers that do offer on-site childcare. Thus, demand for on-site childcare remains primarily latent.

I explore the demand-side determinants of employer-provided on-site childcare by deploy-

³Author’s analysis of 2018 National Compensation Survey (US Bureau of Labor Statistics) data.

ing a field experiment in the United States with a live job ad for a management-oriented position requiring longer hours posted in an on-line employment platform in the top ten metropolitan areas of the United States. I show that educated women in their prime child-bearing years are more likely to apply when “extended-hours” childcare (available beyond normal business hours) is offered by the employer relative to “regular-hours childcare” or no childcare. Crucially, these results are independent of salary, suggesting that women are willing to sacrifice financial compensation for these benefits, even when on-site childcare is not subsidized.

The experiment provides first-of-its-kind causal evidence to support the contention that the low level of employer-provided on-site childcare currently observed in the United States results primarily from a lack of supply, not demand. As a consequence, on-site childcare provision is locked in a low-supply, low-demand equilibrium that is detrimental to the professional advancement of women. My results also point to the fact that wider supply of extended-hours childcare would likely help address the gender imbalance in business leadership.

II Democratic Quality and Gender Balance in Corporate Leadership

Today, about 19% of executive officer positions and 6.6% of CEOs in the Fortune 500, the largest revenue companies in the United states, are women (Catalyst 2019). In the financial industry, arguably the most powerful sector economically and politically in the United States, women comprise 54.2% of the labor force, 12.4% of executive officers, and zero CEOs (Warner 2014). We observe these skewed leadership outcomes despite the fact that women now hold 53% of all college degrees awarded in the United States, and 42% of all professional degrees (US Census Bureau 2014).

This lack of gender diversity in corporate leadership has important scholarly, policy, and social justice implications. Women’s over-representation in lower-paid, part-time, and non-leadership-oriented careers, and under-representation at the seats of economic power, is a problematic indicator for the quality of our democracy. The existing leadership gap deprives women of the opportunity to influence major corporate decisions with great economic impact on their lives inside the company and beyond. In an era of “winner takes all” politics, where large corporations and their organized business interests significantly affect the regulatory and fiscal policies of governments (Hacker and Pierson 2010), which in turn impact redistributive and other social policies, the lack of gender diversity at the highest levels of the corporate hierarchy means that women’s interests may not be fully represented before the state.⁴ This is a major indicator of low democratic inclusiveness in the Lijphart (2012) tradition.

How might increased female leadership of the corporate sector alleviate this problem? The literature on female descriptive representation in legislatures consistently finds that women prioritize “women’s issues” regarding children and families more frequently than men do (Wittmer and Bouché 2013). We have good reason to believe that women’s corporate leadership would have similar effects. To the extent that organized business interests may conflict with the interests of women and families – e.g., when businesses fight taxes, thereby constraining spending on social policies that benefit women and families – and at the same time organized business interests are *overrepresented* before the state, the reduced influence of women in corporate leadership is a political problem. Because corporations are not held to the same accountability standards as governments, a lopsided gender balance in private sector leadership may not only be “bad for business” (Hoogendoorn, Oosterbeek, and van Praag 2013), it may also further compromise democratic quality more broadly.

Moreover, on average women earn less than men, impacting women’s individual income

⁴Following the 2008-2009 US financial crisis, van Staveren 2012 formulated the provocative “Lehman Sisters Hypothesis” in which she postulated that the economic fallout might have been averted or been less severe had the homogeneity of the male-dominated financial sector looked differently.

as well as overall household wealth. The United States, once a leader in female labor force participation, now lags behind other advanced industrial nations in this measure because of a lack of public policies that help women balance professional goals with family work, such as childcare (Blau and Kahn 2013). This lack of policies supporting female professional advancement has distributive consequences and exacerbates income and wealth inequality. Furthermore, the gender wage gap narrowed through the 1970s and 1980s but has remained largely stable in the last two decades (Blau 2012). Part of the reason for this stabilization can be attributed to the higher returns to professionals who work long hours, returns which accrue more to men than to women (Cha and Weeden 2014)⁵ Men are freer to work long hours because of women’s disproportionate responsibility for caregiving within the family setting. Meanwhile, senior management and “C-suite” business leadership positions virtually always entail working longer than average hours – i.e, more than 40 hours a week. Hence, women professionals work fewer hours than men, earn less money, and advance less frequently into top jobs. As such, women’s and household income suffer, and inequality remains unchanged.⁶

Childcare and its relationship to women’s ability to work have not gone unrecognized by the US government, but sustained policy intervention has been politically stymied. During World War II, when male labor force participation shifted to the military, the War Manpower Commission authorized spending on childcare facilities to help women work outside the home. The program was eliminated after the war, however. A government mandate for universal public childcare was still evident when the US Congress passed the Comprehensive Child Development Bill in 1971, but President Nixon vetoed it the following year. Yet that mandate was realized as a “force readiness” issue for active duty military personnel when Congress passed the Military Child Care Act of 1989. Today, the Department of Defense runs the largest employer-provided childcare system in the United States, which is “widely

⁵Besides work hours, Milgrom et al 2009 argue that educational and occupational self-selection into lower-paying jobs contributes to the pay gap. Anticipation of long work hours, however, plausibly contributes to that self-selection. On women choosing less hours-intensive specialties in the medical field, see Goldin and Katz 2011.

⁶Furthermore, studies have repeatedly shown that higher family income is correlated with greater academic achievement among children. See e.g., Dahl et al 2012.

considered to be a model for the nation” (Floyd and Phillips 2013). Nevertheless, there has been no political move to make this program universal.

III Relating Work Hours and Professional Advancement

Existing scholarship lacks conceptual clarity regarding the distinction between, on the one hand, institutional reforms aimed at increasing female labor force participation writ large and, on the other, institutional reforms aimed at improving leadership outcomes for already employed women. Intuitively, it might seem that policies aiming to increase female labor force participation might also increase female professional advancement. This intuition, however, is not supported by available empirical data.

The general aim of flexibility policies is to allow employees to be physically absent from the workplace, either during regular business hours or extra-business hours, without salary or advancement penalty. The term “flexibility” in relationship to workplace policies broadly refers to any type of scheduling arrangement between the firm and the employee that differs from the occupational norm. This norm revolves around the “ideal worker,” usually male, who has unlimited availability for weekly hours spent at work and work-related functions, while a caregiver, usually female, attends to the ideal worker’s childcare and household needs (Acker 1990; Blair-Loy 2003; Rees Davies and Frink 2014; Williams 2010). Such policies may or may not result in less total hours worked per week, however. For instance, the employee may spend less time at the office but make up those hours remotely from home. Flexibility arrangements are usually offered in white-collar and/or management-level jobs only (Jacobs and Padavic 2015), and taken up by women more frequently than men (Vandello et al 2013).

Yet researchers have not sufficiently problematized how flexibility policies, often modeled after Nordic work-family models, might hinder gender diversity in the business leadership ranks. Norway, Sweden, Finland, and Denmark – the so-called “Nordic nirvana” countries named for their progressive family policies – have been pioneers in this area. These countries

boast some of the highest rates of female labor force participation (FLFP) in the OECD. Compared with the US FLFP rate of 75.2%, Norway, Sweden, Finland, and Denmark all score well over 80% (Blau and Kahn 2013). These figures are misleading, however, since they do not distinguish part-time from full-time employment. FLFP among Nordic countries is highest in Sweden, which reaches 87.5% (Blau and Kahn 2013), but 31% of Swedish women work part-time (Wennemo Lanninger and Sundström 2014) compared to about 26% of US women (BLS 2014). In Norway, 36% of employed women work part-time (Wennemo Lanninger and Sundström 2014).

The incidence of female part-time employment matters for two reasons. First, about one-third of female part-time employment in Nordic countries is involuntary, meaning these women would prefer to work full time but are unable to find full-time work (Wennemo Lanninger and Sundström 2014). This may be the paradoxical consequence of “family-friendly” flexibility: if women are expected to work shorter hours because of maternity and childcare responsibilities their male counterparts do not share, statistical discrimination in private firms may operate against women as a group, which may make it difficult for them to find jobs and be promoted (Datta Gupta and Smith 2002; Datta Gupta, Smith, and Verner 2006; see also Blau and Kahn 2013 and Iversen, Rosenbluth, and Skorge 2019). Second, policies that allow female employees to work fewer hours, such as those particular to the Nordic model, (i.e., extended maternity leaves, part-time work, etc.) may increase FLFP overall, but not necessarily the number of women promoted to senior roles in economic leadership.

This distinction is particularly relevant as US-based scholars and activists look to global models for policy reform. According to the *Economist* magazine’s 2014 “Glass-Ceiling Index” rankings of the “best” countries for women to work, the percent of senior managers⁷ in the United States who are women is 42.7%, while Sweden, Finland, and Denmark are all below the OECD average of 31.6%. Norway, the “best” country of the Nordic group, still trails the

⁷The definition of “senior manager” varies widely by source, but typically includes a broad range of workers, from middle managers on up through “C-suite” managers such as CEO, CFO, and CIO.

US at 36.1%.⁸ Thus, it is not manifestly evident from this data that the Nordic model is one the US should aspire to if the goal is female corporate leadership, not just FLFP.

Given the evidence that flexibility policies reducing women’s work hours and “face time” in the office are ineffectual in increasing women’s numbers in the corporate leadership ranks, implementing them in the United States might lead the level of female business leaders to remain low indefinitely. Hence, policies that help women *increase* the number of hours they can spend in the office may be an important alternative policy intervention, by allowing women to compete with men in the current corporate environment of unrestrained work hours. On average, men in the US work longer hours than women. In fact, the financial returns to “overwork,” or working more than 50 hours a week, are responsible for the “stalled convergence in the gender gap in wages” (Cha and Weeden 2014). If longer work hours lead not only to higher wages but also greater advancement opportunities, then helping women work longer hours, not shorter, may be a solution to both closing the gender wage gap and increasing the number of women in top private sector jobs.⁹

Taking stock, we need to distinguish between policies that aim at increasing FLFP by shortening women’s work hours and policies that aim at increasing the number of women executives by lengthening women’s work hours. In this paper, I focus on on-site, “extended-hours” childcare as an intervention that may help women work longer hours, thereby boosting their odds of reaching corporate leadership positions. In testing the effect of this policy, I do not evaluate the relative causal weight of every structural or individual factor influencing women’s professional decision-making, but instead focus on childcare as one of its primary determinants. In so doing, I test only the argument that institutional support helping those

⁸It is also worth noting that public sector employment is higher in the Nordic countries than the OECD average, and women make up about two-thirds of public sector employees compared to about one-third for men. This does not seem to uniformly improve their prospects for top management, however: women hold a high of about 40% of these jobs in Sweden to a low of about 20% of these jobs in Denmark. See OECD 2014.

⁹The architect of the “three worlds” of welfare capitalism (1990) who was criticized by feminist scholars for neglecting gender in his treatment of the welfare state has since argued similarly: Esping-Andersen (2015) calls for a public policy that helps women to “masculinize” their professional trajectories, maintaining full-time work with as few interruptions as possible, and men to “feminize” their domestic commitments, taking on more responsibility for children and the home.

women who want to work long hours but are not able to do so because of a lack of extended-hours childcare may be successful in helping them to pursue leadership-oriented jobs that require long hours.¹⁰

IV Private Childcare Benefits and Employees

The distribution of private childcare benefits in the United States is highly skewed in the general population. According to the National Compensation Survey (NCS), a survey of private employers and state/local public employers produced by the US Department of Labor, as of October of 2018, 10% of all US private sector workers had access to childcare benefits.¹¹ These include on-site childcare located at the workplace or subsidization of off-site childcare. (This figure measures only absence or presence of benefits, not quality or degree.) By comparison, 16% of unionized private sector workers and 30% of state government workers, whether unionized or not, had access to such benefits. These numbers also mask considerable heterogeneity by industry: 42% of IT sector employees, 32% of employees at colleges and universities, and 26% of employees in finance had childcare benefits available. By contrast, 2% of retail workers and 5% of food service workers did, in two industries that are predominantly female and low-wage (BLS 2018). Looking at salary more closely, we see that 25% of workers with an average hourly wage at or above the 90th percentile had access to childcare benefits compared to only 3% of workers below the 10th percentile. At the same time, the percentage of workers with some kind of childcare benefit increases as the generosity of the benefit decreases: 39% of all private sector workers had access to a dependent care flexible spending account (DCFSA), compared to 10% with access to direct childcare benefits. DCF-

¹⁰Other important factors may include, but are not limited to: maternity and motherhood wage penalties for women who have children (see e.g., Goldin and Katz 2011); the “second shift” wherein women are assigned (or assume) primary responsibility for childcare and household tasks, which dampens their ability to focus on their careers (see e.g., Geist and Cohen 2011; Hochschild and Machung 2003 [1989]); and women’s higher aversion to competitive environments (see e.g., Preece and Stoddard 2015). I do not discount, only table these factors here.

¹¹Author’s analysis of October 2018 NCS data.

SAs allow workers to set aside pre-tax income, currently up to a \$5,000 yearly maximum, that can be used towards childcare and other dependent care expenses tax-free. These imply only administrative costs for employers. A further 50% of private sector workers had access to employee assistance programs. In the case of childcare, this generally mean referrals to childcare options in the local private market, entailing unclear expenses for employers that, nevertheless, would be tax deductible for them.

For the purposes of answering the research questions in this project, it is helpful to disentangle the incidence of on-site childcare benefits in particular, the most generous in terms of the financial and logistical commitment required of employers, from other types of childcare assistance. The NCS does not allow us to parse this out, and there is no existing source of nationally-representative data on employer-provided, on-site childcare. We can, however, make some informed estimates using the 2012 National Survey of Early Care and Education (NSECE). The NSECE is the most comprehensive US government survey of the childcare provider, user, and worker landscape, and offers data on a nationally representative sample of childcare centers. The NSECE does not measure employer-provided childcare per se, however, the data indicates the building type each center in the survey is located and the center's auspice (i.e., who administratively and/or financially sponsors it). We see that 1.3% of centers are located at a workplace, which is a clear indication of employer-provided childcare, and we can infer that centers located at a college or university or a hospital/medical center are reasonably likely to be childcare centers for employee use.¹² These represent 1.4% and 0.4% of the sample, respectively. To get a sense of on-site childcare for government employees, we can look at centers run by the government located at a community or municipal center or a military installation, which together constitute an additional 5% of the sample.¹³

¹² Author's analysis of NSECE data, weighted.

¹³ Government-run childcare centers located at a school, religious building, or on tribal land are excluded, as most likely being centers for Head Start or other public programs targeting low-income families. A number of government-run centers are located in commercial buildings or independent/other structures, which makes them impossible to identify in terms of employer-provision. Data on childcare centers at military installations is not available in the public-use version of the NSECE data and is suppressed for a number of variables in the restricted-use version of the data. For these reasons, the number of government-run centers here calculated is likely to be an under-count.

Conservatively, then, about 8% of US childcare centers nationally are employer-provided. To put these numbers into perspective, there are approximately 20,000 childcare centers in the United States, so about 1,600 are employer-provided, and half of these through the government. In fact, the role of the government in providing employment-based childcare benefits is not to be understated: the nation's single largest employer-provider of childcare is the US Department of Defense (Congressional Research Service 2018). Dozens of on-site childcare centers operate on federal property throughout the country, a number of them at federal agencies such as the Internal Revenue Service, the Social Security Administration, the Department of Veterans, and the Department of State.¹⁴ Furthermore, federal agencies are authorized by statute to offer a childcare subsidy to their employees at agency discretion. About one-third of federal agencies currently do so.

This paper's main focus is on the outcomes for women's professional advancement from greater provision of employer-provided childcare benefits, particularly on-site childcare. Yet from the scant supply, we must ask the previous question of whether, in fact, the problem is one of demand. Do employees, especially female employees with leadership ambition, actually want on-site childcare?

V Demand for Employer-Provided Childcare

No comprehensive research exists to explain why some employers offer childcare benefits, particularly more generous benefits like on-site childcare, and others do not. Anecdotally, two reasons are commonly cited: the high cost of the benefit for employers, and the low demand for it from employees.

Recent scholarship has brought to light the problem of childcare accessibility and affordability for working women in the United States. After decades of rising labor force

¹⁴See <https://www.gsa.gov/resources-for/citizens-consumers/child-care/child-care-services/find-a-child-care-center-near-you>

participation, the supply of women in the US workforce has stagnated due to the high cost of childcare and the lack of public policy interventions in this area (Morrissey 2017; Blau and Kahn 2013). Hence, we can reasonably assume that unmet demand for non-familial childcare exists in the aggregate. Still, this does not tell us whether there is unmet demand among women for on-site, employer-provided childcare specifically.

There are three principal reasons why we might expect this unmet demand to exist. The first is that, besides the obvious logistical convenience of on-site childcare for employees,¹⁵ it can be tailored to the scheduling needs of employers and may be more likely to help female employees work the hours required of management positions. According to the 2012 NSECE referenced in the previous section, only 3% of childcare centers are open evenings (where evening is defined as after 7:00 PM) or weekends, and the mean weekday number of operating hours is 9.3 – roughly corresponding to an 8:30 AM to 5:30 PM work schedule, or a 40-hour workweek. Yet for professionals with young children who work in, or aspire to be promoted to, management positions, this number of childcare hours is inferior to the number of work hours required of them.

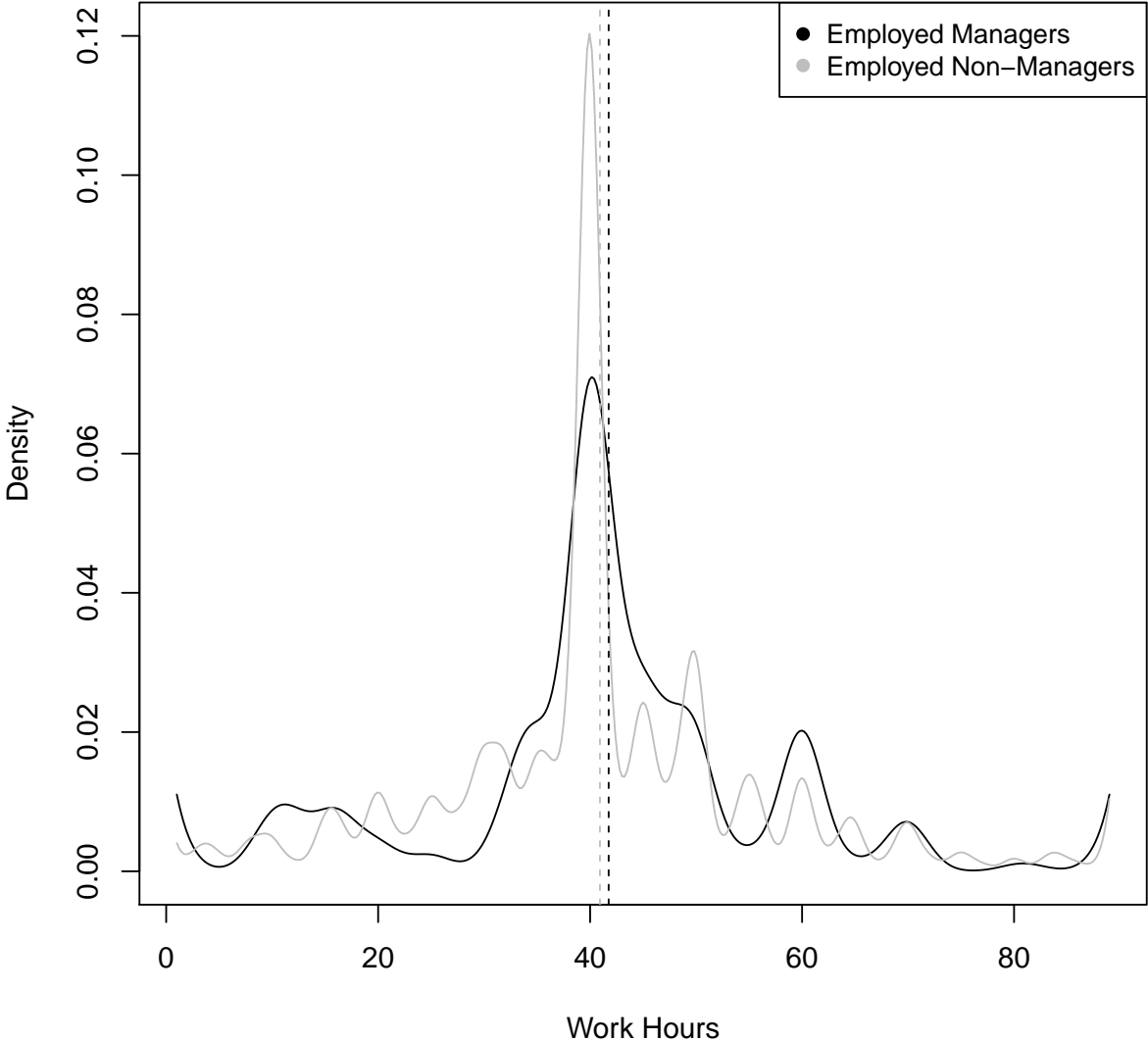
In the 2015 wave of the International Social Survey Program (ISSP) “Work Orientations” survey, the average number of work hours among employed Americans who identified as “managers” was 41.7 compared to 40.9 for non-managers.¹⁶ Figure ?? shows the overall distribution of work hours by management class. About 45% of managers reported working more than 40 hours a week, and about 17% reported working more than 50 hours a week. While there are important earnings and advancement gains among professionals concentrated at the higher-hours end of the spectrum in “hours-hungry” professions, as identified by Cha and Weeden (2014), most managers are still only working a few more hours per week than most non-managers. This suggests that in the aggregate, the number of daily hours

¹⁵In a 2016 survey co-produced by National Public Radio and Harvard’s Chan School of Public Health, the second more commonly cited reason for consumers to have chosen the childcare option they currently use is location, after quality. See “Child Care and Health in America,” available at <https://www.npr.org/documents/2016/oct/Child-Care-and-Development-Report-2016.pdf>

¹⁶Author’s analysis of ISSP weighted data for the United States.

a childcare center would need to be open to accommodate female employees with management aspirations is more than is typical in the current childcare market, but requiring a limited number of additional operating hours to reach a large number of potential employees.

Figure 1: Work Hours, By Management Class



On-site childcare centers are more likely to meet this need. Among childcare centers in the NSECE sample located at a workplace, 82.1% were open 10 or more hours per day, and 60.9% were open 11 or more hours, versus 45% and 35.5%, respectively, for centers not

located at a workplace.¹⁷ Where employers expect managers to work longer hours than non-managers, they can set their childcare center operating hours accordingly. This allows both male and female employees with young children work longer-hours, leadership-oriented jobs, as well as signal their ambition for those jobs by working those hours. This is difficult for women with primary childcare responsibilities to do in the status quo of little or no on-site childcare.

Second, childcare does not operate in a social vacuum. Childcare benefits for employees involve a unique social dimension that do not apply to other benefits employers may pay for, such as pensions or health care. Deeply rooted historical norms that proscribe maternal employment during children’s early months and years impact women’s professional behaviors and their use of third-party childcare. Women (but not men) have long been socially discouraged from working outside the home when their children are young, especially if the work hours are considered long, and women continue to be influenced in their professional behavior by this norm into the present day (Fleche et al 2018). On-site childcare offered by employers, particularly if it is open longer hours than typically available in the off-site market, may help reduce the social costs to women with young children in working longer hours: where firms expect employees, particularly those in or aspiring to upper management, to work longer hours and help employees with young children do so, women may perceive less social disapprobation for working those longer hours. Furthermore, because both “ambitious” and “non-ambitious” female employees may use an on-site childcare center, ambitious women may be offered a kind of normative cover by using the same facilities.

Lastly, we cannot measure current demand for on-site childcare by observing current supply because the means of signaling demand for on-site childcare are not present as they are for other types of childcare in the open market. Employees are limited in their ability to “vote with their feet” and shift their labor to an employer who offers on-site childcare because few employers provide the benefit, and those that do are dispersed geographically and across

¹⁷Author’s analysis of 2012 NSECE data, weighted.

industries, as discussed in the previous section. For an employee at an organization that does not provide on-site childcare to make effective her demand for on-site childcare would require not only changing jobs but potentially changing industries and even moving to another city or state. Furthermore, changing jobs is emotionally stressful and may be financially costly if it involves lost wages in between jobs. Thus, if employees even slightly prefer not changing jobs to changing jobs in exchange for childcare benefits, they will not change jobs even if they would prefer to have childcare benefits rather than not. Those especially motivated to pursue jobs with childcare benefits may still be thwarted by information asymmetries in favor of employers: employers are not required by US law to publicly disclose employee childcare benefits and they may gate benefits information, childcare or otherwise, from public view. For example, among the 2018 Fortune 500 companies in the United States, about 17% of firms provide little or zero benefits information on their websites such that whether they offer on-site childcare can only be ascertained by looking up state licensing records (Latura 2020). Furthermore, many US families simply accommodate the (non-employer-provided) childcare market model that predominates because that is what is available (Meyers and Jordan 2006) so the costs of agitating for other options may be high. As such, employers are unlikely to observe manifestations of demand for on-site childcare unless they solicit those opinions directly.

As such, we have reason to believe that demand for on-site childcare is primarily latent. Under conditions of latent demand, a low-supply / low-demand equilibrium dominates and latent demand cannot be transformed into effective demand without supply changing first (Latura 2020). At the same time, given the unique non-monetary advantages of on-site childcare, a preference for on-site childcare may be stronger than a preference for a salary substitute. I test the argument that demand for on-site childcare is primarily latent, hypothesizing that:

- H1: Women of child-bearing age are more likely to pursue a long-hours, management-oriented job when on-site, extended-hours childcare is available versus on-site, regular-

hours childcare or none;

- H2: The effect of on-site, extended-hours childcare availability is independent of salary, and should not be sensitive to higher or lower salary levels.

VI Empirical Strategy

In order to observe latent demand for on-site, extended-hours childcare, I employ a field experiment in which I randomly offer different childcare (and salary) benefits to real-world job applicants for a job posted on a popular on-line employment platform. I do not identify the name of the employment platform here for confidentiality reasons.

In the field experiment, I placed a job advertisement soliciting applications for an open “marketing manager” position in the healthcare services industry, at a company whose name is withheld from potential applicants, on the employment platform in each of the top ten metropolitan areas of the United States.¹⁸ The ad for each metropolitan area ran for three weeks at a time; local ads ran sequentially from November 2018 through June 2019.¹⁹ The occupational type and industry were chosen to avoid male-dominated occupations/industries and job types that entail highly specific skills/training so as not to artificially depress the treatment effect for reasons unrelated to the experimental design. The job ad was “real” in that live users of the employment platform could see and apply to it, but the job itself was fictional; no one was interviewed or hired for the position.

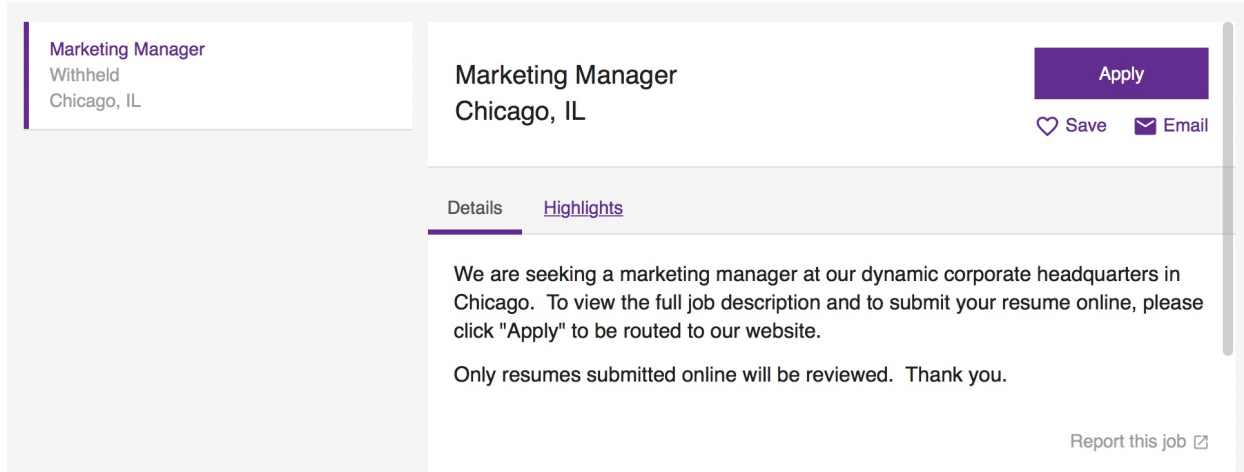
In the on-line employment platform, job advertisements are purchased by hiring employers and then appear in the search results of job applicants according to the occupation/in-

¹⁸On this employment platform, only a minority of job advertisements lack the name of the company soliciting candidates and list them only as “withheld” as in this field experiment. Although this may have dampened the number of candidates who replied to the ad, it is hard to see how it would bias the sample of respondents for the purposes of my test. Short of creating a fake company, which presents its own set of risks and potential biases, it is impossible to list a company name without risking the applicants discover the advertisement to be fictitious.

¹⁹Ads were run sequentially rather than simultaneously so that potential applicants did not see similar ads for different metropolitan areas, raising possible suspicion about the position, and leading them not apply.

dustry and/or metropolitan area they designate. Figure ?? displays a screen shot of what a search in the Chicago metropolitan area in which the job ad appears would look like to experimental subjects.

Figure 2: Job Advertisement As It Appears on Employment Platform



Interested applicants who clicked on “Apply” were then routed to the Qualtrics website where the full job description was posted with the childcare and salary offered as benefits randomly varied. Subjects saw either extended-hours childcare, regular-hours childcare, or no childcare in the job description and one of three salaries price-parity-adjusted for their area, making the experiment a 3 x 3 factorial design with 9 possible childcare / salary treatment dyads.

Figure 3: Full Job Description with Randomized Conditions As It Appears on Qualtrics

We are a family-friendly company seeking a marketing manager at our dynamic corporate headquarters in Chicago. This is a mid-level position with opportunities to advance into senior management.

REQUIREMENTS

5+ years marketing experience, preferably in healthcare or a related industry
Bachelor's degree minimum
Excellent analytical and problem solving skills
Occasional overtime required to meet project deadlines

COMPENSATION AND BENEFITS

Salary: \$117,000
Medical and Dental Insurance
401 K
On-site childcare open during normal business hours with extended-hours care available before and after normal business hours (unsubsidized)

To apply, please enter your contact information below and upload a copy of your current resume. Applicants will only be contacted in the event that a follow-up interview is requested. Equal opportunity employer.

First Name:	<input type="text"/>
Last Name:	<input type="text"/>
Street Address:	<input type="text"/>
City:	<input type="text"/>
State:	<input type="text"/>
Zip Code:	<input type="text"/>
Email:	<input type="text"/>
Telephone:	<input type="text"/>

Resume (.pdf format only)

Drop files or click here to upload

>> Next

The job is described as a “mid-level position with opportunities to advance into senior management” and requiring “occasional overtime.” Thus, applicants, should understand that the job requires long hours. The company is described as “family friendly” so that all subjects have a relatively similar set of assumptions about the company’s work-family policies, regardless of childcare condition.

The three possible salary levels in each metropolitan area are calculated at 100%, 90%, and 80% of a base, price-parity-adjusted salary, y , for that market. Table ?? illustrates the construction of the nine possible salary / childcare treatment dyads. The purpose of the varying salary levels is to test how independent of salary the extended-hours childcare benefit is. The actual dollar amount of y varies by the metropolitan area where the job ads are placed on the employment platform.

Only one dyad was assigned to each subject. The job description and the application were deliberately simple so as to facilitate a low-cost application process for subjects. This is important because subjects who chose not to apply when first presented with the job description for their randomly assigned dyad were prevented from viewing the job description again later so as not to see a different version of the randomized job description. Figure ?? displays a screen shot of what a job description in the extended-hours condition in Chicago would look like to experimental subjects.

Table 1: Possible Salary/Childcare Treatment Dyads for Experimental Subjects

		<i>Childcare</i>		
		None	Regular-Hours	Extended-Hours
<i>Salary</i>	y	y , none	y , regular	y , extended
	90%y	90% y , none	90% y , regular	90% y , extended
	80%y	80% y , none	80% y , regular	80% y , extended

VI.I Measurement of Outcomes

The data-generating process for the field experiment stems from three sources. First, the recording by the Qualtrics survey software of each applicant’s assignment to a salary / child-care treatment dyad, the metropolitan area the ad was placed in, the applicant’s name and address, and whether the applicant submitted a CV. Second, gender (male/female binary) is estimated by applicant first name using an API to predict likely gender. (It is illegal to ask for a job applicant’s gender in the United States.) Third, age is estimated from the date of bachelors degree manually entered from each submitted CV, or from the date of earliest professional experience, whichever comes first chronologically, using a set of logical rules. (It is also illegal to ask for a job applicant’s age.

In this field experiment, subjects self-select into the sample and only subjects who apply are observed; subjects who do not apply are not observed. Hence, in order to capture variation in the number of applicants (i.e., subjects), the dependent variable is measured as the *number of applicants per applicant type*. Applicant type is a composite variable of four levels where the levels represent all possible combinations of treatment dyad, metropolitan area, gender, and age group that could be ascribed to subjects in the final sample. The experiment, then, measures who *is represented* in that sample compared to who *could have been represented* based on these four metrics.

Age is segmented by age group, where the three child-bearing age groups most likely to have under-school-age children or be thinking about having them are defined – namely, age groups 25 to 29, 30 to 34, 35 to 39, all others being pooled.²⁰ This results in a total of 720 possible applicant types: 9 treatment dyads x 10 metropolitan areas x 2 genders x 4 age groups (the three of interest and the remainder pooled). The dependent variable measures variation in the number of actual applicants in each of these 720 possible applicant types. The applicant types of most theoretical and empirical interest for this project are females of

²⁰On age of first birth by education, see <http://www.pewresearch.org/fact-tank/2015/01/15/for-most-highly-educated-women-motherhood-doesnt-start-until-the-30s/>

child-bearing age assigned to the extended-hours treatment.

VI.II Estimation

To test my hypotheses, I specify the equation

$$\begin{aligned} \log(Y_{number.per.type}) = & \beta_0 + \beta_1 * female + \beta_2 * agegroup + \beta_3 * regular + \\ & \beta_4 * extended + \beta_5 * female * agegroup + \beta_6 * female * regular + \\ & \beta_7 * female * extended + \beta_8 * female * agegroup * regular + \\ & \beta_9 * female * agegroup * extended + \delta_{fas} + \eta_{fam} + \epsilon \end{aligned}$$

where $\log(Y_{number.per.type})$ is the log of the number of applicants per applicant type. The variable *female* indicates a female applicant type. The variable *agegroup* indicates the age group of interest; the exact age groups included vary by model (see Table ??). The variables *regular* and *extended* indicate assignment to the regular-hours and extended-hours childcare treatment conditions, respectively. The variable of main theoretical interest is the interaction term $\beta_9 * female * agegroup * extended$, which we expect to be positive, significant, and greater than $\beta_8 * female * agegroup * regular$ for women of child-bearing age. I control for female-age-salary fixed effects with δ_{fas} and female-age-metropolitan area fixed effects with η_{fam} .

VII Results

In total, 147 subjects applied to the posted job, 86 women and 61 men. Figure ?? displays the age distribution of the sample. The mean age for female applicants was 37.5 and 41.9 for men. Among women, the majority of applicants were in their thirties, while the distribution for men was comparatively flat, suggesting that younger age played more of a role in women's decision to apply than men's. Although the job advertised was described as a

“mid-level position with opportunities to advance into senior management,” a substantial number of applicants were 50 years of age or older (14.3%), a demographic with more experience than necessary for the job in question and also less likely to have young children. Of those over 50, 65% were men and 35% were women. Given the fact that the job posted provided little information about the position and the company name was withheld for research design purposes, these older, male applicants may have applied simply because of the ease in doing so and their desire to apply to as many posted jobs as possible. In Table ??, we see that male applicants in each market were more likely to be unemployed than female applicants, and, speculatively, may have been less discriminating in their applications.

Figure 4: Age Distribution of Sample (n = 147), By Gender

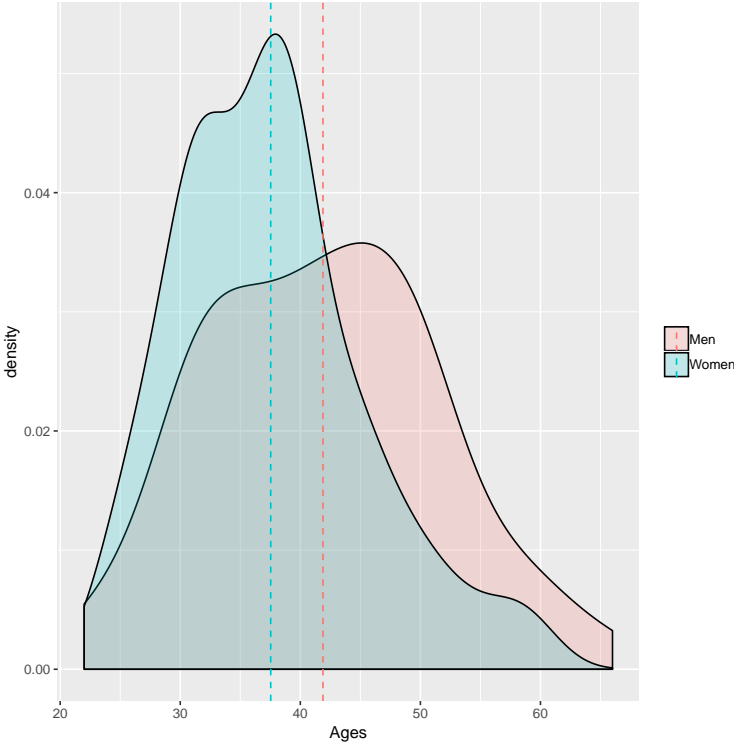


Table ?? provides descriptive statistics for the sample by metropolitan area. The average number of applicants per metropolitan area was 14.7, with a high of 27 applicants in Miami

and a low of 4 in Boston. The sample overall hit the target population in terms of education: 94.2% of women and 88.5% of men held at least a bachelors degree. In terms of employment, more women than men were employed at the time of application: 54.7% and 39.3%, respectively. Unemployed men tended to be older (mean age 43.9) than unemployed women (mean age 37.6), suggesting that the job advertisement attracted older, male, unemployed applicants for reasons other than working for a “family-friendly” company.

Table 2: Descriptive Statistics for Sample

Metro. Area	Total	<i>Women</i>				<i>Men</i>			
	<i>n</i>	<i>n</i>	Mean Age	% Emp.	%BA	<i>n</i>	Mean Age	% Emp.	%BA
Miami	27	13	36.5	53.8	92.3	14	42	35.7	64.3
Dallas	20	12	38.7	41.7	100	8	42.4	37.5	87.5
LA	17	11	37.1	54.5	90.9	6	39.7	16.7	100
Houston	17	13	38.6	69.2	84.6	4	47.8	25	100
Atlanta	17	8	37.6	50	87.5	9	43.2	55.6	100
Philadelphia	14	6	46.8	50	100	8	40	50	100
New York	14	10	31.3	60	100	4	43	25	100
Chicago	10	7	37	42.9	100	3	43.7	0	100
DC	7	5	37.6	60	100	2	31.5	50	100
Boston	4	1	38	100	100	3	41.3	100	33.3

In Table ??, I present the results of five versions of the regression estimation differing by age groups. In column (1), we see that for women ages 30 to 34, compared to all other age groups, the extended-hours treatment is positive and significant, while the regular-hours treatment is not significant. According to the US Centers for Disease Prevention and Control (CDC), the 2017 birth rate for women aged 30 to 34 is now the highest in the country and higher than the previously highest-rate age group for women, 25 to 29, for the second year since reliable national records were available.²¹ Substantively, this corresponds to an 18.4% increase in the number of women at peak fertility who apply to a long-hours,

²¹See National Vital Statistics Reports, November 7, 2018, available at https://www.cdc.gov/nchs/data/nvsr/nvsr67/nvsr67_08-508.pdf

management-oriented job when extended-hours childcare is offered. Therefore, we find evidence to support H1, that women of child-bearing age are more likely to pursue a long-hours, management-oriented job when on-site, extended-hours childcare is available versus on-site, regular-hours childcare or none. This effect is independent of female*age*salary and female*age*metropolitan area fixed effects, and so we also find evidence to support H2, that the effect in H1 is independent of salary.

Table 3: Experimental Results

	<i>Dependent variable:</i>				
	log(1 + no.app.types)				
	(1)	(2)	(3)	(4)	(5)
female:age_25_29:regular				0.008 (0.088)	0.011 (0.091)
female:age_25_29:extended				-0.058 (0.088)	-0.054 (0.091)
female:age_30_34:regular	0.045 (0.086)	0.053 (0.086)	0.054 (0.088)	0.054 (0.088)	0.057 (0.091)
female:age_30_34:extended	0.169** (0.086)	0.152* (0.086)	0.158* (0.088)	0.141 (0.088)	0.144 (0.091)
female:age_35_39 :regular		0.049 (0.086)	0.050 (0.088)	0.050 (0.088)	0.053 (0.091)
female:age_35_39 :extended		-0.100 (0.086)	-0.094 (0.088)	-0.112 (0.088)	-0.108 (0.091)
female:age_40_44:regular			0.008 (0.088)		0.011 (0.091)
female:age_40_44:extended			0.029 (0.088)		0.015 (0.091)
Female*Age*Salary Fixed Effects	Yes	Yes	Yes	Yes	Yes
Female*Age*Metro. Area Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	720	720	720	720	720
R ²	0.163	0.234	0.272	0.264	0.302

Note: Lower order terms not shown.

*p<0.1; **p<0.05; ***p<0.01

In columns (2) through (5), I include additional breakdowns of other age groups that may also be considered child-bearing age for more educated and/or ambitious women who tend to have children later, but only age group 30 to 34 is positive and significant – at less than $p = .05$ in column (1), compared to less than $p = .10$ in columns (2) and (3) – suggesting that the main driver of the observed results is women in their early thirties.²² This makes sense, given that this is the age of peak fertility for American women, and the period of their lives when they would potentially be most concerned about on-site childcare benefits.

VIII Conclusion

These experimental results provide causally-identified evidence that demand for on-site childcare, particularly extended-hours childcare, exists and that more women of child-bearing age would pursue a longer-hours, management-oriented position if it were offered. That, in turn, provides strong support for the central claim of this paper, that demand for on-site childcare is primarily latent. We should expect greater supply to stimulate more expressed demand as well as an increase in the number of women pursuing management-oriented positions.

If this is true, why don't more employers offer on-site childcare? In Latura (2020), I explore the supply-side factors that structure the provision of on-site childcare in liberal welfare regimes with federal systems of government, principally in the United States and Canada. Private childcare benefits offered by employers are a response to childcare market failures, themselves influenced by public policy decisions made (or not made) by the state. Hence, what employers offer in terms of private benefits is of both scholarly and policy relevance.

²²In the pre-analysis plan for this experiment, I registered a breakdown of ages as represented in column (4), but we only observe the significance of the age group 30 to 34 – when most women first give birth – if considered alone against all other ages pooled (column 1) or without the youngest cohort in their late twenties (columns 2 and 3). The pre-analysis plan included younger individuals on the intuition that women in their late twenties might not be having children yet but might be thinking of doing so and would respond to the childcare interventions in the experiment, but this appears not to be the case. I report the results in column (4) and a robustness check in column (5) for transparency.

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