Job Quality
Changes, Timing, and Consequences

by

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Table of Contents

Acknowledgements ii

List of Figures vii

List of Tables ix

ABSTRACT x

Chapter 1 Introduction 1

Chapter 2 A Causal Explanation of the Gendered Relationship Between Employer-Provided Benefits and Employment 9

Chapter 3 Education Can't Fix Everything: Job Quality Decline and Gender Stratification in the Labor Market 43

Chapter 4 No "Good" Time: The Timing Mismatch Between Employer-Provided Benefits and First Births 81

Chapter 5 Conclusion 121

References 126

APPENDIX 142

List of Figures

Figure 1 Proportion Employed by Gender 29

Figure 2 Number of Changes in Employment Status by Gender 30

Figure 3 Distribution of the Number of Employer-Provided Benefits and Type of Benefit 31

Figure 4 Predicted Probability of Transitioning from Employed to Not Employed with Only One Benefit 33

Figure 5 Predicted Probability of Transitioning from Employed to Not Employed by Benefit Type 34

Figure 6 Predicted Probability of Transitioning from Employed to Not Employed by Numbers of Benefits 36

Figure 7 Average Treatment Effects of Having Employer-Provided Benefits on Transitioning from Employed to Not Employed 38

Figure 8 Average Treatment Effects of Having Employer-Provided Benefits on Transitioning from Employed to Not Employed 39

Figure 9 Gender Education Gaps Expanded and Wage Gaps Narrowed Over Time 50

Figure 10 Job Quality Declined Across All Measures for Both Women and Men 65

Figure 11 Job Quality Became More Strongly Associated with Wages Over Time, Especially for Women 67

Figure 12 Job Quality Declined Across All Education Groups and Became More Stratified by Education 69

Figure 13 Some Job Quality Measures Declined Differently by Gender and Education 70

Figure 14 Job Quality Also Declined Across All Wage Groups and Became More Stratified by Wages 71

Figure 15 Some Measures of Job Quality Declined Differently by Gender and Wages 72

Figure 16 Job Quality Declined the Most for Low-wage Workers Across Education Groups, and More So for Women Than Men 73

Figure 17 NLSY97 Women Continue to be Overrepresented Among Low-wage Earners and Under-Represented Among High-wage Earners 76

Figure 18 Educational Distribution by Racialized/Ethnic Groups and Cohort 96

Figure 19 Baby Boomer and Millennial Women's Ages at First Birth by Racialized/Ethnic Group and Educational Attainment, Interquartile Range with Median 98

Figure 20 Medical Insurance Trajectories Age, by Educational Attainment, Racialized/Ethnic Groups, and Cohort 106

Figure 21 Parental Leave Trajectories Age, by Educational Attainment, Racialized/Ethnic Groups, and Cohort 109

Figure 22 Baby Boomers Women's Predicted Probability of Having Employer-Provided Medical Insurance and Parental Leave at the Birth of Their First Child 112

Figure 23 Millennial Women's Predicted Probability of Having Employer-Provided Medical Insurance and Parental Leave at the Birth of Their First Child 115

Appendix Figure 24 Overall Job Quality Decline by Education and Gender 142

Appendix Figure 25 Overall Job Quality Decline by Wages and Gender 143

List of Tables

Table 1 Balance Test for AIPW Covariates 27

Table 2 Average Treatment Effects and Mean Differences in Moving from Employed to Not Employed 40

Table 3 Sample Summary Statistics of Pooled Sample from Ages 20 to 37 by Cohort and Racialized/Ethnic Groups with Educational Attainment 101

Table 4 Proportion of Millennials with Medical Insurance and Parental Leave at Median Age at First Birth and Racialized/Ethnic Groups, Overall and Bachelor's Degree or Higher 117

Appendix Table 5 Summary of Explanatory and Control Variables by Cohort and Gender 144

Appendix Table 6 Comparison of Educational Attainment at Ages 24 and 29.....145

Appendix Table 7 Sample Summary Statistics of Pooled Sample from Ages 20 to 44 (Baby Boomers) and Ages 20 to 37 (Millennials) by Racialized/Ethnic Groups with Educational Attainment Report at Age 29 146

ABSTRACT

Research on inequalities in the labor market often focuses on wages. In this dissertation, I examine another important aspect of employment: job quality. In the U.S. policy context, the primary way that individuals and families access critical benefits such as medical insurance and paid time off is through employers – thus, I use term "employer-provided benefits" interchangeably with "job quality." Access to employer-provided benefits is important for individual and family health, economic security, and for managing work-family commitments. Benefits are especially important for women who, on average, have greater care obligations than men.

I use data from the National Longitudinal Surveys of Youth, 1979 and 1997 cohorts, to examine trends and inequalities in access to employer-provided benefits. The NLSY79 and NLSY97 are the only longitudinal surveys to collect detailed annual or biennial data on respondents' employment history as well as several measures of job quality. These studies are ideally suited for trend analyses, because the NLSY97 was designed for comparability with the NLSY79.

In Chapter Two, I use causal methods to estimate the effect of employer-provided benefits on transitioning from employed in one year to not employed in the next year. For this chapter, I include five employer-provided benefits that previous scholars have identified as potentially important for employment. I show that several employer-provided benefits are strong

predictors of remaining employed. Further, the number of benefits employees have access to has a substantial impact on the gender gap in remaining employed.

In Chapter Three, I examine employer-provided benefits' decline in the context of increases in educational attainment and gender inequality. I ask, did women's greater increases in postsecondary education relative to men protect them from benefits decline? I show that women's job quality declined similarly to men's job quality despite women's greater educational increases. I also find that while the positive association between education and benefits remained stable over time for men and women, the positive association between wages and job quality substantially increased for women. Since women continue to earn less than men the change in the association between women's wages and job quality undercut the protective value of women's increased educational attainment.

In Chapter Four, I examine how the timing of women's access to medical insurance and parental leave aligns (or misaligns) with the timing of births. I show that regardless of how educated women become and no matter how long they wait to have children, the majority do not have access to employer-provided medical insurance and parental leave when they give birth to their first child. In addition, I show how racialized/ethnic differences in educational attainment and timing of first births contribute to racialized/ethnic inequalities in access to benefits.

Taken together, these dissertation papers illustrate the importance of employer-provided benefits for employment stability (and gendered employment inequalities), the declining availability of these benefits (despite rising educational attainment, particularly among women), and the large inequalities in their availability across expectant mothers. There are simply not enough good jobs for even the most highly educated: jobs that provide the benefits necessary for

all men and women to enjoy economic stability and to manage their personal and family commitments.

Chapter 1 Introduction

Employment remains the primary means of support for the majority of adults in the United States. Scholars have studied inequalities in employment for decades, and indeed, among sociologists, employment is a major site for identifying and measuring gender, racialized/ethnic, and educational inequalities. Research on inequalities in the labor market often focuses on wages. In this dissertation, I examine another important aspect of employment: employer-provided benefits (or "job quality").[1]

The United States is unique in comparison to other wealthy countries in that many social services and benefits are primarily accessible through employment. Economically comparable countries all offer benefits such as universal health care, relatively generous retirement pensions, and mandatory paid sick, vacation, and parental leave (Esping-Andersen 1989; Kenworthy 2019). In contrast, the United States stands alone and does not offer any universal benefits beyond Social Security pensions for those who have met the work and age requirements. Instead, the United States has a complex social service system that provides targeted, means-tested medical insurance, limited unpaid family leave, and no mandatory paid leave of any kind.

As Lane Kenworthy has explained, "Public social programs are, for the most part, insurance programs, and they are much of what modern governments do" (2019). Social welfare programs protect individuals from the risks of everyday life: sickness, childbirth and childcare, time away from work to rest, and unexpected events that require workers to take a few hours off from work.

[1] I use the terms "job quality" and "employer-provided benefits" interchangeably throughout the dissertation.

In other rich countries, the government subsumes these risks to provide stability for workers and their families. In the United States, risks are primarily privatized and the responsibility of the individual and their families. Therefore, in the U.S. policy context, employers are the principal means through which individuals and families access critical benefits such as medical insurance and paid time off. The uniqueness of the United States, compared to other high-income countries, provides scholars with the opportunity to study inequalities in access to employer-provided benefits as well as differences in individual and group employment outcomes conditional on access to benefits.

I use data from the National Longitudinal Surveys of Youth, 1979 and 1997 cohorts, to examine trends and inequalities in access to job quality (or employer-provided benefits). The NLSY79 and NLSY97 are the only longitudinal surveys to collect detailed annual or biennial data on respondents' employment history as well as several measures of job quality. These studies are ideally suited for trend analyses, because the NLSY97 was designed for comparability with the NLSY79.

In each empirical chapter, I include up to eight measures of job quality: employer-provided medical insurance, dental insurance, life insurance, retirement plans (pensions and 401k style plans), parental leave (paid or unpaid), paid time off, flexibility, and a standard day schedule. A standard, day-time schedule is not technically an employer-provided benefit, but a job characteristic. However, I include this job characteristic as a benefit, because it the most "beneficial" schedule for the majority of individuals (Strazdins et al 2006). A multitude of studies have shown that a standard day time schedule is best for health and wellbeing and managing childcare and other personal and family responsibilities (Gerstel and Clawson 2018; Harknett et al 2020; Schneider and Harknett 2019, 2021; Strazdins et al 2006). In addition, as job

quality has declined, there has been a marked decline in standard day schedules, especially for those who are employed in low-wage service occupations (Schneider and Harknett 2019).

In contrast to the majority of research on employer-provided benefits, which focusses on employer or occupation level benefits, I use individual reports of benefits that are offered by the respondents' current employer. This approach provides a complimentary perspective to the job quality literature while expanding our understanding of benefits access inequalities. This approach allows me to measure population-level benefits access and to examine the impact of access to benefits on various groups and multiple outcomes. For example, using my approach, I can estimate the share of all workers who have access to a given benefit. In contrast, employer- or occupation-focused approaches estimate the share of employers or occupational-incumbents who have access to a given benefit.

There are reasons to be cautious when relying upon individual respondents' reports of employer-provided benefits, because it is possible that individuals do not accurately report benefits access due to being unaware that their employer provided the benefit. For example, I find that men are less likely to report having access to parental leave in comparison to women (see Chapters 2 and 3). However, it is possible that men do not know if they have parental leave, because they do not intend to use it. Beyond gender differences in reporting, there may also be racialized/ethnic differences within gender. White women are more likely to be married in comparison to Black women and Latinas, which means they may be more likely to have medical and dental insurance through their spouse's employers. Therefore, married women may under-report having access to benefits due to spousal coverage leading to inaccurate measures of racialized/ethnic differences in job quality.

To address these concerns, I have used external benchmarks from federal reports for nearly all of the benefits included in this dissertation. I find that on aggregate, individuals' reports of their benefits generally align closely with federal reports based on employer surveys. I do not use external benchmarks for flexibility or a standard work schedule. While there may be variation in who accurately reports having work flexibility, I argue that it is less likely that individuals do not know they have access to this benefit in comparison to other benefits, because they will either be directly informed of this benefit or learn about it through observing other employees utilizing the benefit. As for the reporting accuracy of work schedules, it is unlikely that respondents do not know what times of the day they work.

It is also important to note the other ways in which individuals can access certain benefits. Qualifying individuals (through a legally accepted disability or low income) can access medical and dental insurance through Medicare or Medicaid. As previously discussed, married or legally partnered men and women can often gain access to medical and dental insurance through their partner's employer, although there is usually an additional cost to this access. Beyond health coverage, households can pool retirement benefits by sharing one person's retirement income. Indeed, a potentially fruitful avenue in the study of job quality would be to examine benefits from a household perspective and any inequalities that may arise from the household "pooling" of benefits (which may also be considered the pooling of risk).

However, most benefits cannot be shared. Partnered men and women cannot use their partner's paid time off, parental leave, flexibility, or standard schedule. Even if partnered with someone with health insurance, they may not be able to afford the additional costs associated with being added to their partner's employer-provided medical and dental insurance.

Regardless of the potential for access to a limited set of employer-provided benefits through marriage or legal partnership, individual access to a wide array of benefits through one's own employer is important, because non-partnered individuals need access to benefits. In addition, a growing share of men and women are not stably partnered or remain single throughout their lives (Goldstein and Kenney 2001).

Job quality is a broad area of study that includes many aspects of employment. These include monetary job characteristics such as wages, stocks, and bonuses as well as nonmonetary job characteristics such as employment stability, short term or "gig" work, type of labor (physical vs. cognitive), job satisfaction, and employer-provided benefits (Jencks et al 1988; Kalleberg et al 2000). I focus on employer-provided benefits for several reasons. First, as has been previously discussed, the majority of adults in the United States do not have access to critical benefits outside of what their employer offers. Second, previous scholarship suggests that access or lack of access to certain benefits likely impacts women differentially relative to men. Finally, while women may be more highly impacted by access to benefits, there is little to no evidence on the impacts of benefits on men.

I begin by establishing the importance of job quality for maintaining stable employment in Chapter Two. Research on gender inequality in the labor market has documented women's climbing labor force participation since the 1950s and its relative stasis since the early 2000s (England et al 2023). Labeled the "Stalled Revolution," scholars have continued look for explanations behind the lack of growth in women's labor market participation since the 1990s (England. 2010; England et al 2023). In a contrasting trend, men's once high labor market participation has been declining during the same time period (Abraham and Kearney 2020). Scholars have repeatedly identified the lack of universal healthcare and work-family policies in

the United States as contributors to the stalled progress in women's employment equality (Currie and Madrian 1999; England 2010; Esping-Andersen 2009). The actual magnitude of employer-provided benefits on women's labor market participation has yet to be documented, and little to no scholarship has studied the impact of benefits on men's labor market participation. In addition, employer-provided benefits are often studied individually and not in the context of other types of benefits.

In this chapter, I use causal methods to estimate the effect of employer-provided benefits on transitioning from employed in one year to not employed in the next year. I show that several employer-provided benefits are strong predictors of remaining employed, and perhaps most importantly, that the number of benefits employees have access to has a substantial impact on the gender gap in remaining employed.

Having established the importance of employer-provided benefits for employment, especially women's employment, I then turn to examining job quality decline and gender inequality in the context of increases in educational attainment in Chapter 3. Higher education is positively associated with having employer-provided medical insurance, pension plans, and higher wages relative to those with low levels of education (Ma, Pender, and Welch 2016). Hence, it is possible that increases in educational attainment may protect workers from job quality decline. Indeed, Kalleberg (2011), in his book *Good Jobs, Bad Jobs*, found that employer-provided medical insurance and pensions became more stratified by education and hourly wages over time. However, he also found that the proportion of college educated workers with these benefits had declined since the 1970s (Kalleberg 2011). These findings suggest that attending college does not provide protection from job quality decline. Nevertheless, we do not know how other measures of job quality such as parental leave or paid time off have changed over time. In

Chapter Two, I ask, did women's greater increases in postsecondary education relative to men protect them from job quality decline across a wide array of measures?

I show that job quality declined for all, including those with high levels of education, and that women's job quality declined similarly to men's job quality despite women's great educational increases. I show that the positive association between education and benefits remained stable over time for men and women, which makes women's similar job quality declines puzzling. I resolve this puzzling finding by showing that the positive association between wages and job quality substantially increased for women, although not for men. Since women continue to earn less than men (even highly educated women), the change in the association between women's wages and job quality undercut the protective value of women's increased educational attainment.

In Chapter Four, I examine the timing of women's access to medical insurance and parental leave in the context of the timing of women's fertility. Medical insurance and parental leave are essential for all new parents, but especially for women during their prime fertility years, to ensure adequate health care throughout the childbearing process as well as time to physically recover and bond with a new baby (Burtle and Bezruchka 2016; Conway and Kutinova 2006; Oberg et al 1991; Yan 2016). Women who lack these benefits may face extreme financial burdens or even maternal or infant mortality (Cahn et al 2023; Daw et al 2020; Gault et al. 2014; Heshmati et al 2023; Mazu 2016). In the US policy context, employers are a key route through which people access these benefits. Thus, the life course timing and trajectories of access to benefits directly impacts workers and their families (Donovan 2019). How does the timing of childbirth, specifically first births, align with the timing of when women have access to employer-provided benefits?

In this article, I show how fertility and benefits align or misalign. I also document inequalities in the alignment of fertility and benefits across women with different levels of education and from different racialized/ethnic groups and birth cohorts. Baby Boomer women with a bachelor's degree or higher have the highest rates of employer-provided medical insurance and parental leave, but among even these women, approximately 25 to 30 percent did not have either benefit when they had their first child. Although some people exhort women to delay their childbearing to guarantee access to these critical benefits (such as by completing more education before having children), I show that regardless of how educated women become and no matter how long they wait to have children, the majority do not have access to employer-provided medical insurance and parental leave when they give birth to their first child. Ideally, all women would have these benefits when they have their first child. However due to the age trajectories of employer-provided benefits, in effect, there is never an "ideal time" for a woman to have a child: a time when she is assured to have the benefits critical to her and her children's health and wellbeing.

Chapter 2 A Causal Explanation of the Gendered Relationship Between Employer-Provided Benefits and Employment

A large body of research has documented the importance of benefits such as health insurance, parental leave, and standard work schedules for employee health (Goldin et al. 2021; Hesmati 2023; Hewitt et al. 2017; Schneider and Harknett 2019, 2021; Xu and Jensen 2012). Moreover, other benefits such as flexibility or paid time off help women (and men to a lesser extent) manage family obligations and decrease the likelihood of role-strain that arises from conflict between work and family (Allen et al. 2000; Gupta and Srivastava 2020; Noaguchi and Fettro 2017). The underlying assumption in this line of research is that these benefits improve the health and wellbeing of employees which allows them to also maintain employment. Another assumption is that these benefits help reduce gender inequalities in employment by allowing women to remain employed regardless of childbearing or their greater likelihood to be caregivers of children or other family members relative to men (Hill et al. 2010).

Stable employment is associated with financial security as well as increased opportunities for advancement (Klerman and Karoly 1995). Job loss is associated with decreased lifetime earnings or "wage scars" (Gangl 2004; Moore 1996). Jobs are also an important source of identity for many, especially in a work focused society like the United States (Young 2012). Overall, jobs are sites for social interactions with the potential for positive social relationships beyond

pecuniary benefits (Brand 2015). Therefore, it is important for scholar and policy makers to understand how employer-provided benefits may help workers maintain stable employment. The effects of certain employer-provided benefits on women's labor market participation has yet to be documented, and little to no scholarship has studied the impact of benefits on men's labor market participation. In addition, employer-provided benefits are often studied individually and not in the context of other types of benefits. In this study, I use causal methods to estimate the effect of employer-provided benefits on transitioning from employed in one year to not employed (either unemployed or not looking for employment) in the next year. I use data from the National Longitudinal Survey of Youth 1997 to describe the composition of benefits for men and women from ages 24 to 35 years old and to demonstrate the importance of certain benefits for men and women's employment stability. I focus on five measures of employer-provided benefits: medical insurance, parental leave, paid time off, flexibility, and a standard daytime schedule[2]. I estimate the average treatment effects of employer-provided benefits and the number of benefits on remaining employed with a two-stage regression technique called augmented inverse probability weighting that uses weights to eliminate treatment effect estimates of observed selection bias.

I find that when controlling for all other benefits and other measures, having parental leave, paid time off, and flexibility all decrease the likelihood that both women and men will transition from employed at one age to not employed at the next age. When examining individual measures (the

[2] Although having a standard daytime schedule is not technically a benefit, the benefits of a standard daytime schedule are significant (Costa 2003; Marmot et al 1997; Rajaratnum and Arendt 2001; Schneider and Harknett 2019). In addition, there are inequalities embedded in who has access to a standard schedule that are similar to inequalities in other employer-provided benefits (Clawson 2012; Dyer 2023a). Therefore, for simplicity, I refer to all five measures examined in this study as employer-provided benefits.

hypothetical situation where an employee only has one benefit), every measure significantly decreased the likelihood that women and men will transition out of employment.

Women are more likely to transition from employed to not employed than men and to do so more frequently. I find that the largest gender gap in transitioning from employed at one age to not employed at the next age is among workers without any benefits. Each additional benefit (up to five) reduces both the likelihood that men and women will transition out of employment and decreases the gender gap in this transition.

The importance of benefits (that in other countries are universal) for employment and employment stability underscores the unique and challenging position of U.S. workers, especially women. It also provides additional evidence to explain both women's lack of progress to full employment and men's declining labor force participation. These two phenomena have taken place as employer-provided benefits have declined. In light of the findings in this study, it is unsurprising that employer-provided benefits would have a direct impact on labor force participation for both women and men as well as the gender gap in employment.

BACKGROUND

Employment Stability

Considering that employment is the primary way in which individuals and families access the money necessary to pay for living expenses, stable employment (remaining employed from one year to the next) is critical to financial security (Kalleberg 2011). Indeed, unstable employment is associated with an increased risk of poverty (Scott el at 2004). Moreover, employment stability is important for career development, and employment disruptions have been shown to slow or even halt wage and career growth (Chung and Van der Horst 2018).

In general, both women and men experience more employment transitions early in their career in comparison to older workers (from employed in one job to employed in a new job, employed to not employed, and not employed to employed) (Klerman and Karoly 1994; 1995). While there are several reasons why early employment is more unstable than later employment, it is possible that access to employer-provided benefits play a critical role in employment stability for both early-career women and men. As will be discussed further, employer-provided benefits can help workers remain healthy and allow for them to manage family responsibilities and work-life conflict. It is also likely that these benefits impact men and women's employment stability in different ways.

And although employment instability has declined for workers over the last twenty years, gender differences remain (Fredericksen 2008). Women, especially young women, have lower job stability than men (Fredericksen 2008). They are also more likely to transition from employed to not employed (Bolton 2023). One of the main explanations for these gender differences is that women are more likely to leave employment when they have children, even if it is only temporary (Chung and Van der Horst 2018). The lack of parental leave policies in the United States makes it difficult for women who are pregnant to remain employed if their employer does not provide leave as a benefit or if they do not qualify for the Family Medical Leave Act.

In this study, I argue that there is another explanation for the higher rate of employment transitions in the early-to-mid career and for women's higher rate of transitions in comparison to men, specifically transitioning from employed to not employed. Recent work has shown that access to benefits is lowest at entry into the labor market and increases up until workers are in their late 30s and early 40s. (Dyer 2023b). Therefore, one reason for women's stagnant labor force participation and men's declining labor force participation may be women and men's

relatively low access to employer-provided benefits in the early to mid-career. Although women's employment is more heavily impacted by a lack of employer-provided benefits, I show that benefits are also critical for men's labor market participation.

Employer-Provided Benefits and Employment

There is some evidence that the lack of certain benefits depresses women's labor market participation (Cotter et al 2008; Currie and Madrian 1999; Dale-Olsen 2006). Gender scholars who study women's employment have primarily focused on employer-provided parental leave, paid time off, and work flexibility, arguing that these benefits are critical for women's labor force participation (Hewitt, Strazdins, and Martin 2017; Hill et al. 2001; Moen et al. 2011). Like workers with nonroutine schedules, women who struggle to manage work and personal/family responsibilities experience greater stress. These struggles exclude some women from the labor market altogether (Ciabattari 2007; Scott et al 2015). However, very little work examines men's labor market participation in the context of employer-provided benefits.

In this study, I focus on five employer-provided benefits: medical insurance, parental leave, paid time off, work flexibility, and a standard, daytime work schedule.

Medical Insurance

Employees who do not have employer-provided health insurance have worse health, higher mortality, and miss work more often due to poor health than those with health insurance (Ehrenreich 2010; Goldin, Lurie, and McCubbin 2021; Pan, Lei, and Liu. 2016.). Lack of access to employer-provided medical insurance has also been linked to lower labor force participation

for both women and men (Currie and Madian 1999). While medical insurance is important for both men and women, it is possible that women will be more directly impacted by not having medical insurance. Women are more likely to be single parents, and they do not have access to employer-provided medical insurance, their children may be a higher risk of illness than children with health insurance. Some women (even when partnered) struggle to remain employed due to children's illnesses (Scott 2010).

Parental Leave

Women require a minimum of six weeks to physically recover from childbirth, although many women require time off during the pregnancy itself as well as more than six weeks to fully recover (Abraham et al. 1990; Tulman 1998). Scholars have also found that it is very important for nonbirth parents to have parental leave in order to bond with their new child and to assist a mother recovering from childbirth (Gault et al. 2014). Women who do not have any parental leave are more likely to drop out of the labor market altogether, and even short-term leave (six weeks) increases the likelihood a woman will return to work after the birth of a child (Cascio 2015; Jaumotte 2003).

To the best of my knowledge, we do not know how having access to parental leave may impact men's attachment to the labor market. The majority of studies on the effects of parental leave on men's employment has focused on men's willingness to take time off of work at all for the birth of a child (Castro-García and Pazos-Moran 2016). Other research focuses on the benefits of men's taking parental leave on women's health and employment, and men's early bonding with a child.

In 1993, the Family Medical Leave Act (FMLA) was passed requiring employers allow qualified workers up to 12 weeks of unpaid leave for a qualifying family medical event. Both men and women are allowed to use this leave time for the birth or adoption of a new child. However, a large proportion of employees do not meet the qualification standards and do not have access to this legally protected leave (Brown et al. 2020). In fact, only 56 percent of workers qualify for FMLA (Brown et al. 2020). Though many employers offer parental leave, either paid or unpaid, the lack of federal policies beyond FMLA leaves employees dependent upon company policies. It is more likely that access to parental leave will have a larger effect on women's employment than men's employment, if only because cisgender men do not become pregnant and do not need to recover physically from childbirth. In addition, infant care is disproportionately provided by mothers, especially among mothers who breastfeed. These gender differences in the physical demands of pregnancy and childbirth as well as early infant care mean that women are more vulnerable to becoming unemployed if they do not have access to parental leave.

Paid Time Off

Most individuals, especially women, experience at least some time during the working life course in which they must care for a family member or they themselves may become too sick or disabled to work regularly. Paid time off not only allows for workers to take care of themselves or their family members when sick, but it also allows workers to take time off for vacations, special family events, or any other issues that may arise during their work time. Paid time off provides financial security for workers so they do not lose income during the time they have taken off. While paid time off has likely always been an important employer-provided, it has become even more important as women entered the labor force in greater numbers. In

married or cohabitating households with only one employed partner, it is possible for the non-working partner to manage childcare and other family members' care needs. However, an increasing proportion of families are either single households or married or cohabitating with two working partners (Bureau of Labor Statistics 2008). In these families, there is no longer an adult at home to do the care work. Regardless, paid time off is essential for most workers.

We would expect to see gender differences in employment by access to paid time off, especially if the employer does not offer parental leave or flexibility. Since women are more likely to care for children and other family members, they have an even greater need for paid time off than men.

Flexibility

The demands of caregiving are sometimes variable and cannot always be handled during non-work hours, and women are much more likely to be primary caregivers for both children and aging parents and spend much more time providing care in comparison to men (Ice 2022). Several scholars have shown that work flexibility is important for helping employees, especially women, manage caregiving and employment (Hill et al. 2010; Moen et al. 2017; Young 2018). Flexibility improves the likelihood that workers, especially women, can remain in the labor force and manage work-life demands.

Standard Work Schedule

There is a great deal of research to suggest that standard day time employment is better for employee health, in comparison to evening or rotating shifts (Schneider and Harknett 2019). However, it is also important for childcare and managing work with school age children. Most

childcare providers are only open during standard work hours, and it is very challenging for families to find high quality and affordable childcare for work that is outside a standard schedule (Scott et al. 2014). In addition, childcare is less expensive for parents who work a standard schedule when they have school age children, because they spend the majority of the workday in school. Finally, parents with school age children will also have more time with their children if they work primarily while their children are in school. Since women are much more likely to be responsible for children and childcare than men, we would expect that women's employment will be more directly impacted by having a standard day schedule than men.

In summary, the five benefits included in this study are all important for employee wellbeing and, I argue, for men and women's labor force participation. Based upon the literature, I hypothesize the following:

Hypothesis 1: Each employer-provided benefit will decrease the likelihood that both men and women will move from employed in one year to not employed in the next year.

Hypothesis 2: The relationship between employer-provided benefits and remaining employed will be stronger for women than for men.

Hypothesis 3: The likelihood that men and women will move from employed in one year to not employed in the next year will decrease with each additional benefit.

Hypothesis 4: The gender gap in moving from employed in one year to not employed in the next year will decrease with each additional benefit.

DATA AND MEASURES

Data

The National Longitudinal Study of Youth 1997 (NLSY97) is a nationally representative dataset by the Bureau of Labor Statistics that follows approximately 8,984 individuals beginning in 1997 when they were ages 12-17. Among longitudinal survey datasets, only the NLSY97 (and the NLSY79), regularly observes the same individuals and collects annual or biannual data on their full employment history as well as employer provided benefits, work schedule, and job flexibility. The NLSY97 also contains detailed information in each interview wave about respondents' educational attainment and current family structure. The NLSY97 moved to a biannual survey in 2011. I examine the relationship between employer-provided benefits and employment by age. Therefore, to capture individuals who may be missing at a certain age due to the switch to a biannual survey, I backfilled all variables with the next wave's responses (age + 1) if they were missing a response at that age.

Measuring Changes in Employment Status

Since I cannot observe employer-provided benefits of individuals who are not employed, I estimate the transition from being employed at one age to not employed in the next year. Not employed includes individuals who are unemployed but actively searching for work as well as individuals who are not actively seeking employment (i.e., people who are out of the labor force). Considering that the main analyses examine these transitions over a 12-year period, it is possible that individuals will make this transition several times (see Figures 1 and 2). Of course, it is also possible to transition from not employed to employed. The switching between

employed and non-employed is an important indicator of employment stability. While I do not examine the transition from not employed to employed in the primary analyses, I do report the total number of transitions (employed to not employed and not employed to employed) to illustrate both how often an individual may experience both of these transitions and to show that women are at greater risk of employment instability.

Employer-Provided Benefits

Medical Insurance and Flexibility

Respondents were asked yes/no (coded as 1/0) questions for medical insurance and flexibility.

Parental Leave

Respondents were asked two separate questions about parental leave: the questions ask if respondents have paid maternity/paternity leave or unpaid maternity/paternity leave. I created one measure from these two questions which equals 1 if a respondent has either paid or unpaid parental leave and 0 if they do not have either benefit.

Paid Time Off

Beginning in 2013, respondents are asked to report how many paid days off an employer provided: vacation, sick, or personal. Prior to 2013, vacation, sick, and personal days were reported as separate variables. For consistency and to account for any type of paid time off, I created a binary variable that equals 1 if respondents have at least one day of paid time off and 0 if respondents do not have any days of paid time off.

Standard Day Schedule

Respondents are asked what they type of work schedule they have and choose between the following answers: regular day shift, regular evening shift, regular night shift, shift rotates (changes periodically from evenings to nights), split shift (consists of two distinct periods each day), and irregular hours.

Respondents are asked about these measures for multiple jobs. However, an indicator variable is available to identify which job is the main job. I created these measures using the responses for the respondents' main job. The NLSY97 moved to a biannual survey in 2004. To capture the employer-provided benefits of individuals at ages that were skipped due to this change, I backfilled employer-provided benefits components with the next wave's responses (age + 1) if they were missing a response at that age.

Additional Variables

In addition to these employer-provided benefits measures, I use several time varying and time-invariant demographic and employment measures to isolate the relationship between employer-provided benefits and employment as well as the relationship between education and employer-provided benefits and hourly wages and job quality.

Demographic Measures

I include age, because the proportion of workers with benefits appears to increase with age (Dyer 2023c). I also included a squared term for age to account for possible non-linearities in employer-provided benefits by age. The historical legacy of slavery and racism in the United States means that Black men and women and other minoritized racial/ethnic groups are more

likely to have jobs that do not provide health insurance (Lillie-Blanton et al 2004). It is likely that these groups also have less access to jobs with other benefits, therefore, I include a measure for race/ethnicity. I created four racial/ethnic categories: White, Black, Latino and Other. Married women are less likely to be employed in comparison to unmarried women (U.S. Bureau of Labor Statistics 2023). I include a three-category measure for marital status: married, cohabiting, and single (not cohabiting). Other scholars have found that women are less likely to be employed if they have an income earning partner (Cohen and Blanchi 1999; Petitt and Hook 2005). In addition, it is possible that if an individual has a partner who is employed, they may be able to access medical insurance through their partner's employer. Therefore, I include a simple 0/1 variable to measure if respondents have an income earning partner or not. The transition to parenthood (especially for women) often can make it challenging to remain in the labor market (Chung and Van der Horst 2018). I include a 0/1 measure to capture this transition. A value of one indicates that the respondent was not a parent in the previous age but is a parent now. The number of children in a household can also impact a parent's employment status, and unsurprisingly, especially women's employment status (Marini 1981; Weller 1977). I include a continuous variable to capture how many children are in the home. Due to high levels of variation in employment and job quality by education, I use a six-category measure of educational attainment: less than a High School diploma (0), a High School Diploma/GED (1), some college (2), an associate degree (3), a bachelor's degree (4), and a master's degree or higher (5).

Employment Measures

Wages are positively associated with employer-provided benefits, therefore, I include log hourly wages to control for this relationship (Dyer 2023a). On average, employees who are covered by a union contract have higher employer-provided benefits than those who are not (Buchmueller et al. 2002; Ewing 2005). I create a simple 0/1 variable to measure union representation. Finally, I include seven binary variables for occupational differences from the 2000 Census Occupation Codes, because some occupations are more highly associated with having employer-provided benefits than other occupations (Hodges 2020). The seven occupations categories are production, professional, sales, service, management, farming, and construction.

There is some risk of overcontrolling by including employment characteristics. Adding too many control variables can bias a model by underestimating the relationship between the dependent variable (e.g. transitioning from employed to not employed) and primary explanatory variable (e.g. employer-provided benefits). However, in these specific models, there is a greater risk of over-estimating the causal effects of benefits on employment by not including union contract coverage and occupational categories. The proportion of individuals covered by a union contract is quite low for this cohort (approximately 8 percent), but the proportion of workers with benefits who are in a union is very high (Buchmueller et al 2002). Employment stability is also very high for those who are in unions because it is much more difficult to fire or lay off these types of workers. If I do not include a control for union contract coverage, I may over-estimate the relationship between benefits and employment, because union member is associated with both benefits and employment stability. The risk of over- or under-estimating is similar for occupations. Therefore, I include both union coverage and occupation groups to control for factors that are associated with both benefits and also predict remaining employed.

Sample

I limit the sample to respondents ages 24 to 35 and who do not have missing observations from age 29 to 31 on employment. I cannot observe the employer-provided benefits of not employed individuals, therefore, in most of the analyses the sample is limited to those who are employed for at least one observation.

Analytic Approach

I begin with descriptive analyses of the relationship between employer-provided benefits and transitioning from employed at age t to not employed at age $t + 1$. I estimate non-linear models using logistic regression. In the first set up models, I estimate the likelihood that women and men will transition from employed to not employed by type of employer-provided benefit. I include each of the control variables discussed in the previous section, but do not include other benefits beyond the main predictor benefit. This is the hypothetical situation that an employee only has one of the five benefits. In the second set of models, I repeat the same analyses but include the other four employer-provided benefits to account for how these variables influence the relationship between the main predictor benefit and remaining employed. In the final set of models, I estimate the likelihood of transitioning from employed to not employed by number of benefits. I estimate models separately for men and women and report all outcomes as average marginal effects.

Next, I estimate the causal relationship between employer-provided benefits and transitioning from employed to not employed. This set of analyses estimates potential outcomes

where benefits are the treatment and the transition from employed to not employed is the outcome. I estimate the effect of benefits on the transition from employed to not employed using augmented inverse probability weighting (AIPW). This method has primarily been used within the field of biostatistics but has recently been utilized in social science research (Payne 2023). AIPW is a two-stage regression modeling strategy: first estimating the probability of treatment (a propensity score), and second, estimating two models one for the treatment outcome, and one for the control outcome. Finally, outcomes are weighted by the previously estimated propensity score from the first stage to generate the weighted averaged of the two outcome models. I use logistic regression to estimate the effect of employer-provided benefits on remaining employed from one year to the next year. When estimating causal effects with observational data, the inability to randomly assign individuals to treatment and control is a missing data problem, and in AIPW, the weights account for this missing data. Weights are calculated as the inverse of the estimated probability that an individual receives a treatment. Individuals who are likely to receive treatment are assigned a weight that is close to one, and individuals who are not likely to receive treatment are assigned weights that are larger than one.

Augmented inverse probability weighting is considered "doubly robust" meaning that, with the correct model specification in at least one stage, the average treatment effects are less biased than other types of methods (regression or inverse probability weighting) that use observational data instead of an experiment (Kurz 2022).

I assume that individuals (n) included in the study were randomly sampled, that the treatment is binary ($X = 0$ for control groups and $X=1$ for treatment groups), and the outcome is measurable (Y), the average treatment effects (*ATE*) can be defined as the following:

$$ATE = \mathbb{E}[\mathbb{E}(Y|X = 1, Z) - \widehat{\mathbb{E}}(Y|X = 0, Z)]$$

where Z is a set of observed control variables that will be used to predict both the propensity for treatment and the treatment outcomes.

Using augmented inverse probability weighting, I estimate the average treatment effects with the following two expressions:

$$\frac{1}{N}\sum_{n=1}^{N}\left[\frac{X_n Y_{]n}}{\hat{\pi} Z_n} - \frac{(1 - X_n)Y_n}{1 - \hat{\pi} Z_n}\right]$$

(2)

where expression two is the inverse probability weight estimator where $\hat{\pi}$ is the estimated coefficient and $\hat{\pi} Z_n$ is the estimated propensity score.

$$\frac{\left(X_n - (\hat{\pi} Z_n)\right)}{\hat{\pi} Z_n}\,[\mathbb{E}(Y|X = 1, Z)] - \frac{\left(X_n - (\hat{\pi} Z_n)\right)}{1 - \hat{\pi} Z_n}\,[\mathbb{E}(Y|X = 0, Z)]$$

(3)

Expression three adjusts the inverse probability weight estimator by the weighted average of the two regression estimators. I combine these two expressions for the full model below:

$$\widehat{ATE}_{AIPW} = \frac{1}{N}\sum_{n=1}^{N}\left[\frac{X_n Y_{]n}}{\hat{\pi} Z_n} - \frac{\left(X_n - (\hat{\pi} Z_n)\right)}{\hat{\pi} Z_n}[\mathbb{E}(Y|X = 1, Z)]\right.$$

$$\left. - \frac{(1 - X_n)Y_n}{1 - \hat{\pi} Z_n} - \frac{\left(X_n - (\hat{\pi} Z_n)\right)}{1 - \hat{\pi} Z_n}\,[\mathbb{E}(Y|X = 0, Z)]\right]$$

Causal methods that use observational data aim to eliminate selection bias into treatment. As previously discussed, AIPW uses weights to address bias from observed covariates and provides some assurance that the model has been correctly specified. Balance tests show how successfully the weights in the model equalize differences between the control and treated groups along the observed dimensions. Ideally, the weighted difference between the two groups will be close to zero and the variance ratio will be close to one. I conducted balance tests for each individual benefits, but Table 1 shows the balance test for the covariates in the Paid Time Off model included in the study. Beyond the control variables included in all of the models, I also include the other benefits as control variables excluding the main predictor benefit. For example, for the Paid Time Off models, I include medical insurance, parental leave, flexibility, and having a standard day schedule as controls. We see in Table 1 that for all variables the weighted difference is very close to one, and that, except for log hourly wages, the variance ratio is very close to zero. The variance ratio for log hourly wages is 0.74 which is a little low. However, the weighted difference is close to zero. Future work on this study will focus on improving the variance ratio of log hourly wages, but in light of the full balance test, I have chosen to proceed with the current model specification.

Table 1. Balance Test for AIPW Covariates for Paid Time Off Model.

	Standardized Differences		Varianace Ratio	
	Raw	Weighted	Raw	Weighted
Medical	1.43	0.01	0.89	1.00
Parental	1.06	-0.01	1.91	1.00
Schedule	0.68	0.02	0.96	1.00
Flexibility	0.41	-0.02	1.38	0.99
Racial/Ethnic Composition	-0.03	-0.04	1.03	0.98
Education	0.39	0.00	1.10	0.96
Married	0.22	0.00	1.13	1.00
Cohabiting	-0.07	0.01	0.90	1.01
Number of Children	-0.06	-0.03	0.85	0.99
First Time Parent	0.00	0.04	1.00	1.01
Log Hourly Wages	0.42	0.02	0.52	0.74
Parnter Income	0.22	0.01	1.14	1.00
Union	0.18	0.00	1.53	1.00
Production	0.03	0.01	1.07	1.02
Professional	0.20	-0.02	1.36	0.97
Sales	0.16	0.01	1.23	1.01
Service	-0.36	-0.01	0.61	0.99
Manage	0.22	0.04	1.78	1.09
Farming	-0.10	0.00	0.25	1.06
Construction	-0.21	-0.02	0.57	0.95
Age	0.01	0.01	1.03	1.04

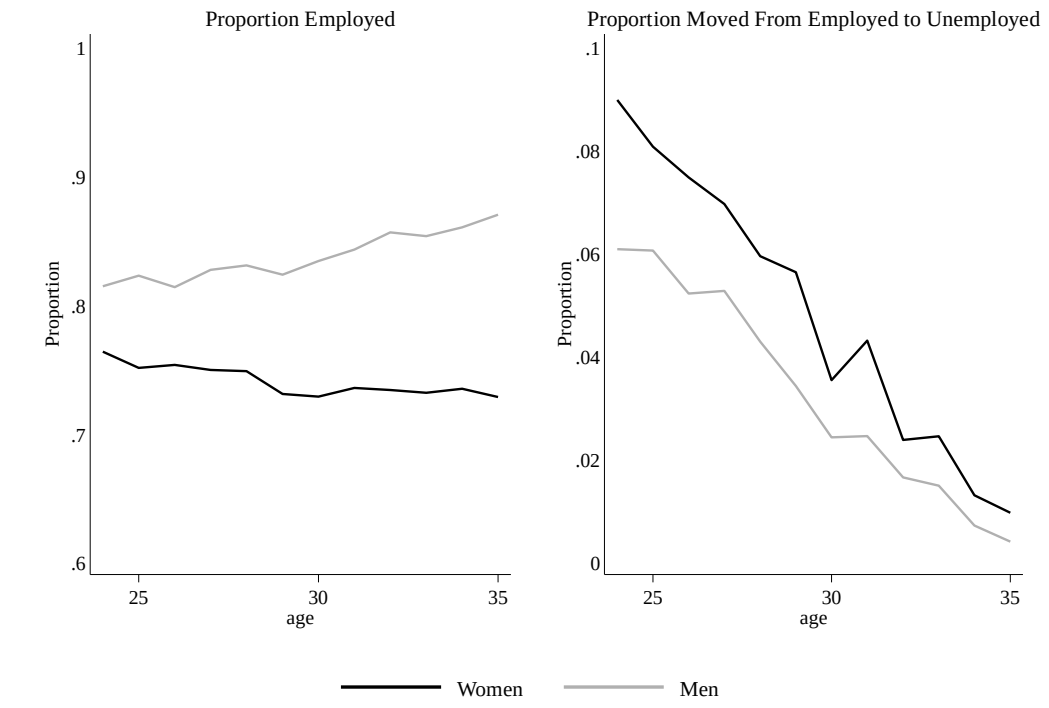
DESCRIPTIVE RESULTS

Women and Men's Employment Rates and Transitions Differ

That women and men have different employment experiences is well documented (Blau and Kahn 2007). Most women will become pregnant which requires some time away from work and are usually the primary caregivers of children and older family members. Figure 1 shows both women and men's employment rates (left graph) as well as the proportion that move from

employed to not employed from one age to the next (right graph) for ages 24 to 35. We see that while men and women enter the labor market at fairly similar rates (81 versus 77 percent at age 24), employment rates diverge over time as men's employment slightly increases and women's employment slight decreases (88 versus 73 percent at age 35). In addition, women experience a higher number of transitions from employed to not employed relative to men, although for both women and men, transition rates decline as they age. Both graphs in Figure 1 show that women's employment rates decline as they age relative to men and that women are more likely to transition from employed to not employed, especially in the early career. Employment instability in the early career is not uncommon with employment stabilizing with age (Klerman and Karoly 1995). In addition, considering that most women and men will have at least one child in their mid-20s, it is not surprising that both men and women experience higher transition rates or that women's employment will be more impacted at these ages than men. However, as will be seen later, employer-provided benefits appear to mediate the gendered impact of family formation.

Fig 1. Proportion Employed by Gender, Ages 24 to 35.



Not only are women more likely to transition from employed to not employed relative to men, but they are also more likely to transition from not employed to employed, meaning that women experience higher rates of employment instability. Figure 2 shows the total number of transitions (employed to not employed and not employed to employed) by gender from ages 24 to 35. We see that men are more likely to remain stably employed from one age to the next (28 percent with zero changes compared to 23 percent for women). Among those who experience employment changes, women experience a greater number of transitions in comparison to men. Sixty-two percent of women ages 24 to 34 experienced two or more employment transitions compared to 52 percent of men.

Fig 2. Number of Changes in Employment Status by Gender from Ages 24 to 35.

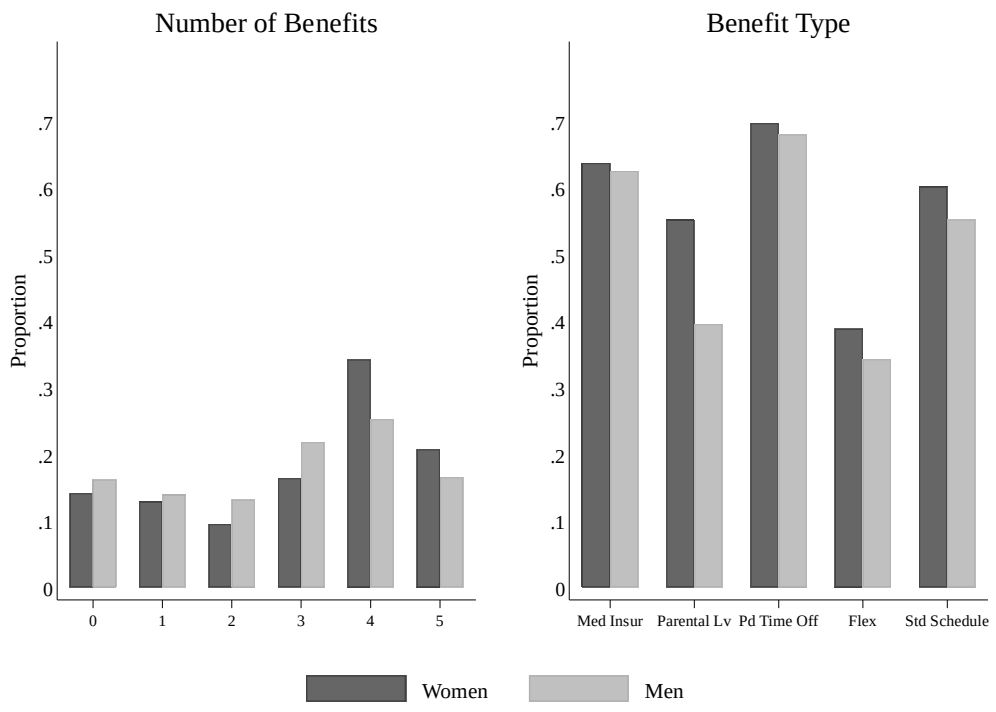
Figures 1 and 2 show that women experience higher rates of employment instability. There have been several discussions about the reasons for these gendered differences. In the next section, I examine the gendered distribution of employer-provided benefits and estimate the role these benefits play in reducing employment instability and increasing women's employment rates.

Employed Women Have Rates of Parental Leave and Flexibility

Employed women have a higher number of employer-provided benefits, specifically, higher rates of parental leave and flexibility. Figure 3 shows both the distribution of the number of benefits women and men have (left side figure) and proportion of men and women with each individual benefit (right side figure), pooled across ages 24 to 35.

When examining the number of benefits that women and men have (left side figure), we see that approximately 15 percent of women and men do not have any of the five employer-provided benefits included in this study. Women are more likely to have a higher number of these benefits. Fifty-three percent of employed women have four or five benefits compared to 41 percent of men.

Fig 3. Distribution of the Number of Employer-Provided Benefits and Type of Benefit by Gender, Pooled Ages 24 to 35.

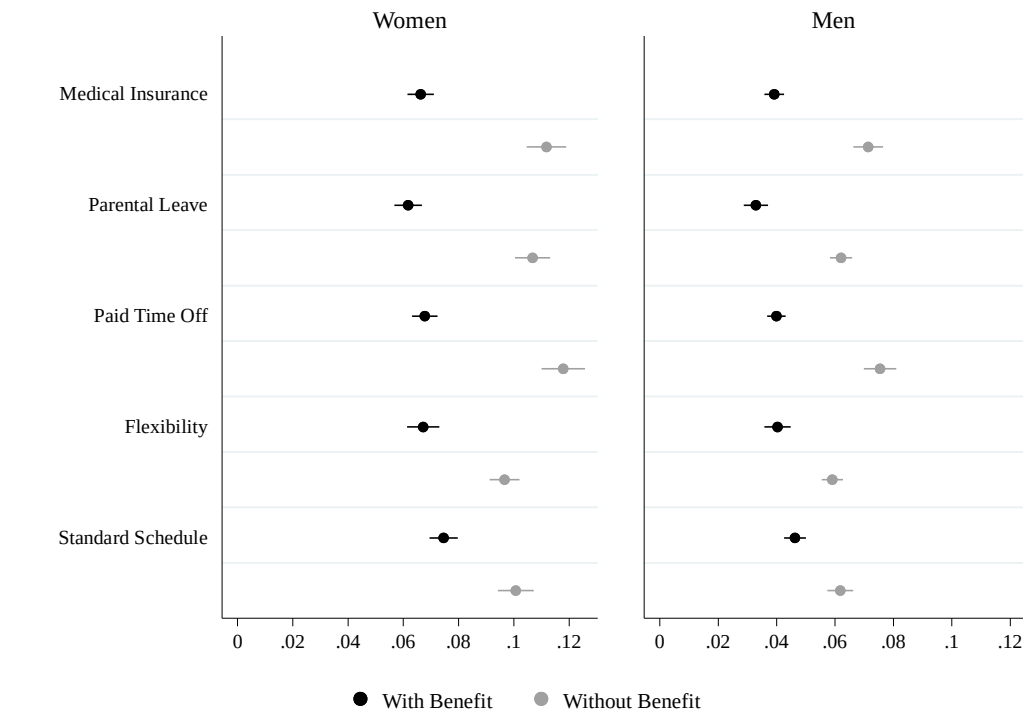


The right side of Figure 3 shows the proportion of employed women and men with each individual benefit. We see that men and women have similar rates of employer-provided medical insurance and paid time off, while women have higher rates of standard schedules, flexibility, and much higher rates of parental leave. While parental leave is important for non-birth parents, it is critical to health of women (and other individuals who give birth).

Employer-Provided Benefits are Associated with Lower Likelihood of Transitioning from Employed to Not Employed

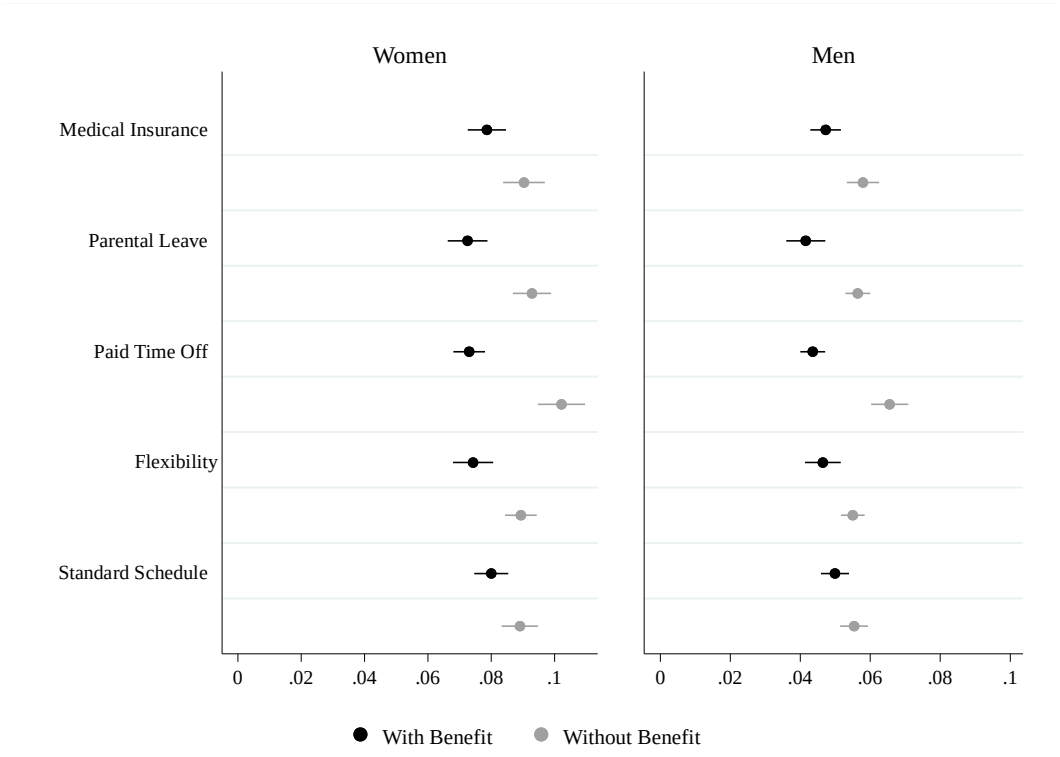
Figure 4 shows the predicted probability of moving from employed at one age to not employed at the next age by type of benefit. These models include all the control variables discussed previously but does not include the other benefits. Each benefit is modeled separately, even though the average marginal effects for all the benefits are reported in the same figure. The left side of Figure 4 shows women with a specific benefit in black and without a specific benefit in grey, and the right side of Figure 4 shows men. Having one of these benefits is significantly and substantially associated with a lower likelihood of moving from employed to not employed. For example, six percent of women who have access to employer-provided medical insurance will transition from employed to not employed in comparison to 11 percent of women who do not have employer-provided medical insurance. Differences in likelihood of transitioning from employed to not employed is highest for medical insurance, parental leave, and paid time off, approximately a 5 or 6 percentage point differences. Having flexibility or a standard day schedule is associated with approximately a 2 or 3 percentage point lower likelihood of transitioning from employed to not employed. The pattern is similar for men, although the magnitudes are much smaller.

Fig 4. Predicted Probability of Moving from Employed to Not Employed with Only One Benefit by Type of Benefit.



Approximately 15 percent of workers have only one benefit (See Figure 3). Most employees with benefits have two or more. Figure 5 shows the predicted probability of remaining employed from one age to the next by the type of benefit with models that include all other benefits. In this figure, men and women are shown separately. In the left side, we see the predicted probability that women will transition out of employment both for women who have the benefit and for women who do not have the benefit. The black dot represents women with the benefit and the grey dot represents women without the benefit. The left side of the figure is the same as the left expect that it represents men (a black square indicates having a benefit and a grey square indicates not having the benefit).

Fig 5. Predicted Probability of Moving from Employed to Not Employed from One Year to the Next Year by Benefit Type.



Beginning with medical insurance we see that although there are small mean differences between each group (benefit or no benefit), these differences are not significant. This means that, for both women and men, having medical insurance (net of having the other benefits included as well as multiple control variables) does not significantly impact the probability of remaining employed from one age to the next. We see a very similar relationship for those who have a standard schedule. Neither of these benefits alone impact the probability of transitioning from employed to not employed.

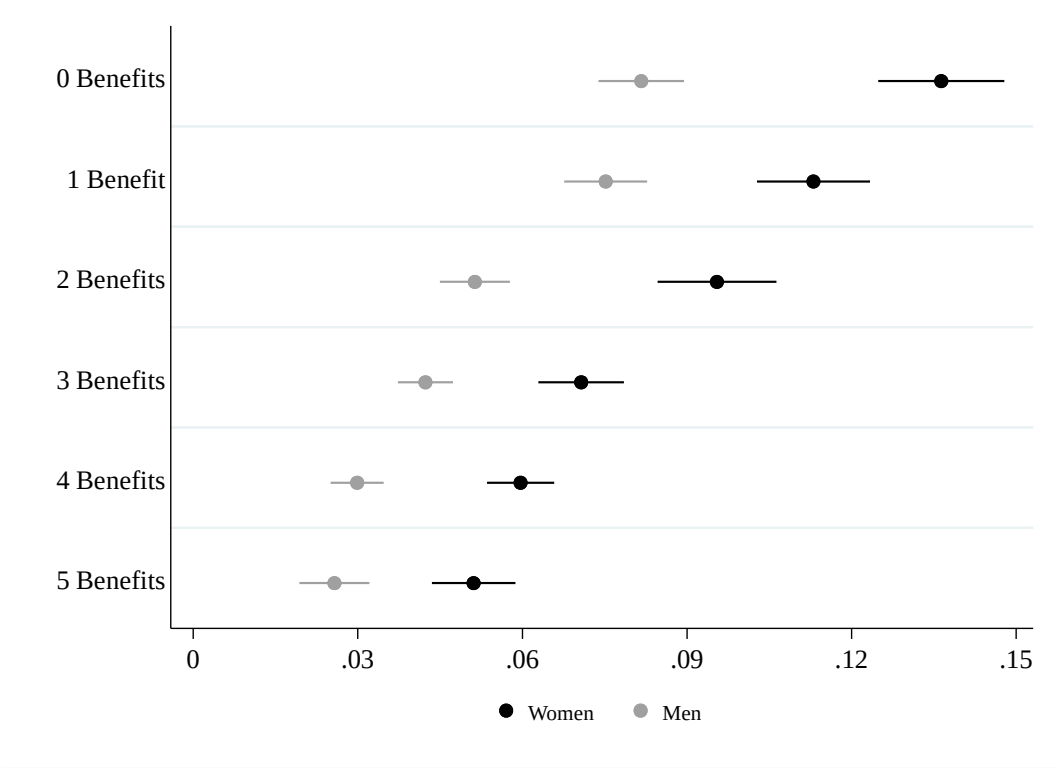
We see a different relationship between remaining employed and having parental leave, paid time off, and flexibility. For both women and men, having these benefits is associated with a lower probability of transitioning from employed to not employed. For example, approximately

seven percent of women with paid time off will transition to being not employed from one age to the next compared to nine percent of women without paid time off. These differences are similar for men although of smaller magnitude: four percent of men with parental leave will transition from employed to not employed compared to six percent of men who do not have parental leave.

The associational differences between those with paid time off is largest for both men and women, although again there are gender differences in magnitude: 7.5 percent for women with paid time versus 11 percent for women without paid time off compared to five percent for men with paid time off and seven percent without paid time off. We could imagine that paid time off may act as a proxy for other benefits, specifically parental leave and flexibility, therefore, it is the critical benefit to have relative to the other benefits. Individuals could use their paid time off in place of parental leave or to supplement their parental leave, and paid time off likely affords workers greater flexibility.

Figure 6 shows the predicted probability of transitioning from employed to not employed by the number of benefits employed women and men have. Women are in black and men are in gray. We see that as the number of benefits increase, men and women are both less likely to transition from employed to not employed. In other words, the more benefits a worker has, the more likely they are to remain employed.

Fig 6. Predicted Probability of Moving from Employed to Not Employed from One Year to the Next Year by Number of Benefits.



In addition, we see that the transition gap (the gender difference in the probability of transitioning from employed to not employed) decreases as the number of benefits increase for men and women. For men and women without any of these benefits, eight percent of men are predicted to transition out of employment compared to 15 percent of women. This difference is large and statistically significant. However, among men and women with all five benefits, we see that the probability of transitioning out of employment declines to approximately three percent for men and five percent for women.

In summary, these findings tell us three things about the relationship between the number of benefits and employment: first, increases in the number of benefits has a positive impact upon both women and men's probability of remaining employed. Second, the impact is greater for

women than it is for men. Third, there is a strong relationship between the number of benefits men and women have and the gender gap in the transition from employed to not employed.

CAUSAL RESULTS

Causal Effect of Benefits on Employment

The previous findings show the descriptive relationship between benefits and employment. In this last section, I estimate the causal effect of benefits on employment using augmented inverse probability weights. I report my findings as the potential outcome means by treatment group calculated from average treatment effects.

Figure 7 shows the average treatment effects by each individual benefit. Once again, we see similar findings to descriptive Figure 5. Medical insurance and having a standard day schedule (when including the other benefits) do not have a causal effect on transitioning from employed to not employed. However, having parental leave, paid time off, or flexibility reduces transitions out of employment for men and women, although the magnitude is smaller for men relative to women.

Fig 7. Average Treatment Effects of Having Employer-Provided Benefits on Moving from Employed to Not Employed from One Year to the Next Year.

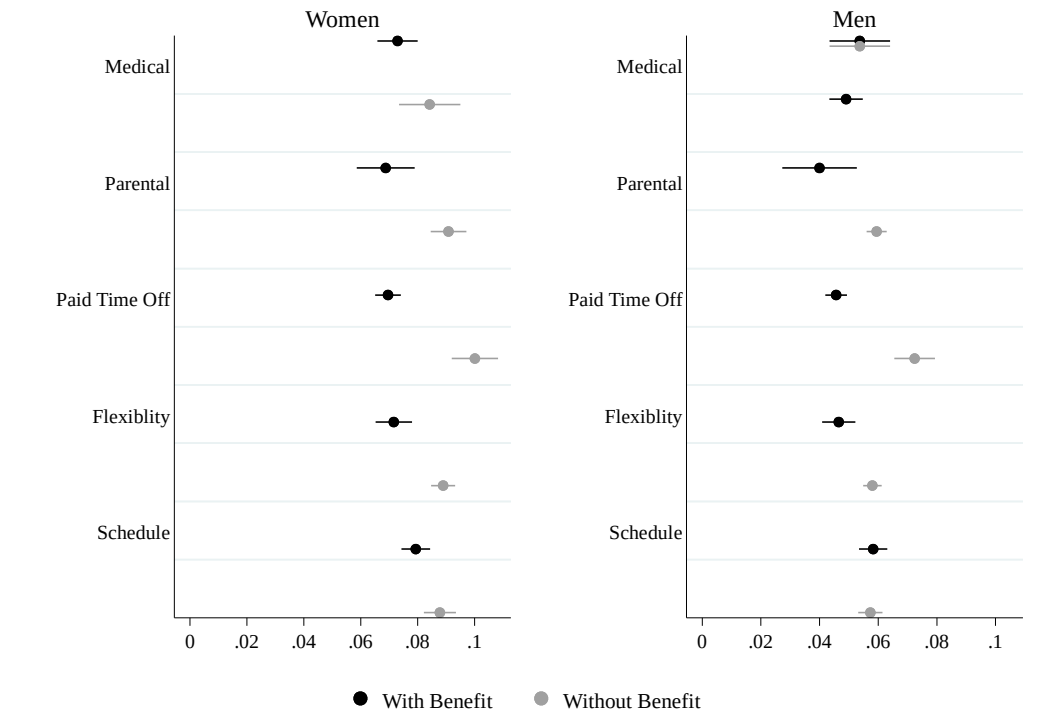
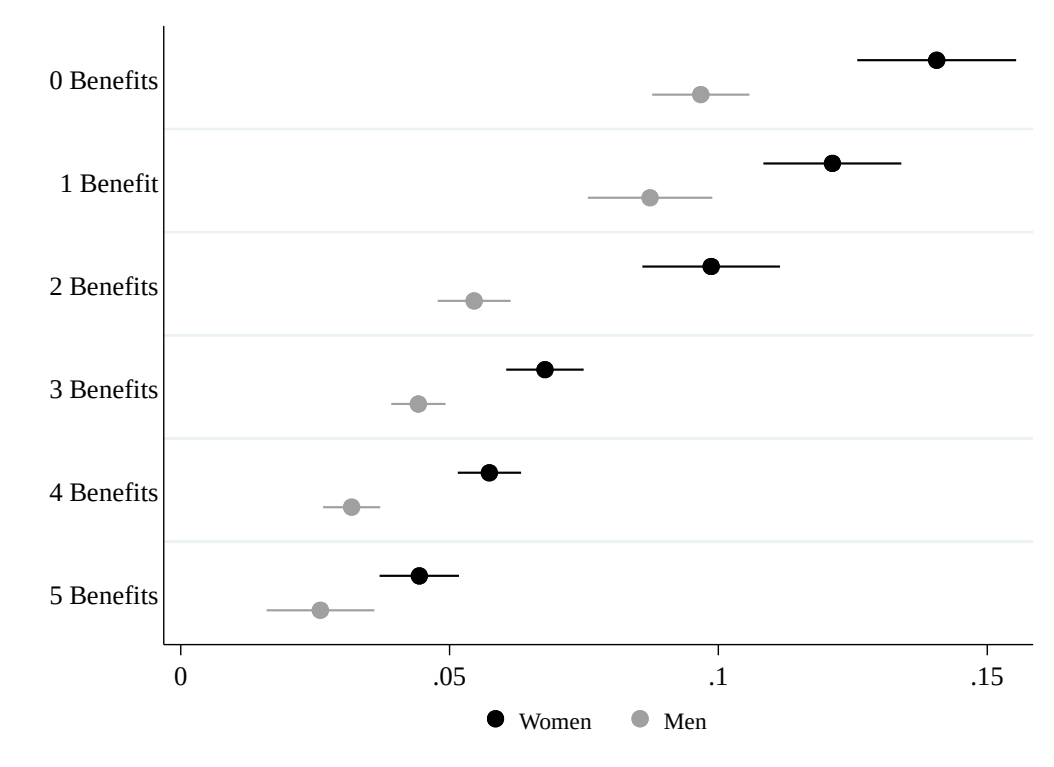


Figure 8 shows the average treatment effects for transitioning from employed to not employed by the number of benefits and gender. As we saw in the descriptive models, as benefits increase the share of women and men who transition from employed to not employed decreases. Further, we see that the gender gap in transitions out of employment decreases as benefits increase.

Fig 8. Average Treatment Effects of Moving from Employed to Not Employed from One Year to the Next Year by the Number of Employer-Provided Benefits.



Finally, Table 2 shows the percent difference between individuals with each benefit by gender. We see that women with or without benefits have higher rates of transitioning out of employment, but that on average, the effect of having an individual benefit is similar for men and women. For example, 5.7 percent of women without paid time off transition out of the employment compared to 3.3 percent of women with paid time off. In other words, having paid time off reduces a woman's likelihood of transitioning out of employment by 42 percent. For men, the share of men transitioning out employment is lower than women (3.6 without paid time off versus 1.9 percent with paid time off), but the percent difference between having paid time off and not having paid time off is similar to women. Having paid time off reduces a man's likelihood of transitioning out of employment by 47 percent.

Table 2. Average Treatment Effects and Mean Differences in Moving from Employed to Not Employed in One Year to the Next Year.

	Women				Men			
		Mean	Lower CI	Upper CI		Mean	Lower CI	Upper CI
Medical Insurance	No	0.085	0.038	0.051	No	0.055	0.045	0.065
	Yes	0.073	0.030	0.042	Yes	0.049	0.043	0.055
	Total Difference	-0.012	overlapping CI		Total Difference	-0.006	overlapping CI	
	% Difference	-14%			% Difference	-11%		
Parental Leave	No	0.091	0.085	0.097	No	0.059	0.056	0.063
	Yes	0.069	0.059	0.079	Yes	0.040	0.027	0.053
	Total Difference	-0.022			Total Difference	-0.020		
	% Difference	-24%			% Difference	-33%		
Paid Time Off	No	0.100	0.092	0.108	No	0.073	0.066	0.080
	Yes	0.070	0.065	0.074	Yes	0.046	0.042	0.049
	Total Difference	-0.031			Total Difference	-0.027		
	% Difference	-31%			% Difference	-37%		
Flexibility	No	0.089	0.085	0.093	No	0.058	0.055	0.061
	Yes	0.072	0.065	0.078	Yes	0.047	0.041	0.052
	Total Difference	-0.017			Total Difference	-0.011		
	% Difference	-20%			% Difference	-20%		
Standard Schedule	No	0.088	0.082	0.093	No	0.057	0.053	0.061
	Yes	0.079	0.074	0.084	Yes	0.058	0.054	0.063
	Total Difference	-0.008	overlapping CI		Total Difference	0.001	overlapping CI	
	% Difference	-10%			% Difference	2%		

In summary, employer-provided benefits are an important source of employment stratification both within and between women and men. Women and men who have benefits, especially those who have all five considered in this study, have lower rates of transitioning from employed to not employed compared to those with few or zero benefits. In addition, the more benefits women and men have, the smaller the gender gap in transitions out of employment. In other words, the more benefits women have the more similar their employment rates are to men.

DISCUSSION AND CONCLUSION

This article makes several contributions to the literature on women's stagnant and men's declining labor force participation by demonstrating the importance of employer-provided

benefits for employment stability. There is both an individual and cumulative property to benefits that has not been previously examined. Among the five benefits examined in this study (medical insurance, parental leave, paid time off, flexibility, and a standard day time schedule), each one individually decreases the likelihood that women and men will transition from employed to not employed. When considered together, parental leave, paid time off, and flexibility continue to individually predict decreases in employment transitions.

Perhaps even more importantly, this study shows that as the number of benefits increase, there is a corresponding decrease in the likelihood of leaving employment in the following year. Most striking of all, the gender gap in the percent of women and men who transition from employed to not employed is largest for those who do not have any benefits but closes with each additional benefit. The gender gap between men and women with all five benefits declined to approximately one to two percentage points.

There is a great deal of work to be done on this topic. Future work should examine other benefits such as deferred benefits (i.e., retirement, life insurance, or stocks), other "family friendly" benefits such as childcare subsidies, and human capital benefits (tuition reimbursement). In addition, disentangling other differences in employers and jobs that do and do not provide benefits from benefits could provide more clarity on how much of the decrease in employment transitions is due to the benefit itself or other policies that help workers remain employed. Finally, future work should take into account heterogeneity in outcomes by racial/ethnic groups, educational attainment, and other important axes of inequality.

Employment is the primary way in which individuals obtain their income. While the working poor represents a large share of individuals in poverty, a significant proportion of those who live below the poverty line are not employed. In the U.S. policy context, the majority of individuals

access many critical benefits through employment. However, as this study has illustrated, having access to benefits impacts employment stability. This creates a bind for those who may struggle with remaining employed without benefits if the only jobs that are accessible to them do not offer benefits. As scholars continue to study women's "stalled revolution" and men's declining labor market participation, it is critical that we bear in the mind how important access to benefits are and how the continued decline in access to benefits will impact labor force participation for both men and women in the future.

Chapter 3 Education Can't Fix Everything: Job Quality Decline and Gender Stratification in the Labor Market

The United States is unique among wealthy countries in that the federal government does not automatically provide many critical benefits, such as parental leave and medical insurance (Hacker 2002). Instead, American individuals and families rely on a public–private system of employer-provided benefits for securing their wellbeing. Women in particular often require employer-provided benefits, such as paid time off and work flexibility, to manage their disproportionate care obligations relative to men (Blair-Loy 2003; England 2010). Over time, employer-provided benefits have likely become more important, as women have entered the work force in greater numbers and increasingly head single-parent households (Pew Research Center 2015; 2018).

Over the last four decades, scholars have documented declines in employer-provided medical insurance, pensions, and standard work schedules (Hacker 2006; Kalleberg 2011; Kalleberg, Reskin and Hudson 2000). During this time, workers increased their education, especially women, who have enrolled in postsecondary education in ever increasing numbers since the 1980s and are now much more likely than men to attend college (Bui 2002; DiPrete and Buchmann 2013; Twenge and Donnelly 2016). Increases in education are positively associated with having employer-provided medical insurance, pension plans, and higher wages relative to those with lower levels of education (Ma, Pender, and Welch 2016). Hence, it is possible that

increases in educational attainment may protect workers from job quality decline. Indeed, Kalleberg (2011), in his book *Good Jobs, Bad Jobs*, found that employer-provided medical insurance and pensions became more stratified by education and hourly wages over time. However, he also found that the proportion of college educated workers with these benefits had declined since the 1970s (Kalleberg 2011). These findings suggest that attending college may not provide protection from job quality decline. Nevertheless, we do not know how other measures of job quality such as parental leave or paid time off have changed over time. In this article, I ask, did women's greater increases in postsecondary education relative to men protect them from job quality decline across a wide array of measures? How have changes in the associations between job quality and education and wages improved or diminished the job quality returns to postsecondary education? How do compositional differences by gender at the intersection of education and wages shape job quality?

To address these questions, I draw upon the insights of gender inequality scholars -- who have highlighted the challenges that arise when employees, especially women, do not have access to paid time off, parental leave, or flexibility. These scholars have shown that women who do not have access to these benefits are either excluded from the labor market altogether or experience role conflict and strain that harms their health and wellbeing (Acker 1990; Allen et al. 2000; Berk 1985; Daminger 2019; Hochschild 1989, 2012). I also expand upon the work of stratification scholars – who have primarily focused on declines in jobs that offer employer-provided medical insurance, pension plans and standard work schedules – by examining eight measures of job quality some of which are critical for women's work-life management (Hacker 2006; Kalleberg 2009; Kalleberg 2011; Kalleberg, Reskin and Hudson 2000). I combine these two areas of research to address my questions on changes in job quality over time by gender.

This approach provides novel insights into labor market stratification by revealing gender differences in job quality declines and how lingering gender wage inequalities potentially undercut the value of women's postsecondary education.

Using data from the National Longitudinal Surveys of Youth, 1979, (NLSY79) and 1997 (NLSY97) cohorts, I document average changes in employer-provided medical insurance, retirement plans (both pensions and 401k style plans), standard schedules, dental insurance, life insurance, parental leave (paid and unpaid), paid time off, and flexibility. Furthermore, I create a multi-dimensional index from these measures to show changes in overall job quality as well as changes in the associations between job quality and education and wages. I find that, despite their much greater increases in postsecondary education, women were not any more protected against job quality decline than men. I furthermore present empirical evidence that points towards three reasons for this pattern: First, consistent with Kalleberg's finding, job quality declined across all education groups among all measures. This means that postsecondary education did not protect workers from job quality decline, although job quality declined much more for those with a high school diploma or less. Second, for women, job quality became more highly associated with wages than education. Highly educated women increasingly find themselves in jobs with low wages and few benefits. Third, regardless of educational attainment, women remain disproportionately clustered at the low end of the wage distribution. Taken together, these findings mean that no matter how much women increased their educational attainment, education was not sufficient to combat across-the-board job quality decline, gendered changes in the association between job quality and wages, and continued gender inequality in wages. This study expands our current understanding of how changes in job quality interact with

growing postsecondary attainment and potentially disrupt the economic returns of higher education.

Background

Job Quality Decline

Over the last two decades, stratification scholars have documented the decline in good jobs and the proliferation of "bad jobs" (Hacker 2006; Kalleberg et al. 2000; Kalleberg 2011). Bad jobs have little or no employer-provided benefits, and often have non-standard and rotating schedules (Kalleberg 2009; Kalleberg et al. 2000; Schneider and Harknett 2019). Jobs have also become of shorter tenure creating more instability in access to benefits (Hollister and Smith 2014). The proportion of contracted, or contingent employment has increased, and these types of jobs rarely offer any sort of employer-provided benefits (Hollister and Smith 2014; Katz and Krueger 2019).

This "risk shift" means that employees, in companies that do not provide benefits, are solely responsible for risks that in the past had been subsumed by employers, states, or the federal government (Hacker 2006). Decreasing access to benefits along with the rise in single-headed households means that individuals are less likely to have an employed partner who may have health insurance or a retirement plan (U.S. Census Bureau 2016; Willson 2003). However, even with a partner, most benefits are specific to the employee such as scheduling options, flexibility, parental leave, and paid time off.

Declines in job quality have not been evenly distributed. The largest declines have occurred in service and retail occupations that predominately employ women (Bureau of Labor Statistics 2021; Fischer and Hout 2006; Kalleberg et al. 2000). The substantial growth in care,

service, and retail occupations that often do not offer any employee benefits, have varying schedules, and little to no flexibility have left many employees, in particular women, vulnerable to employment instability (Bidwell et al. 2013; Dwyer 2013). More recent work has revealed that women, especially women from marginalized racial/ethnic groups, are much more likely to have jobs with non-standard work schedules (Storer, Schneider, and Harknett 2020). Research by Kristal and colleagues (2020) found that from 1982 to 2015, benefit inequality grew much faster than wage inequality both between- and within firms.

There are numerous consequences of having poor job quality. Schneider and Harknett (2021, 2019) found that routine uncertainty in work schedules is even more strongly predictive of worker health and well-being than hourly wages and that workers with unpredictable schedules were more likely to experience material hardship. Employees who do not have employer-provided health insurance have worse health, higher mortality, and miss work more often due to poor health than those with health insurance (Ehrenreich 2010; Goldin, Lurie, and McCubbin 2021; Pan, Lei, and Liu. 2016.) In the last decade, scholars have produced several qualitative studies on how difficult it is for individuals with low quality jobs to manage their health, family responsibilities, and expenses (Ehrenreich 2010; Scott et al 2015; Viscelli 2016).

Gender scholars who study women's employment have primarily focused on employer-provided parental leave, paid time off, and work flexibility, arguing that these benefits are critical for women's labor force participation and wellbeing (Hewitt, Strazdins, and Martin 2017; Hill et al. 2001; Moen et al. 2011). Like workers with nonroutine schedules, women who struggle to manage work and personal/family responsibilities experience greater stress and worse mental health (Blair-Loy 2003; Daminger 2019; Gupta and Srivastava 2020; Grzywacz and Bass

2003; Hochschild 1989, 2012). Work-family conflict also excludes some women from the labor market altogether and increases their risk of poverty (Ciabattari 2007; Scott et al 2015).

Educational Expansion and Job Quality Decline

In the midst of educational expansion and job quality decline, the college wage premium grew, greatly increasing the value of a college degree over time (Autor 2014; Goldin and Katz 2009). Studies on education have repeatedly demonstrated that increases in education have a positive effect on future earnings (Becker 1962, 1992; Hout 2012). For every year of postsecondary education, annual income increases on average by approximately four to six percent (Belfield and Bailey 2017). Those with a bachelor's degree or higher have the lowest unemployment rates (and therefore, greater employment stability), are more likely to be employed fulltime, and to have medical insurance and retirement benefits in comparison to individuals without a four-year degree (Ma et al. 2016; National Center for Education Statistics 2021).

As stratification by educational attainment has grown along multiple dimensions, there has been a corresponding increase in postsecondary attainment, especially among women (Goldin, Katz, and Kuziemko 2006). As of 2015, the modal educational attainment in the United States is some college without a bachelor's degree (Ryan and Bauman 2016). The share of the population over 25 years old with a bachelor's degree has increased from 10 percent in 1970 to 32.5 percent in 2015 (Digest of Education Statistics 2016). The demographic composition of students also changed with expansion. Although, students from the bottom half of the income

distribution have increased their college enrollment rates substantially, students from high income backgrounds increased their college enrollment more than students from low-income backgrounds (Bailey & Dynarski 2011). Enrollment differences by family background mean that educational inequality has grown over time despite so much growth overall.

Women moved from a minority of enrollees (41.2 percent) to the majority (57 percent) (Digest of Education Statistics 2016; U.S. Census Bureau 2016). Women are not only more likely to enroll in college in comparison to men, but they are also more likely to complete a bachelor's degree (DiPrete and Buchmann 2006). However, inequality by family background in both college enrollment and completion is much higher for women than it is for men, meaning that the majority of the gender gap in higher education is being driven by women from high income backgrounds (Bailey and Dynarksi 2011). In light of these growing inequalities, since women with a bachelor's degree are more likely to come from high income families, we might expect that women with a college degree will be less likely to experience job quality decline in comparison to men across educational groups and in comparison to women with lower levels of education.

The left-hand panel in Figure 9 shows how gender gaps in education have grown over time and how much more likely women are to complete college relative to men in the 1997 cohort. For the 1979 cohort (the light grey bars), women had a small bachelor's degree advantage over men of approximately two percentage point. However, by the 1997 cohort (dark grey bars), that advantage had grown to over 12 percentage points. One may expect job quality, like wages, to also increased over time for those with a bachelor's degree or higher and job quality declines to have been limited to lower-educated workers. If this is true, women would be more protected

from job quality decline in comparison to men thanks to their much greater educational attainment.

While the proportion of workers with pensions and medical insurance became more stratified by education, Kalleberg (2011) also found that the proportion of college educated workers with these benefits declined. This means that, at least among these two measures, unlike wages, the job quality returns to education decreased. Therefore, it is possible, that more recent college graduates, the majority of whom are women, did not receive the same returns to their education in comparison to those who graduated in previous decades.

Fig 9. Gender Education Gaps Expanded and Gender Wage Gaps Narrowed Over Time.

Sources: NLSY79 and NLSY97.

Note: Positive values indicate that a higher proportion of women are in each category. Negative values indicate that a higher proportion of men are in each category.

Gender Wage Inequality and Job Quality Decline

High-wage earners are more likely to have employer-provided medical insurance and retirement plans than mid-wage or low-wage earners, and this association has grown stronger over time (Dale-Olsen 2006; Kalleberg 2011). Women are particularly vulnerable to low-wage employment for several reasons. They are much more likely to be employed in retail, care, and service occupations, and these low-wage occupations have grown over time (Dwyer 2013). Even outside of these occupations, women who earn a college degree are often excluded from high-wage employment due to discriminatory hiring practices and gendered cultural expectations that sort women into lower paid occupations relative to men, and employer concerns about time and focus taken away from work for family care (Benard and Correll 2010; Blau, and Kahn 2017; Budig and England 2001; Cech 2013; Charles and Bradley 2009; England 1992). Even when women enter high-wage occupations, wages often decline if the occupation transitions from male dominated to female dominated (Levanon, England and Allison 2009; Reskin 1988). Consequently, women comprise 46 percent of the labor force, but 66 percent of the low-wage work force are women (National Women's Law Center 2014).

Since low-wage workers are more exposed to bad jobs, we would expect that gender wage inequality has a direct impact on women's access to good jobs. However, this has been debated by scholars for several years (Filer 1985; Hodges 2020; Kalleberg 2011; Kristal 2017; Lowen and Sicilian 2009). *Compensating Differentials* theory argues that benefits are equivalent to wages because the total compensation offered by employers is comprised of both. Workers choose how they prefer to be compensated such as higher wages, but fewer benefits or vice versa. Under this theory, women select into lower wage jobs to gain access to more benefits (Currie and Madrian 1999; Filer 1985). However, this does not correspond with job quality

research that finds women are more likely than men to be employed in low-wage jobs that do not provide any benefits (Kalleberg 2011). Other scholarly work shows that gender differences in benefits do not explain the gender wage gap (Lowen and Sicilian 2009). An alternative to *Compensating Differentials* Theory is G*ender Devaluation Theory* which argues that as the share of women in an occupation increase, regardless of wage changes, workers are less likely to have benefits (Glass 2009; Hodges 2020). Indeed, Hodges found that in female-dominated occupations, women not only earned less than men, but they also were less likely to have employer-provided medical insurance or retirement plans.

Although, the gender wage gap has narrowed over time, gender wage inequality remains a significant source of stratification in the labor market (Miller and Vagins 2018). Women continue to increase their educational attainment at a faster rate than men, but progress toward wage parity is slow and even women with a bachelor's degree continue to earn less on average than men with a bachelor's degree (Evertsson et al. 2009). The right-hand panel in Figure 1 shows how gender gaps in wages have decreased over time. Despite these declines, a greater proportion of men remain mid- and high-wage earners relative to women. Given that the gender wage gap exists across all education groups, it is reasonable to expect that women with a bachelor's degree are less likely to be high-wage earners and more likely to be low-wage earners in comparison to men with a bachelor's degree. If job quality has become more highly associated with wages over time, then it is possible that highly educated women earning low wages may have experienced significant job quality declines.

While job quality has been shown to vary by other factors such as union representation and occupation, I focus on the relationship between wages and job quality and the gender differences at intersection of education and wages on job quality for a few reasons. First, I am

interested in how the gender wage gap impacts men and women's job quality in the context of educational expansion. The gender wage gap continues to be an important measure of gender inequality as well as an indicator of progress (or lack of progress) among scholars and policty makers. In addition, while individuals who are represented by a union contract are more likely to have benefits than those who are not covered by a union contract, and the decline in union membership is an important reason for why job quality has declined over time,, the proportion of individuals with a union contract is quite low in both the Baby Boomer and Millennial cohorts included in this study, approximately 13 and 11 percent, respectively (U.S. Bureau of Labor Statistics 2016). The biggest declines in union membership occurred before the time period I examine. Finally, although occupational differences are important sites of inequality, this paper focuses on changes in the overall relationship between gendered educational expansion and differences in the returns to college in the midst of job quality decline.

In summary, despite women's greater educational attainment relative to men and the narrowing of the gender wage gap, it is unclear whether women were better protected from job quality decline than men. Based upon these literatures, I hypothesize the following:

Hypothesis 1: Job quality will decline across all education and wage groups.

Hypothesis 2: Job quality declines will vary by gender within education and wage groups.

Hypothesis 3: Job quality will remain stratified by education and wages, but wages will become more predictive of job quality than education.

Hypothesis 4: Women's greater likelihood of being low-wage earners relative to men across education groups will contribute to women's job quality decline.

Data and Measures

National Longitudinal Surveys of Youth, 1979 and 1997 cohorts

I use data from the National Longitudinal Survey of Youth, 1979 (NLSY79) and 1997 (NLSY97) cohorts to examine the role of education and wages in job quality decline and gender stratification in the labor market. The NLSY79 follows 12,686 individuals beginning in 1979 when they were ages 14-22, and the NLSY97 follows 8,984 individuals starting in 1997 when they were ages 12-17. These studies are ideally suited for trend analyses, because the NLSY97 was designed for comparability with the NLSY79. The NLSY79 and NLSY97 are the only longitudinal surveys to collect detailed annual or biennial data on respondents' employment history *and* several measures of job quality. Previously, the most commonly use dataset for this research has been the Current Population Survey (Hacker 2006; Kalleberg 2011). While the CPS has been, and continues to be, very useful for detailing changes over time for some employer-provided benefits such a medical insurance and work schedules, it does not ask respondents about the range of job quality measures used in this study. In 2017, NLSY97 respondents were approximately 33 to 37 years old (NLSY79 respondents were 53 to 60 years old), although, I limit my study to individuals ages 30 to 34.

These data provide a unique opportunity to study multiple dimensions of job quality, especially dimensions of great importance to women, and to provide a more comprehensive understanding of changes in job quality.

Sample

For comparability, I limit the sample to respondents ages 30 to 34 in both cohorts and to those who do not have missing observations on job quality, education, and hourly wages. Respondents were ages 30 to 34 from 1988 to 1998 in the NLSY79 cohort and from 2009 to 2017 in the NLSY97 cohort. I chose this five-year age group to examine job quality, because most respondents' have completed their education but are still somewhat early in their careers. It is common to measure educational attainment at ages 25 to 29, especially since the age for completing a bachelor's degree has grown over time (Ma et al. 2016; U.S. Census Bureau 2021). I also chose to cap the age at 34, because, unfortunately, the NLSY97 stopped collecting information for several of the job quality variables used in this study in the 2019 survey wave. The final sample sizes are 7,060 individuals in the NLSY79 and 6,924 individuals in the NLSY97.

Defining Job Quality

In this study, I define job quality as having employer-provided medical insurance, dental insurance, retirement plan, life insurance, paid time off, parental leave, scheduling flexibility, and having a stable, daytime schedule. Scholars have defined job quality by other measures such as autonomy, wages, physical labor expectations, and contingent/temporary employment to name a few (Kalleberg, Reskin, and Hudson 2000; Kalleberg 2011; Jencks, Perman, and Rainwater 1988).

In selecting these benefits, I draw upon previous work by both stratification and gender labor market scholars (Burtle and Bezruchka 2016: Hacker 2006; Hewitt et al. 2017; Kalleberg et al. 2000; Landivar 2017). I also include dental insurance and life insurance. The historical, path-

dependent separation of dental care from medical care, while artificial, means that access to dental care contributes to both dental and overall health. However, the number of individuals in the U.S. without dental insurance is even higher than those without medical insurance (Yarbrough, Nasseh and Vujicic 2014). A catastrophic event such as the death of a worker in a family increases the likelihood that the surviving family will experience substantial declines in income (Sevak, Weir, and Willis 2004). Employer-provided life insurance is much less expensive than private life insurance, and individuals with preexisting health conditions are often unable to purchase life insurance outside of an employer offered plan.

While scholars have documented the substantial decline in employer-provided medical insurance, retirement, and standard schedule, we know very little about changes by gender in these and the other measures in this study. Outside of work by Kalleberg and, to the best of my knowledge, little to no other work has examined trends across such a wide array of measures (Kalleberg 2011). Schneider, Harknett, and Stimpson (2019) used all the employer-provided benefits using data from the NLSY97 to predict entry into marriage and cohabitations, but they did not examine trends.

Job Quality Measurement

NLSY 1979 Cohort

In 1988, NLSY79 survey began asking respondents about each measure included in this study in every wave. Survey questions about medical insurance, dental insurance, retirement plans, life insurance, and flexibility were asked as yes/no (coded as 1/0) questions. I code all job quality measures as 1/0. The question on parental leave does not specify if the leave is paid or unpaid. Respondents were asked, “Does your employer allow you to take Maternity/Paternity leave that

will allow you to go back to your old job or one that pays the same as your old one?" Therefore, the parental leave variable includes both paid and unpaid leave. Respondents were asked about their schedule and given the following options: regular day shift, regular evening shift, regular night shift, shifts rotate, split shift, irregular schedule, or hours, or other. Those with a regular day shift were coded as one and all other responses were coded as zero.

In both cohorts, respondents were asked about how many paid sick days and how many paid vacation days their employers offer. I combine these two questions into one. There is a lot of variation in paid time off which future work could examine, however, for simplicity in this study, I code respondents as a one if they have at least one day of paid sick or paid vacation time and zero if they have neither.

Respondents were asked these questions for multiple employers. Job one is usually the most recent job held. If respondents were missing on job one, I backfilled these measures with job two or three.

NLSY 1997 Cohort

In the 1997 cohort, respondents were asked yes/no (coded as 1/0) questions for every measure except for paid time off and standard schedules. Respondents were asked two separate questions about parental leave: they ask if they have paid maternity/paternity leave or unpaid maternity/paternity leave. To ensure that this across cohort measure is consistent, I create one variable, parental leave, for both cohorts where respondents were coded as a one if they have paid or unpaid parental leave and 0 if they do not have any parental leave.

Respondents were asked a slightly different schedule question than asked in the NLSY79. The response choices were regular day shift, regular evening shift, regular night shift, shift rotates,

split shift, irregular schedule or hours, weekends, mornings, or afternoons, and other. I code those with a regular shift or who report working morning or afternoons as 1 for a standard schedule. I code all other responses as a 0.

NLSY97 survey also asks about these measures for multiple jobs. However, an indicator variable is available to identify which job is the main job. I created these measures using the responses for the respondents' main job. If respondents were missing on their main job, I backfilled these measures with main job two or three.

The NLSY79 moved from an annual survey to a biannual survey in 1994. The NLSY97 moved to a biannual survey in 2004. To capture the job quality of individuals at ages that were skipped due this change, I backfilled job quality components with the next wave's responses (age + 1) if they were missing a response at that age and if still missing, I backfilled the respondents' job quality from the previous wave's response (age – 1).

Previous work on employer-provided retirement plans generally distinguish between defined benefits plans (pensions) and defined contribution plans (401k type plans) (Hacker 2019). It is not possible to separate the two types of retirement plans with the NLSY79 and NLSY79 variables I use in this study. The inability to distinguish between the two different plans underestimates changes in retirement benefits over time. Workers are automatically enrolled in pension plans, which were more common in the NLSY79 cohort. A larger share of retirement plans for the NLSY97 cohort are 401K style plans which workers must enroll in themselves and choose how much to contribute from their earnings. Therefore, "access" to retirement plans does not mean the same thing when comparing pensions to 401k plans. If someone has access to a pension, they have a pension, but if someone has access to a 401k, they may not have a 401k. This difference means that declines in retirement is likely higher than I show.

Job Quality Index

I examine trends across the 1979 and 1997 cohorts by gender in each job quality measure and a combined measure. This combined job quality measure is a simple additive index of all eight individual components (with values of 0 or 1) to create a 0-1 continuous measure of job quality (Schneider et al. 2019). A zero value denotes that the individual does not have any of the eight components, a value of one indicates that the individual has all eight components, and 0.50 denotes that the individual has four out the eight components. Across gender and cohorts, this combined measure has a mean of 0.61 and a standard deviation of 0.33.

The combined job quality measure has a Cronbach's alpha score of 0.75 for the NLSY79 and 0.87 for the NLSY97). The Cronbach's alpha score is lower for the NLSY79 in comparison to the NLSY97 because having a standard schedule or work flexibility was less correlated with the other job quality measures in the 1979 cohort. One explanation for this difference is that, historically, women had significantly lower labor market participation than men, and men are less likely to require a standard work schedule or flexibility to remain employed. Therefore, the score is more highly influenced by men's employment than women's employment. Indeed, when I exclude standard schedule and flexibility, the alpha score increases to approximately 0.86. As women continue to work at higher rates than in the past, these variables have become more highly correlated over time. This may be why the NLSY97 cohort has higher alpha scores.

Due to this low and variable correlation between the cohorts, I do not use factor analysis to create the combined measure. Factor analysis only considers the correlations between variables. It does not consider the theorical reasons for including less correlated measures. Since previous gender inequality research indicates that these two measures are important for women,

especially, mothers' well-being and employment, I chose to include these two measures in the combined job quality score (Ciabattari 2007; Hill et al. 2001; Moen et al. 2011).

Independent Variables: Education and Wages

To examine job quality change by educational attainment, I create a three-category measure of education: high school diploma or less (<HS/HS), some college or an associate degree (SC/AA), and a bachelor's degree or higher (BA+). While there are differences in job quality within these groups, there is much greater variation between the groups that I have created. For example, there are meaningful job quality differences between those with a high school diploma and those without one. However, the goal of this study is primarily to compare those with at least some postsecondary education to those without any college experience.

To examine job quality change by hourly wages, I also create a three-category measure. I first created wage ranks by cohort and age and then divided these ranks into terciles: low-wage (LW), mid (MW), and high-wage (HW). Each cohort's hourly wage ranks include both men and women. This allows us to observe gender differences in the composition of each wage group.

Control Variables

When estimating the associations between job quality and education and job quality and wages by gender and cohort, I include demographic variables in the models to control for within person variation. I include age, because the proportion of workers with benefits appears to increase with age (Dyer 2023c). I also included a squared term for age to account for possible non-linearities in employer-provided benefits by age. The historical legacy of slavery and racism in the United States means that Black men and women and other minoritized racial/ethnic groups are more

likely to have jobs that do not provide health insurance (Lillie-Blanton et al 2004). It is likely that these groups also have less access to jobs with other benefits, therefore, I include a measure for race/ethnicity. I created four racial/ethnic categories: White, Black, Latino and Other. Married women are less likely to be employed in comparison to unmarried women (U.S. Bureau of Labor Statistics 2023). I include a three-category measure for marital status: married, cohabiting, and single (not cohabiting). Other scholars have found that women are less likely to be employed if they have an income earning partner (Cohen and Blanchi 1999; Petitt and Hook 2005). In addition, it is possible that if an individual has a partner who is employed, they may be able to access medical insurance through their partner's employer. Therefore, I include a simple 0/1 variable to measure if respondents have an income earning partner or not. The transition to parenthood (especially for women) often can make it challenging to remain in the labor market (Chung and Van der Horst 2018). I include a 0/1 measure to capture this transition. A value of one indicates that the respondent was not a parent in the previous age but is a parent now. The number of children in a household can also impact a parent's employment status, and unsurprisingly, especially women's employment status (Marini 1981; Weller 1977). I include a continuous variable to capture how many children are in the home.

I do not include other controls that might predict job quality such as occupation, industry, or union status in my main model, because I want to estimate the total associations between job quality and education and wages net of demographic characteristics. I do not want to control for employment characteristics, because this will control away the very gender differences in access to benefits that I wish to measure. Men and women sort into different occupations, on average work a different number of hours a week, to name a few employment differences that are directly due to gender inequality in society. These gender differences likely impact access to employer-

provided benefits. In effect, if I include employment control variables, I will be controlling for the very thing that I wish to isolate. Appendix Table 5 shows the descriptive values for education, wages, and every variable included in the main model.

METHODS

I estimate linear models using ordinary least squares regression for the associations between the combined job quality measure and education and wages. I cluster the standard errors among individual respondents to adjust for within-cluster correlation (Wooldridge 2002). I estimated three models that can be seen in Appendix Table 2. Model 1 only includes education and wages, Model 2 (my preferred model) adds demographic variables, and Model 3 adds both demographic variables and occupation, industry, or union status. I report the coefficients for Model 2 in Figure 3. I report predicted probabilities for individual measures estimated from non-linear models using logistic regression (with standard errors clustered by individual respondents).

Potential for Bias in Job Quality Estimates

Given the importance of benefits, such as parental leave and flexibility, for women's labor market participation, and the fact that I cannot observe the job quality of those who are not employed, all job quality estimates are, in a sense, upwardly biased. that is, job quality might look better than it actually is because people with low job quality drop out of the labor force and, thus, out of the analytic sample of employed people. Women who are limited to low quality jobs may be less likely to be employed than men with similar jobs, and, therefore, they are not included in analyses of job quality (Landivar 2017). This may seem counter to previous research on job quality and occupations that has shown that female dominated occupations are less likely

to have medical insurance and retirement plans in comparison to male occupations (Hodges 2020; Kristal 2017). However, we do not know how differences in benefits by occupations translate into individual level labor market participation. This means that, while female-dominated occupations may have lower average job quality than male-dominated occupations, this does not mean that women have lower average job quality at the population level. In fact, as will be seen later women have higher rates of some measures and slightly higher overall job quality (primarily due to higher rates of parental leave and flexibility).

In addition, cohort differences in selection into the labor market may bias trends downward. If more women who would not have been employed in the 1979 cohort are employed in the 1997 cohort, perhaps they bias trends downward to the extent that they have low job quality in 1997 and would also have had low job quality in 1979 if they were employed. However, this type of selection bias is unlikely, because the labor force participation rates of women in both cohorts were very similar, approximately 75 percent (Hipple 2016).

The rest of the paper proceeds as follows: I first examine mean changes in job quality by gender. Next, I use OLS regression to estimate the associations between job quality and education and job quality and wages by gender and cohort. I estimate predicted probabilities from the regression estimates to show changes in job quality by education and wages separately and then at the intersection of education and wages. Finally, I show how the gender composition of wage groups by educational attainment penalizes women and rewards men.

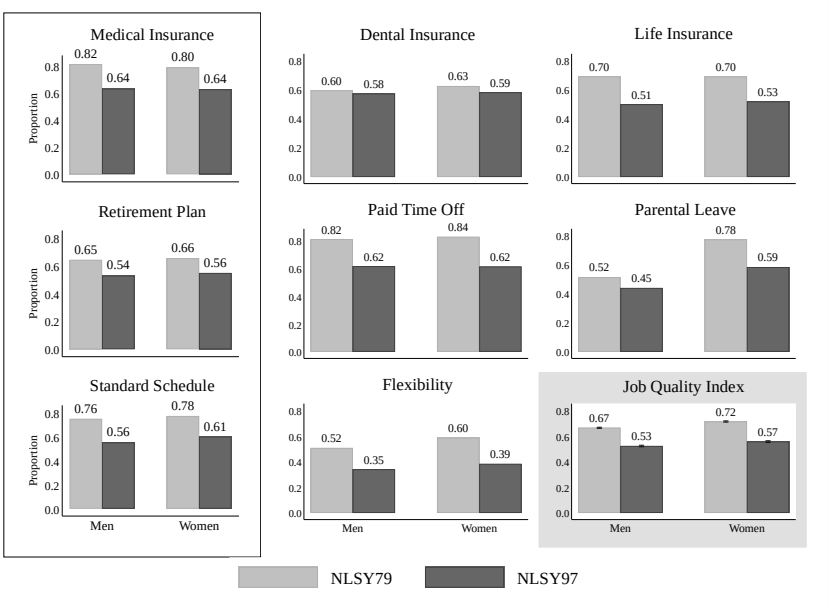
Findings

Job Quality Declined Across All Measures

Figure 10 shows changes across cohorts in the proportion of each job quality measure and mean combined job quality by gender. Men are on the left side of each figure and women are on the right side. The light grey bars represent the 1979 women and men, and the dark grey bars present the 1997 cohort. The combined job quality measure is in the lower right-hand side of the figure.

Consistent with previous findings, both women and men experienced significant declines in medical insurance, retirement plans, and standard schedule. Additionally, they both experienced declines in every other measure as well, although declines varied among some measures by gender. Men experienced a greater decline in the proportion of workers who have a standard work schedule, but women experienced a greater decline in flexibility and parental leave. The greatest difference between women and men in both cohorts was in the proportion of having parental leave. Women in both cohorts were much more likely to have parental leave in comparison to men: 0.78 compared to 0.53 in the 1979 cohort and 0.59 compared to 0.45 in the 1997 cohort. However, women also experienced a much larger decline in parental leave relative to men, 19 percentage points versus eight percentage points, respectively.

Fig 10. Job Quality Declined Across All Measures for Both Women and Men. *Sources:* NLSY79 and NLSY97.



The large decline in parental leave may be surprising considering the passage of the Family Medical Leave Act (FMLA) in 1993. FMLA requires employers to allow workers up to 12 weeks of unpaid leave for a qualifying family medical event such as the birth or adoption of a new child. Considering this law, we might expect more individuals in the 1997 cohort to have parental leave relative to the 1979 cohort, especially since unpaid parental leave is included in this measure. However, a large proportion of employees do not qualify for FMLA, because they do not work for a covered employer, or they have not fulfilled the eligibility requirements by working 1,250 hours for at least 12 months (US Department of Labor 2012).

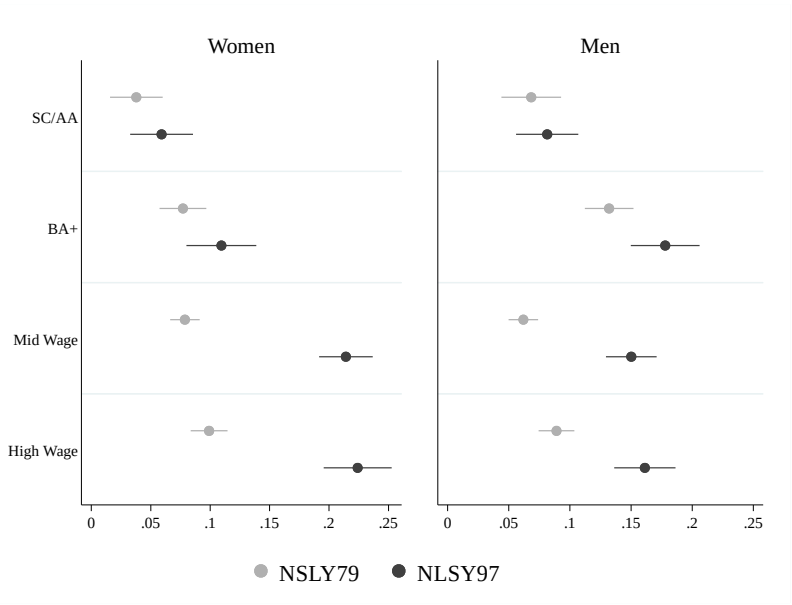
Despite gender differences in some of the individual measures, overall job quality (job quality index) declined similarly and substantially for both women and men. Women's greater postsecondary attainment relative to men does not appear to have given them an advantage in preventing job quality decline.

Women's Job Quality Became Much More Stratified by Wages than Education

In Figure 11, I use the job quality index to estimate the associations between education and job quality and wages and job quality by cohort and gender. To estimate the total association between these two measures and job quality net of demographic characteristics, I control for age, race, number of children in the household, and marital and cohabiting status. The light grey dots represent the NLSY79 cohort, and the dark grey dots represent the NLSY97. Women are on the left side and men are on the right side of the figure.

For the NLSY79 cohort, the associations between education and job quality and wages and job quality were similar in magnitude, although for the 1979 men, the association between job quality and education appears to be slightly stronger than the association between job quality and wages.

Fig 11. Job Quality Became More Strongly Associated with Wages Over Time, Especially for Women. *Sources:* NLSY79 and NLSY97.



Note: Coefficient estimates from linear models using OLS regression. Standard errors clustered by individual respondents to adjust for within-cluster correlation.

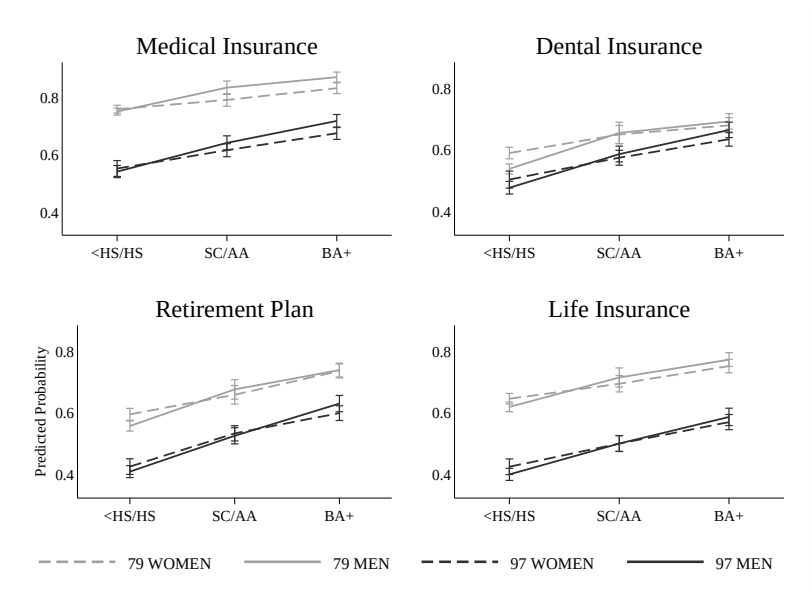
These associations changed for both men and women in the NLSY97 cohort. For men, while having a bachelor's degree was still highly associated with job quality, the associations between wages and job quality grew. However, women in the 1997 cohort experienced the greatest change in the association between wages and job quality. While education was nominally more associated with job quality than wages in the 1979 cohort, the association between wages and job quality grew dramatically. This means that, for women, wages became much more consequential for job quality.

In the next two sections, I use logistic regression models with the same demographic control variables to estimate the predicted probabilities of having each measure by gender and cohort, first by education and then by wages. For interpretive ease, I separate the eight measures into two figures with four measures each.

Job Quality Declined Across All Education Groups

Figure 12 shows trends in the predicted probability for four measures of job quality by education, gender, and cohort: medical insurance, dental insurance, retirement plan, and life insurance. across education groups, gender, and cohorts. The light grey lines represent the 1979 cohort, and the dark grey lines represent the 1997 cohort. Women are represented by dashed lines and men are represented by solid lines. Again, consistent with Kalleberg's findings, the probability that college graduates have employer-provided medical insurance and retirement plans decreased. In addition, the probability college educated men and women would have life insurance and dental insurance declined. While the 1997 men and women had similar probabilities among all four measures, on average, men with a bachelor's degree had a higher predicted probability of having every measure in comparison to women with the same degree, although the differences are not statistically significant. Overall, men and women with some college or an associate degree had very similar probabilities to one another in both cohorts.

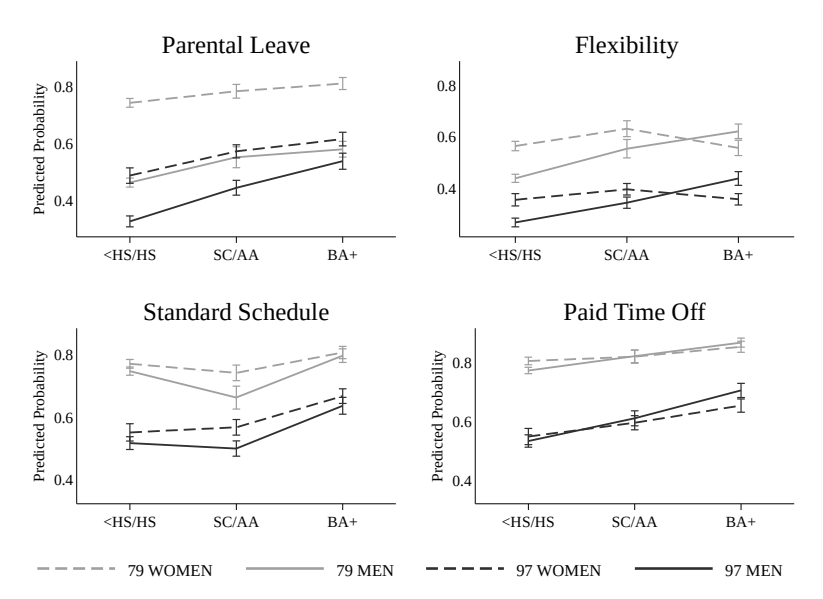
Fig 12. Job Quality Declined Across All Education Groups and Became More Stratified by Education. *Sources:* NLSY79 and NLSY97.



Note: Predicted probabilities estimated from non-linear models using logistic regression and the Stata *margins* command. Standard errors clustered by individual respondents to adjust for within-cluster correlation.

Figure 13 shows changes in the predicted probability of having parental leave, flexibility, a standard schedule, and paid time off. Once again, all measures declined over time across all education groups. However, gender differences were more pronounced among these measures. While women had higher probabilities of parental leave in both cohorts, parental leave declined much more for women than for men across all education groups. Men with less than a bachelor's degree experienced significant declines in parental leave, but men with a bachelor's degree experienced very little decline. Men in the 1997 cohort with a bachelor's degree or higher were more likely to have flexibility and paid time off than similarly educated women. Women are more likely to have a standard schedule across all education groups in comparison to men.

Fig 13. Some Job Quality Measures Declined Differently by Gender and Education. *Sources:* NLSY79 and NLSY97.



Note: Predicted probabilities estimated from non-linear models using logistic regression and the Stata *margins* command. Standard errors clustered by individual respondents to adjust for within-cluster correlation.

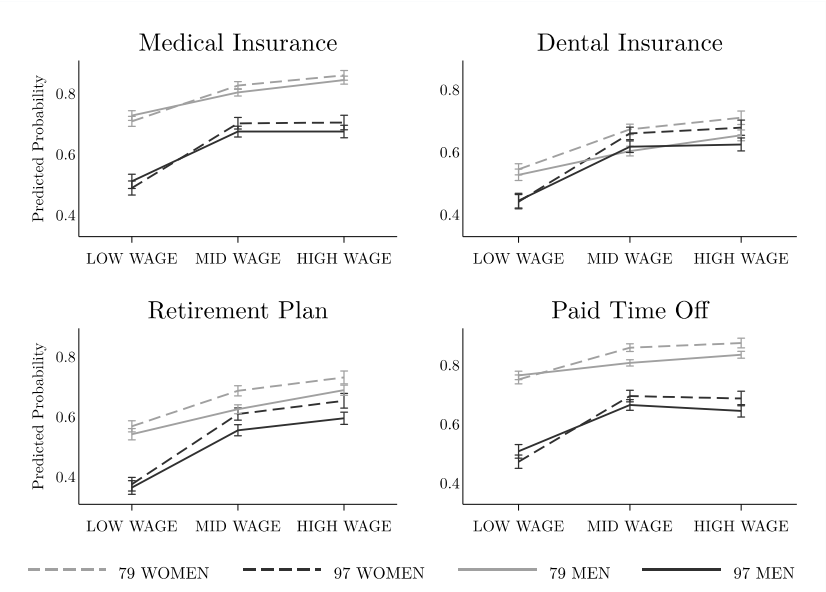
In summary, job quality declines occurred across all education groups. Additionally, on average, the most highly educated men in the 1997 cohort appear to have a job quality advantage over similarly educated women. This is even apparent in Appendix Figure 24, which shows trends in the job quality index, although the differences are not statistically significant.

Job Quality Declined Across All Wage Groups

Figure 14 shows trends in the predicted probability for four measures by wages, gender, and cohort: medical insurance, dental insurance, retirement plan, and paid time off. Job quality declined across all measures and wage groups except for dental insurance. Low-wage earners

experienced much greater declines across all measures. On average, mid- and high-wage women are more likely to have these four benefits in comparison to men.

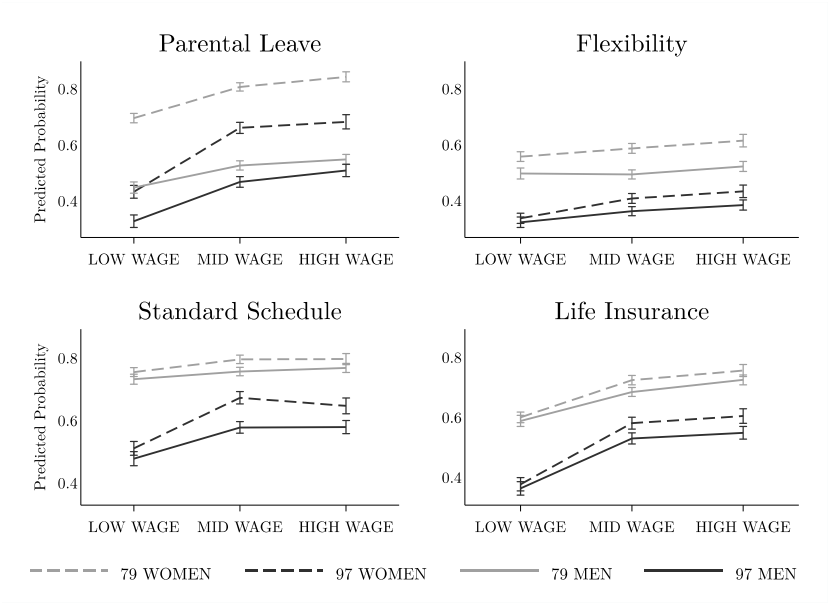
Fig 14. Job Quality Also Declined Across All Wage Groups and Became More Stratified by Wages. *Sources:* NLSY79 and NLSY97.



Note: Predicted probabilities estimated from non-linear models using logistic regression and the Stata *margins* command. Standard errors clustered by individual respondents to adjust for within-cluster correlation.

Figure 15, like Figure 13, shows measures that have greater variation by gender: parental leave, flexibility, a standard schedule, and life insurance. Women are significantly more likely to have all these measures, but they also experienced greater overall declines, especially for parental leave. Apart from parental leave, low-wage women and men in the 1997 cohort had very similar job quality.

Fig 15. Some Measures of Job Quality Declined Differently by Gender and Wages. *Sources:* NLSY79 and NLSY97.



Note: Predicted probabilities estimated from non-linear models using logistic regression and the Stata *margins* command. Standard errors clustered by individual respondents to adjust for within-cluster correlation.

In summary, like education, job quality declined across all wage groups. Unlike education, however, mid- and high-wage women, on average, had higher job quality than men. This advantage is large and statistically significant in Appendix Figure 25, which shows trends in the job quality index by wages.

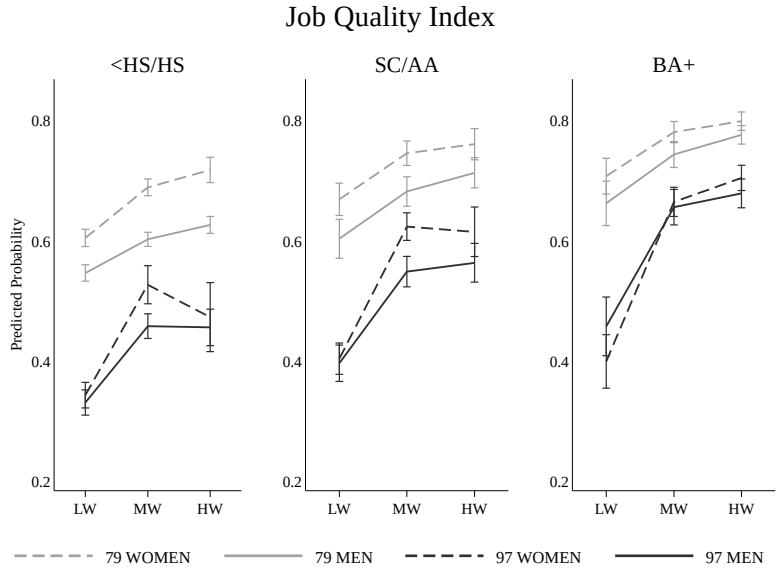
The majority of job quality stratification appears to be between low-wage earners and mid-to-high wage earners. Prior research has shown that low-wage earners experienced the worst declines in medical insurance and pension plans, and we can see that this was also true for all the measures included in this study. To date, scholars have not yet considered job quality change at the intersection of education and wages. In the next section, I show how this intersection as well

as the gender composition of each group is critical for understanding how it is possible for women to improve upon their educational attainment and yet remain relatively unrewarded for it.

Low-Wage Women Experienced the Largest Job Quality Decline Across All Education Groups

To examine job quality changes at the intersection of wages and education, Figure 16 shows predicted job quality by education and wages. In this figure, I use the job quality index for simplicity and comparability. Job quality declined in every wage and education group; even individuals with a bachelor's degree and high wages were not immune from decreases.

Fig 16. Job Quality Declined the Most for Low-wage Workers Across Education Groups, and More So for Women Than Men. *Source:* NLSY97.



Note: Predicted values from linear models using OLS regression and the Stata *margins* command. Standard errors clustered by individual respondents to adjust for within-cluster correlation.

Declines were much largest for those with low-wage jobs across all education groups. As was seen in Figure 3, job quality became much more stratified by wages than by education. In the 1997 cohort, there is very little difference in job quality between low-wage earners with a high school diploma or less and a bachelor's degree. Interestingly, in the 1997 cohort, for those with a high school diploma or less and those with some college or an associate degree, average job quality was slightly lower for high-wage women.

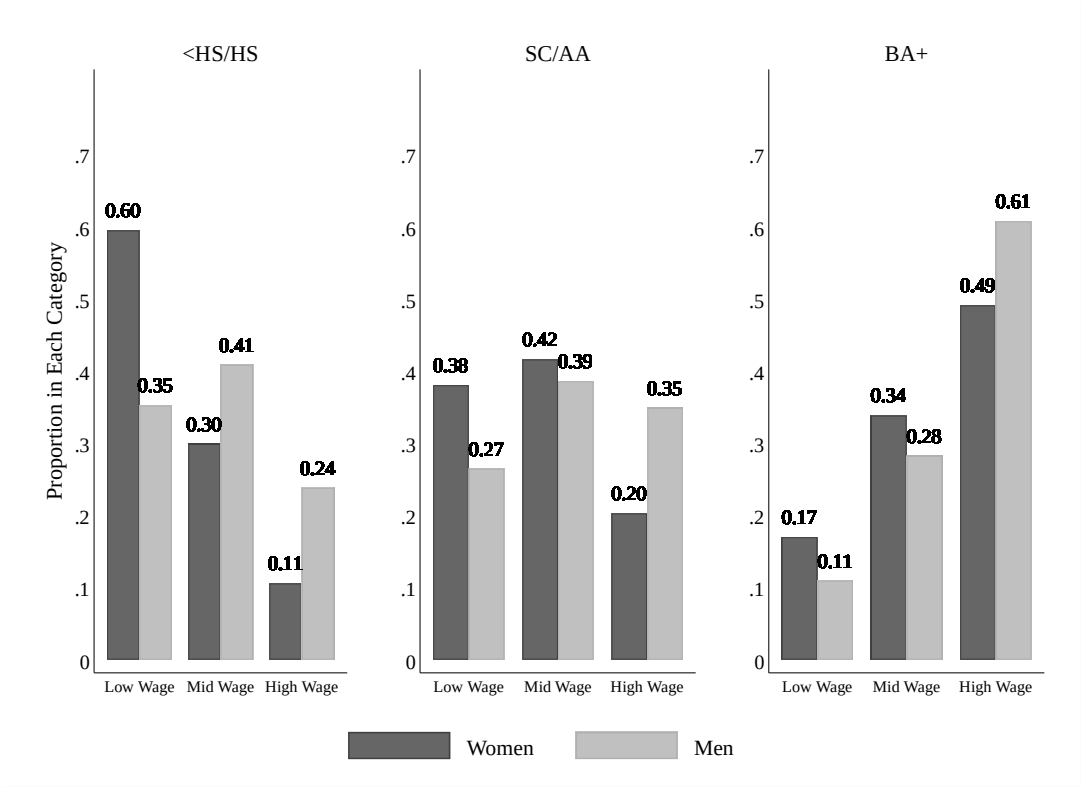
Educational upgrading does appear to have protected mid- and high-wage men and women in the 1997 cohort from the worst of job quality decline, especially women. Indeed, mid-to-high wage women with some college or an associate degree have much higher predicted job quality on average in comparison to similarly educated men.

Nevertheless, the previous figures only show changes in job quality across groups. They do not consider the composition of the groups themselves. Although job quality declines were the largest for the lowest educated and the lowest paid women in the 1997 cohort, these women account for a much smaller proportion of the high school and less educated population than men. This means that low-educated, low-wage men's job quality should have pulled down the 1997 men's overall job quality much more than low-educated women's job quality should have impacted overall women's job quality. But that is not what we observe. Figure 2 showed that women and men experienced very similar overall job quality decline. The last section of this article shows how compositional differences between 1997 men and women in each wage group across education undermined the job quality returns to women's educational attainment.

Unequal Composition Penalizes Women and Rewards Men

Figure 17 examines the proportion of women and men in each wage group across education. The figure is separated into three sub-figures by educational attainment and only includes the 1997 cohort. Women are the dark grey bars and men are the light bars. Across all education groups, women were much less likely to be high-wage earners in comparison to men. The share of men with high wages was over two times the share of women among those with a high school diploma or less. For those with a bachelor's degree or higher, only 49 percent of women were high earners in comparison to 61 percent of men. Although gender wage inequality is much higher among those with lower educational attainment, it persists even among the most highly educated.

Fig 17. NLSY97 Women Continue to be Overrepresented Among Low-wage Earners and Under-Represented Among High-wage Earners. *Sources:* NLSY97.



Turning to low-wage earners, Figure 17 reveals that women were much more likely to be low-wage earners than men regardless of their educational attainment. Thirty-eight percent of women with some college or an associate degree have low-wage jobs in comparison to only 26 percent of men. Even among the most highly educated, women with a bachelor's degree or higher were more likely to earn low-wages in comparison to men and less likely to earn high-wages.

In other words, across *all* education groups, women were consistently *under*-represented at the top of the wage distribution and *over*-represented at the bottom of the wage distribution. Women's job quality is lower than might be expected considering their increases in postsecondary education, in part because, as job quality became more stratified by wages

(especially for women), they were penalized for their unequal representation among low-wage earners and under-rewarded for their disproportionately higher educational attainment relative to men. Conversely, since men were so much more likely to be high-wage earners regardless of educational attainment, men did not experience as severe job quality declines as expected.

DISCUSSION

I extend upon previous job quality scholarship with several contributions. First, through the rich longitudinal data of the NLSY79 and NLSY97, I have included several measures of job quality that have not been previously studied in this context. These data allow me to create a more comprehensive measure of job quality that includes employer-provided benefits that provide the support many women need to manage work-family life. I have shown how every measure of job quality included in this study declined across the two cohorts for both women and men. This decline occurred in the context of women's substantial educational upgrading. Despite this upgrading, women experienced relatively similar job quality declines as men.

I then showed how the association between education and job quality remained fairly stable for both men and women, while the association between wages and job quality grew considerably. This association grew much more for women than it did for men and greatly impacted the job quality of low-wage women irrespective of educational attainment. Because of the decline in job quality across all education groups, postsecondary education did not provide the same job quality returns as it did in the past. Job quality declined across all wages groups as well, consequently, any wage increases women experienced due to their educational expansion did not result in as large of job quality increase as it would have in the 1979 cohort.

Finally, I found that compositional differences by gender meant that, relative to men, women were more likely to be low-wage earners and less likely to be high-wage earners across all education groups. Although, job quality did not drop as severely for mid- to high-wage earners with some college or a bachelor's degree or higher in comparison to low-wage earners, the lingering gender wage gap penalized more highly educated women and benefited men across all education groups.

As with most scholarly work, there are limitations to this study. The job quality measures examined in this study are not exhaustive. There are many dimensions to job quality and the measures in this study focus on employer-provided benefits and a standard schedule. Other measures such as job churning, contingent or seasonal employment, or involuntary part-time employment captures different but important aspects of job quality. In addition, this study only examines change across two cohorts during early employment. It is likely that job quality also changes with tenure.

Job quality remains a relatively understudied dimension of inequality in comparison to wages, and further studies could expand upon the findings in this study. First and foremost, there needs to be more research on job quality differences by race and ethnicity. As one of only a few studies to address this very important dimension of job quality stratification and the economic stability it creates, Storer et al. (2020) document that racial and ethnic minorities (especially women) are at much higher risk of having jobs with precarious schedules. Additionally, future work could explore how job quality impacts men and women's labor force participation. It is reasonable to hypothesize that some women would struggle to maintain stable employment without at least some of the measures examined in this study.

CONCLUSION

The “stalled”, or “incomplete” revolution has left women struggling to enter or remain in the labor market and manage family responsibilities (Allen et al. 2000; England 2010; Esping-Anderson 2009; Hochschild 1989; 2012; Pedulla and Thébaud 2015). Most employer-dependent benefits in this study are provided or mandated by the governments of most high-income countries but in not the United States. The United States provides a stark example of how a faltering labor market cannot make up for a strong welfare state and how education alone cannot solve gender inequality in the labor market. Since the United States continue to resist enlarging the social safety net and guarantee these benefits to everyone, it is likely that women’s employment struggles will continue. Indeed, Esping-Anderson observed that ‘‘welfare state adaptation [is] a precondition for the female revolution to succeed’’ (2009:15).

This study contributes to both gender and labor market stratification literatures by revealing how gender inequalities in the labor market endure despite women’s concerted efforts to improve their access to good jobs through higher education. While these findings could be used for an argument against pursuing higher education, women (and men) without postsecondary education fared even worse as job quality declined the most for those with a high school diploma or less. This decline by education is magnified by the decline in wages for this group as well. Job quality decline is not a failure of education, but a failure of the labor market. There are so few “good jobs” that a college education has become an expensive precondition but not an assurance of access to one. These disparities leave women vulnerable to economic instability, poverty, and exclusion from the labor market.

Despite the findings in this study, it is possible that in the future job quality decline may slow down or even be reversed. Current low unemployment rates may help improve job quality,

because as employers find it more difficult to hire and retain workers, they may be forced to not only increase wages, but also increase benefits and improve work schedules.

Higher education has many benefits, but it cannot fix every social and economic problem. The findings in this study suggest that increased educational attainment is insufficient to overcome general labor market declines or gender inequalities within the labor market. The current trend that increasingly ties benefits to wages harms individuals and families by denying non-high-wage earners access to critical benefits.

Chapter 4 No "Good" Time: The Timing Mismatch Between Employer-Provided Benefits and First Births

Medical insurance and parental leave are essential for all new parents, but especially for women during their prime fertility years, to ensure adequate health care throughout the childbearing process as well as time to physically recover and bond with a new baby (Burtle and Bezruchka 2016; Conway and Kutinova 2006; Oberg et al 1991; Yan 2016). Women who lack these benefits may face considerable consequences, such as extreme financial burdens or maternal and infant mortality (Cahn et al 2023; Daw et al 2020; Gault et al. 2014; Heshmati et al 2023; Mazu 2016). In the US policy context, employers are a key route through which people access these benefits. Thus, the life course timing and trajectories of access to benefits directly impacts workers and their families (Donovan 2019). How does the timing of childbirth, specifically first births, overlap with the age trajectories of employer-provided benefits?

Previous scholarship has shown that employer-provided benefits are increasingly associated with wages (Dyer 2023). Workers typically enter the labor market earning their lowest lifetime wages (Kong and Ravikumar 2012; Lazear 1976). Wages increase in the early career, then flatten out in the late career (Cheng 2014). Considering that most women will give birth to their first child when they are in their 20s, if employer-provided benefits develop similarly to wages, then the majority of young women may not have access to employer-provided parental leave and medical insurance when they need it most.

Some women may access these benefits via federal programs such as Medicaid, the Affordable Care Act (ACA) or Family Medical Leave (FMLA) (Brown et al 2020; MACPAC 2020). However, the lack of universal health care and parental leave policies in the United States leave a large share of women dependent upon employers for these benefits (Brown et al 2020; Kaiser Family Foundation 2022). Therefore, it is important to understand how access to these benefits evolve over the employment and fertility life course. Life course trajectories allow scholars to observe how important facets of social lives evolve by age or time (Cheng 2014). As individuals age, they enter new life stages and have different needs and responsibilities (Elder, Johnson, and Crosnoe 2003). Younger workers in their prime fertility years, including both birth and non-birth parents, will need access to parental leave benefits that older workers will be less likely to require. And although older workers are more likely to experience health conditions that are expensive and ongoing, younger women who plan on having children need medical insurance throughout the childbearing process (Taylor et al 2020).

There are several factors that may influence access to employer provided benefits. In this study, I examine three potential axes of variation: cohort, educational attainment, and racialized/ethnic group differences. Access to benefits as well as ages at first birth has not only changed over time, but also varies by educational attainment and racialized/ethnic groups (Black et al 2008; Dyer 2023; Hacker 2006; Kalleberg 2011; Rindfuss and St John 1985; Schweizer and Guzzo 2020. Compositional changes in education mean that more women are college educated, working more, and delaying childbirth (Rindfuss and St John 1985; Schweizer and Guzzo 2020). However, White women's college degree advantage over Black women and Latinas continues to grow (Dyer and Roman-Torres 2022). How do these demographic changes coincide with changes in access to benefits?

In this article, I show how fertility and benefits align or misalign, and inequalities in the alignment of fertility and benefits. I use panel data with a rich set of covariates from the National Longitudinal Study of Youth 1979 (young Baby Boomers ages 20 to 44) and 1997 (older Millennials ages 20 to 37) to estimate the evolution of benefits across the fertility life course. In additional analyses, I limit my sample to only mothers and estimate the predicted probability of having employer-provided medical insurance and parental leave at the age of first birth to understand employed women's actual benefits at their first birth.

I find that overall access to employer-provided medical insurance and parental leave evolves similarly to wages with some exceptions: increasing throughout women's 20s and flattening or slightly declining in their 30s. Millennial women, relative to Baby Boomer women, have much lower rates of both medical insurance and parental leave across the entire fertility life course, regardless of educational attainment or racialized/ethnic group. Despite increases in the median age at first birth among Millennial women, the majority of the younger cohort will not have either of these benefits at the birth of their first child.

This timing mismatch is exacerbated by differences in educational attainment and in the age at first birth. The timing mismatch between age at first birth and benefits is greatest for people with the least amount of education, because benefits develop more slowly over time and remain low in comparison to women with at least some college. This mismatch is compounded for lower educated women, because they are also more likely to have their first child in their early 20s. Although I do not find significant differences between racialized/ethnic groups overall, Black women and Latinas are less likely to complete a bachelor's degree in comparison to White women and are more likely to have their first child at younger ages than White women. Since there is both an educational gradient in benefits and a positive relationship between age and

benefits in the early-to-mid-career, women who have children at younger ages and do not complete a bachelor's degree are less likely to have employer-provided medical insurance or parental leave when they have their first child in comparison to women who have children at older ages and have higher educational attainment. However, racialized/ethnic inequalities are offset by Black women and Latina's higher benefit rates in comparison to White women. Baby Boomer women with a bachelor's degree or higher have the highest rates of employer-provided medical insurance and parental leave, but among even these women, approximately 25 to 30 percent will not have either benefit when they have their first child. Contrary to popularized ideas about the timing of childbearing to guarantee access to these critical benefits (such as completing more education before having starting a family), I show that regardless of how educated women become and no matter how long they wait to have children, the majority will not have access to employer-provided medical insurance and parental leave when they give birth to their first child. Ideally, all women would have these benefits when they have their first child. However due to the trajectories of employer-provided benefits, in effect, there is never an "ideal time" for a woman to have a child: a time when she is assured to have the benefits critical to her and her children's health and wellbeing.

BACKGROUND

Fertility Timing

As of 2015, nearly 85 percent of women aged 40 to 44 in the United States will have at least one biological child (Martinez et al 2018). Among these mothers, 83 percent (or 71 percent of all women) will have their first child before age 30 (Martinez et al 2018). Over time, women

have increasingly delayed the birth of their first child (Schweizer and Guzzo 2020). In 1985, the average age at first birth was 23.7, but by 2014, the average age had increased to 26.3 (Matthews and Hamilton 2002; 2016).

Scholars have identified several interrelated factors that explain the increase in average age at first birth (Bailey 2006; DiPrete and Buchmann 2013; Goldin and Katz 2000; Mills et al 2011). First and foremost was the advent of broad access to oral contraceptives (Goldin and Katz 2000). Women who have control over their fertility tend to delay their childbearing, often to complete more education or to focus on their careers (Mills et al 2011). However, delays in childbearing are not limited to highly educated or career focused women. Because of increases in access to contraception, teenage pregnancies have declined significantly over the last thirty years which has led to women with lower levels of education also increasing the age at which they have their first child (Lindberg et al 2016; Santelli et al 2007). Bailey found that that "legal access to the pill before age 21 significantly reduced the likelihood of a first birth before age 22" (2006). Women's control over their fertility at least partially explains women's large increases in educational attainment over the last 40 years (Bailey 2006; Kravdal and Rindfuss 2008; Martin 2000). Prior to 1990, men held a bachelor's degree advantage over women, but women now complete college at much higher rates than men (DiPrete and Buchmann 2013). The positive relationship between education and later age at first birth is so strong that many scholars believe the relationship to be causal, although recent work has provided evidence that it is not that the relationship is causal as much as an indicator of other socioeconomic and cultural differences (Kravdal and Rindfuss 2008; Tropf and Mandemakers 2017). Regardless of the causal effect of education on delays in childbearing, on average, the more highly educated a woman is the more likely she is to delay her first birth (Mills et al 2011; Rindfuss et al 1980).

Irrespective of increases in education, women's increased labor market participation since the 1970s has also contributed to women's increased delays in childbearing (Budig 2003; England 2010; Kolk 2014). A common theoretical explanation for the negative relationship between employment and age at first birth draws upon Acker's work on the "embodied nature of work" (1990). Organizations structure employment around a "gendered image of the 'ideal worker'" who is free from the constraints and responsibilities of family life to focus solely on their job (Budig 2003). As Budig concludes, "Thus, work demands and lack of family–friendly work policies may reduce women's fertility while employed" (2003).

Beyond contraception access and education, there are differences in the timing of first births by racialized/ethnic groups (Chen and Morgan 1991; Morgan et al 1999). On average, Black women and Latinas have children at younger ages than White women (Schweizer and Guzzo 2020). Some of these differences can be explained by differences in educational attainment. Black women and Latinas are less likely to complete a bachelor's degree compared to White women and the greatest increases in age at first birth are among White women with a bachelor's degree (Dyer and Roman-Torres 2022; Glick et al 2006; Neels et al 2017). However, racial/ethnic differences exist even among similarly educated women (Sweeney and Raley 2014). One explanation for these differences is the intergenerational transmission of age at first birth (Barber 2001). Women whose mothers had children young tend to also have children when they are young, and Black women and Latinas are more likely to have mothers who had children at younger ages (Barber 2001). In addition, White women are also more likely to marry and marry after they have completed their education (Goldstein and Kenney 2001; Harknett and Kuperberg 2011; Raley et al 2015). The timing of both of these processes are predictors of older ages at first birth (Kravdal and Rindfuss 2008).

In summary, while the majority of women will have at least one biological child in their lifetime, the timing of fertility has changed over time. As women have increased their education and labor force participation, they have also increased the age at which they have their first child, although there is considerable variation by educational attainment and racialized/ethnic groups. Despite shifts in the age at first birth over time, the majority of women in the United States will have their first child in their 20's (Matthews and Hamilton 2002; 2016). Therefore, most women will have their first child earlier rather than later in their career. How the timing of fertility and timing of access to employer-provided medical insurance and parental leave overlap shapes the likelihood that women will have these benefits when they have their first child. It is possible that even small delays in childbearing allows women to become more established in their careers, earning higher wages that may also lead to increased access to employer-provided medical insurance and parental leave when they start having children. However, it is also possible that if benefits remain low throughout women's fertility life course or start low and increase with age, that a large share of women will be left without these critical benefits at their first birth.

Benefit Timing

Previous scholarship has demonstrated the positive association between wages and employer-provided benefits (Dyer 2023; Kalleberg 2011). For example, those who have low wage jobs are less likely to have medical insurance in comparison to high wage earners (Kalleberg 2011). On average, wages are lowest when workers enter the labor market. Wages increase in the early to mid-career life course and flatten out in the mid-to-late-career (Kong and Ravikumar 2012; Lazear 1976). Wage trajectories are not the same for all workers and early inequalities often compound over time (Cheng 2014). For example, Cheng found that those with

at least some college had higher starting wages than those with a high school diploma or less, and they also experienced greater wage growth over the employment life course (2014). Therefore, wages are a part of the cumulative advantage or disadvantage that occurs over the life course (Crystal and Shea 1990). If benefits develop in a similar pattern, then benefits also contribute to cumulative advantages that exacerbate inequalities over the life course (Dannefer 1987, 2003).

In addition, access to employer-provided benefits have declined over time (Hacker 2019; Woodbury and Bettinger 2019). For example, from 1979 to 2006 the share of private-sector workers with employer-provided medical insurance declined from 69 to 55 (Kalleberg 2011). Cohort differences in access to benefits make it less likely that Millennial women will have employer-provided medical insurance and parental leave in comparison to Baby Boomers. Beyond a greater likelihood of lower benefits overall, the shape of Millennial women's trajectories may be different from Baby Boomer women. Furthermore, recent work shows that while benefits are positively associated with both wages and education, over time, benefits have become more strongly associated with wages while the association with education has remained relatively constant (Dyer 2023). This change in the association between wages and benefits makes it even more likely that benefits will evolve similarly to wages over the fertility life course for Millennial women.

Despite changes in the associations between benefits and wages, the continued positive association between education and benefits means that lower educated women are less likely to have benefits than highly educated women (Kalleberg 2011). Education has long been and continues to be a source of inequality in many aspects of social life (Hout 2012). Previous studies have documented marked inequalities in wage trajectories by educational attainment

(Cheng 2014) while other studies have documented educational disparities in employer-provided benefits (Dyer 2023; Kalleberg 2011). Indeed, in 2006, 67 percent of workers with a bachelor's degree had medical insurance compared to 50 percent of workers with a high school diploma (Kalleberg 2011). These differences by education are likely due to the declines in union membership for lower educated workers and increasing job polarization by educational attainment (Dwyer and Wright 2012; Mayer 2004; Vallas and Prener 2012; Western and Rosenfeld 2011). Women's age at first birth also varies by educational attainment with lower educated women giving birth to their first child at younger ages than women with more education, especially in comparison to women with a bachelor's degree (Black et al 2008; Rindfuss and St John 1985; Schweizer and Guzzo 2020).

Black women and Latinas experience several disadvantages that may compound inequalities in benefits such as greater discrimination in the labor market likely reducing their access to "good jobs" (Anderson and Shapiro 1996; Cancio et al 1996; Tomaskovic-Devey 1993). And there is some evidence to suggest that access to employer-provided benefits varies by racialized/ethnic group (Mok and Siddique 2011). Black women and Latinas are more likely to work in service and care occupations that pay low wages and do not offer benefits in comparison to White women (Duffy 2017; Tomaskovic-Devey 1993). The historical impact of slavery for Black women and immigration for Latinas also means that they have lower educational attainment than White women (Dyer and Roman-Torres 2022). Finally, Black women and Latinas are more likely to give birth at younger ages regardless of educational attainment in comparison to white women which means they have less time in the labor market before becoming parents (Mathews and Hamilton 2002). If benefits do increase with age, this means that Black women and Latinas

will be less likely to have medical insurance and parental leave at their first birth in comparison to White women.

Other Avenues of Access Medical Insurance and Parental Leave

Although this study examines employer-provided medical insurance and parental leave, it is important to discuss other ways in which women may access these benefits. There are three other potential options available to some women to access medical insurance for the childbearing process: Medicaid, the healthcare marketplace created by the Affordable Care Act in 2010, or through a spouse or partner. A large share of pregnant women qualifies for Medicaid, and indeed, Medicaid pays for approximately 43 percent of births in the United States a year (while 49 percent of births are paid for by employer-provided insurance) (Kaiser Family Foundation 2022; MACPAC 2020). Women can also purchase medical insurance through the Affordable Care Act; however, it is important to note that these plans can be very expensive for middle- and high-income earners in comparison to an employer-sponsor program, and often provide less coverage than the typical health plan offered by employers (Kaiser Family Foundation 2022). Finally, it is possible for women to gain access to medical insurance through their partners' employer-provided medical plan. When women had low levels of labor force participation, this was the most common way for women to access medical insurance (Buchmueller and Valleta 1996; Royalty and Abraham 2006). However, a growing share of women do not have a partner when they give birth (Ventura 2009). In addition, declines in employer-provided medical insurance over time make it less likely for even a partnered women to have access to medical insurance through a partners' employer (Hacker 2019).

Outside of an individual's employer, Medicaid is the main way women access medical care during the childbearing process. The income limits for pregnancy-related Medicaid vary, but states cannot drop eligibility for this coverage below a legal floor that ranges from an income of 133% to 185% of Federal Poverty Level, depending on the state. Fifty-five percent of women who qualify for Medicaid enroll in their last month of pregnancy (Daw et al 2017). This leads to large disparities in pre- and post-natal care between women with Medicaid and women with private insurance (Oberg et al 1991). Regardless of these disparities in outcomes, Medicaid provides critical health care services that save women and infant lives (Currie and Gruber 1996; Eliason 2020). However, it highlights the challenges women face to access necessary medical care during pregnancy in a country that does not provide universal benefits.

The United States also does not have universal protected parental leave (and only five states have any sort of protected parental leave policy) (Boyen et al 2021). With the passage of the Family Medical Leave Act in 1993, employers must allow qualified workers up to 12 weeks of unpaid leave for the birth or adoption of a new child. Considering this law, we might expect more individuals in the Millennial cohort to have parental leave relative to the Baby Boomer cohort. However, a large proportion of employees do not qualify for FMLA, because they do not work for a covered employer, or they have not fulfilled the eligibility requirements by working 1,250 hours for at least 12 months (US Department of Labor 2012). In fact, only 56 percent of workers are eligible for FMLA (Brown et al 2020). In addition, unlike medical insurance, employer-provided parental leave is not a benefit that can be accessed through a partner's employer. Therefore, most women's only option for parental leave is through their employer, either through qualifying for FMLA which is unpaid or paid as a benefit.

Potential Misalignment in Benefits and Fertility Timings

While past research provides crucial insights into access to employer-provided benefits over time and by educational attainment, we still do not know how the timing of benefits and the timing of fertility align or misalign. Instead of examining benefits at a fixed time period or age, this study shows the trajectories of benefits over the fertility life course to capture both access and inequalities in access to employer-provided medical insurance and parental leave. Considering what we do know about benefits, I expect to find a mismatch in the timing of women's first births and the timing of benefits. The majority of women will give birth to their first child in their 20s. If employer-provided medical insurance and parental leave trajectories develop similarly to wages, then a large share of working women may not have access to these benefits at their first birth. In addition, Millennial women may have lower access than Baby Boomer women since we know access to employer-provided benefits has declined over time. Finally, timing differences in age at first birth by cohort, education, and racialized/ethnic groups likely compound inequalities in access to employer-provided medical insurance and parental leave.

In light of the literature, I hypothesize the following:

Hypothesis 1: Employer-provided medical insurance and parental leave will be lowest in the early career and increase over time.

Hypothesis 2a: Baby Boomer women will have higher benefits' rates across all ages than Millennial women.

Hypothesis 2b: Women with a bachelor's degree or higher will have higher benefits' rates across all ages than less educated women.

Hypothesis 2c: Because of racialized/ethnic group differences in the timing of first births and because of racialized/ethnic differences in educational attainment, Black women and Latinas will have less access to employer-provided medical insurance and parental leave than White women.

Hypothesis 3: On average, the timing of firth births will be mismatched with the timing of benefits, leaving a large share of women without benefits at their first birth.

DATA AND METHODS

Data

I use data from the National Longitudinal Survey of Youth, 1979 (NLSY79 or late Baby Boomers) and 1997 (NLSY97 or early Millennials) cohorts to examine differences in the evolution of employer-provided medical insurance and parental leave over time. The NLSY79 follows 12,686 individuals beginning in 1979 when they were ages 14-22, and the NLSY97 follows 8,984 individuals starting in 1997 when they were ages 12-17. The NLSY79 and NLSY97 are the only longitudinal surveys to collect detailed annual or biennial data on respondents' employment history and employer-provided benefits as well as detailed data on respondents' education, family, and childbearing. In 2017, Millennial respondents were approximately 33 to 37 years old, and Baby Boomer respondents were 50 to 56 years old). I

estimate the trajectories of employer-provided medical insurance and parental leave from ages 20 to 44 for Baby Boomer women and 20 to 37 for Millennial women.

These studies are well suited for trend analyses, because the NLSY97 was designed for comparability with the NLSY79. In addition, the NLSY data are optimal in comparison to other surveys that are typically used such as the Current Population Survey for estimating employer-provided benefit trajectories, because they repeatedly observe the same individuals from the beginning of their career onward. This data allows scholars to observe the often-simultaneous development of employment and family formation.

Measures

Employer-Provided Medical Insurance and Parental Leave

I estimate the proportion of women with employer-provided medical insurance and parental leave. In the Baby Boomer cohort, respondents were asked (yes/no) if they had employer-provided medical insurance beginning in 1979 and protected parental leave (paid or unpaid) in 1985. In 1985, Baby Boomer respondents were 20 to 26 years old. Therefore, I estimate the likelihood of having these benefits beginning when respondents were 20 for both cohorts. In the Millennial cohort, respondents who were employed and financially independent were asked if they had employer-provided benefits beginning in 1997 (nearly all of the Millennial respondents were under 18 years old when the survey began). One difference between the surveys is that Baby Boomers were asked one question about paid or unpaid leave while Millennial respondents were separately asked if they had paid parental leave and unpaid parental leave. For comparability with the Baby Boomer cohort, I combined these two questions in the Millennial cohort into one measure of parental leave that includes paid and unpaid leave.

Racialize/Ethnic Group Differences

To address potential differences by racialized/ethnic groups, I examine access to employer-provided medical insurance and parental leave among White, Black, and Latina women. Due to sample size limitations with the data, I am not able to examine other racialized/ethnic groups.

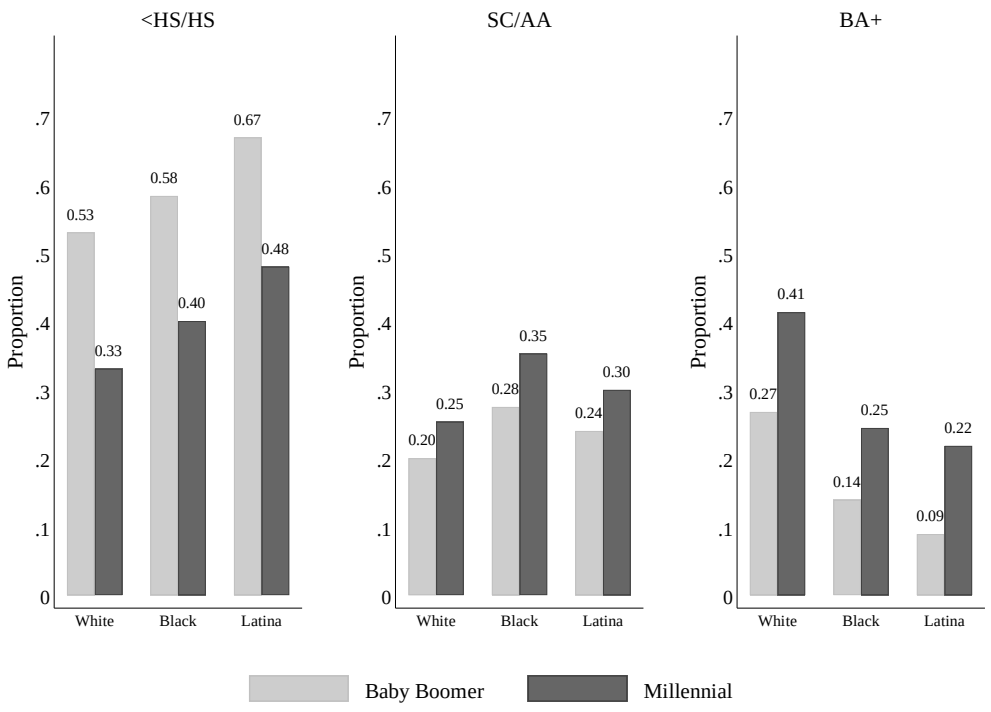
Educational Differences

I also examine variation in benefits' trajectories by educational attainment. For simplicity, I create three education categories: a high school diploma or less, some college or an associate degree, and bachelor's degree or higher. While there are differences within these groups, the largest differences are between the created groups.

Figure 18 shows changes in educational attainment by racialized/ethnic groups between the two cohorts. Each sub-figure shows changes in the three education categories included in this study, from left to right as follows: high school diploma or less, some college or associate degree, and bachelor's degree or higher. Baby Boomers are the light grey bars and Millennials are the dark grey bars. The proportion of women in all racialized/ethnic groups who only attended or completed high school has declined sharply over time, especially for White and Black women. Black women are the most likely to have some college or an associate degree in both cohorts, although all groups experienced increases in college attendance. Bachelor's degree completion increased substantially for all women, but White women by far have the highest educational attainment with 41 percent of White women in the sample having a bachelor's degree or higher in comparison to 25 percent of Black women and 22 percent of Latinas. The

higher some college or associate degree attainment combined with the lower rates of bachelor's degree attainment for Black women and Latinas demonstrates the growing share of women in these racialized/ethnic groups who enroll in college, but do not complete a bachelor's degree. As we will see in the results section, these educational differences lead to inequalities in access to employer-provided benefits.

Fig 18. Educational Distribution by Racialized/Ethnic Groups and Cohort, Ages 25 to 29.



When modeling the trajectory of benefits, I account for age differences in entry into the labor market by educational attainment by beginning the trajectories at different ages. For those with a high school diploma or less, I begin at 20 years old; for those with some college or associate degree, I begin at 22 years old; and for those with a bachelor's degree or higher, I begin

at 24 years old. Not everyone will have completed their education by 24 years old, although the majority of respondents in both cohorts in the sample have (Ma et al. 2016; U.S. Census Bureau 2021). For example, 31 percent of the Millennial cohort have a bachelor's degree or higher by 24 years old compared to 36 percent by age 29 (see Appendix Table). To account for those who completed their bachelor's degree at older ages, I use educational attainment at 29 years old in my analytic models.

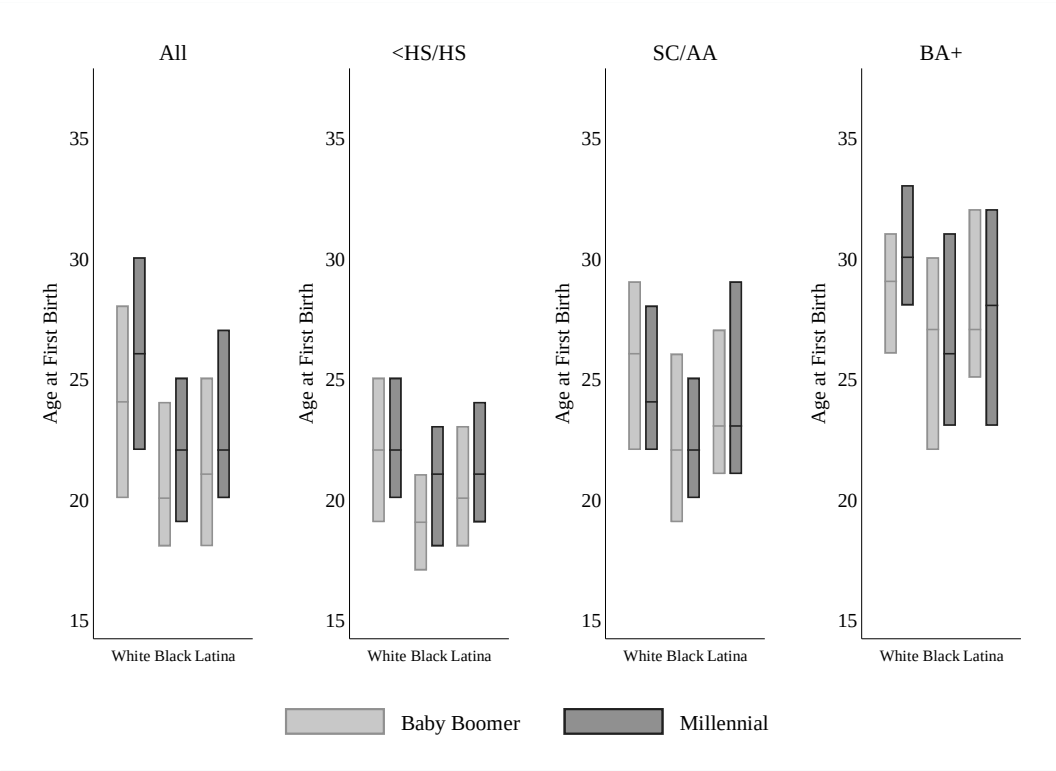
Median Age at First Birth

The sample consists of Baby Boomer women from ages 20 to 44 and Millennial women from ages 20-37. The average age at first birth has increased over time, but since this study does not follow women throughout their entire childbearing years, our sample does not capture the increase in women having their first children in their late 30s and early 40s in the Millennial cohort. In 1995, six percent of women were ages 35 or older at first birth (Mathews and Hamilton 2002). By 2015, this had increased to nearly 10 percent (Mathews and Hamilton 2016). This means that the sample is right censored and that the median age at first birth is lower than the full population of women. However, even with increases in the age at first birth, the vast majority of women will give birth to their first child before they are 37 years old (Mathews and Hamilton 2002; 2016).

Figure 19 shows the median age at first birth for both Baby Boomer and Millennial women by educational attainment and racialized/ethnic groups. Due to the right censoring issue, the ages are very similar between the two cohorts (within one year). The only cohort difference that is larger than one year is for White women with a bachelor's degree or higher. The median age at

first birth increased from 28 to 30 years old. Other scholars have documented that while the age at first birth has increased across all racialized/ethnic and education groups, the biggest jump has been among highly educated White women (Schweizer and Guzzo 2020).

Fig 19. Baby Boomer and Millennial Women's Ages at First Birth by Racialized/Ethnic Group and Educational Attainment, Interquartile Range with Median, Ages 15 to 37.



There are three important takeaways from this figure. First, the median age at first birth has increased over time, but the median age at first birth for the Millennial cohort remains in their early to mid-20s, ranging from 22 to 26 years old. Second, there is a clear educational gradient in the age at first birth among both cohorts and racialized/ethnic groups. Third, Black women and Latinas across all education groups consistently have their first child at younger ages than White women. These findings are consistent with the previous literature.

I include several other demographic and employment measures that have been documented to explain employment outcome differences. Among demographic characteristics, I include relationship status (single, married or cohabiting), number of children in the household (biological, step or adopted) as well as whether the respondent has any income from a spouse or partner. Among employment characteristics: I include union representation, occupation (3-digit U.S. Census codes harmonized to the 2000 Census), log hourly wages, and full-time or part-time employment status.

Sample

Respondents were ages 20 to 44 from 1985 to 2007 in the Baby Boomer cohort and ages 20 to 37 from 1999 to 2017 in the Millennial cohort. The sample consists of employed women who are not missing on any measures for at least one age. For the Millennial cohort, parent's employment information was collected unless the respondent was identified as not dependent upon their parents. To make sure that I do not mistakenly capture parent's employer-provided benefits, I exclude women who were not identified as independent from their parents. The number of observations per individual respondent ranges from one to 24 years with an average of 15 years for the Baby Boomer cohort, and one to 18 years with an average of 10 years for the Millennial cohort. As I will discuss further, one of the benefits of multi-level growth curve models is that I am able to include respondents even when respondents have missing data on some of the time points.

Table 3 shows a summary of all variables included in the analysis by racial/ethnic group and cohort. Baby Boomers are on the left side of the table and Millennials are on the right side. For comparability, I limit the sample of Baby Boomer women to the same age ranges as Millennial

women, 20 to 37 years old (see Appendix Table 7 for the full sample). There are a few important cohort differences to note. We see that, on average, Millennial women are less likely to have had any children than Baby Boomers by age 37, although the differences are not large. In addition, we see that Millennial women are much more likely to work full time in comparison to Baby Boomer women. The full time rates may seem low for both cohorts, however, the sample is of women during their prime childbearing years and women with young children are much less likely to work full time in comparison to women with older children or no children. Finally, we see that on average Millennial women have substantially lower rates of both employer-provided medical insurance and parental leave which is consistent with previous work that has shown a decline in employer-provided benefits over time (Dyer 2023; Kalleberg 2011).

Table 3. Sample Summary Statistics of Pooled Sample from Ages 20 to 37 by Cohort and Racialized/Ethnic Groups with Educational Attainment Report at Age 29.

	Baby Boomers			Millennials		
	White	**Black**	**Latina**	**White**	**Black**	**Latina**
Age	29	29	29	29	29	29
<HS/HS	0.58	0.62	0.71	0.33	0.40	0.48
SC/AA	0.19	0.27	0.21	0.25	0.35	0.30
BA+	0.23	0.11	0.08	0.41	0.25	0.22
Single	0.23	0.52	0.27	0.31	0.64	0.37
Married	0.72	0.43	0.67	0.50	0.22	0.42
Cohabiting	0.05	0.05	0.06	0.20	0.14	0.21
Age at 1st Birth	25	21	22	27	24	24
Parent	0.69	0.85	0.82	0.50	0.67	0.61
# of Children in Household	1.33	1.74	1.77	0.97	1.48	1.45
Any partner income	0.59	0.21	0.38	0.54	0.21	0.44
Fulltime	0.49	0.59	0.56	0.62	0.65	0.65
Log Wages	2.62	2.50	2.57	2.79	2.62	2.73
Union	0.08	0.15	0.12	0.10	0.13	0.14
Medical Insurance	0.64	0.70	0.67	0.55	0.49	0.52
Parental Leave	0.64	0.72	0.69	0.53	0.41	0.42
Management	0.11	0.08	0.10	0.15	0.10	0.12
Professional	0.14	0.09	0.10	0.31	0.23	0.21
Service	0.21	0.26	0.19	0.21	0.29	0.23
Sales	0.43	0.42	0.45	0.27	0.31	0.38
Farming	0.01	0.00	0.03	0.00	0.00	0.00
Construction	0.03	0.02	0.02	0.01	0.00	0.01
Production	0.07	0.13	0.10	0.05	0.05	0.05
Number of Oberservations	1442	735	401	1488	844	670
Number of Person Years	24246	12459	6956	18867	11615	9033

Employer-Provided Benefits' Trajectories

To estimate the evolution of employer-provided medical insurance and parental leave by age, I use multilevel modeling to estimate growth curve models. Multilevel modeling allows a scholar to fit a growth curve model as repeatedly measured data over time is treated as

observations for each wave of data collection (level 1) nested within each individual (level 2), allowing for the estimation of between-individual differences in within-individual change. Multi-level growth curve models (GCM) allow researchers to estimate intra-individual change over time and variation in inter-individual trajectories (Cheng 2014). GCM can examine outcomes that are measured at several time points simultaneously allowing for the full use of the detailed data collected by the NLSY surveys. GCM models can include time-invariant and time-varying variables to account for variations in trajectories (Wu 2018). Finally, GCM models can include a greater number of respondents because it can estimate outcomes even when respondents have missing data at certain ages (Curran et al. 2010).

All estimates are modeled with an interaction for age and racialized/ethnic group, and I separately estimate models by educational attainment and cohort. This allows me to show how employer-provided benefits may evolve differently as individuals age by racialized/ethnic groups, educational attainment, and cohorts. For this reason, I also allow for both random intercepts and slopes. I expect the trajectories of employer-provided medical insurance and parental leave may be curvilinear like hourly wages, therefore, I include a quadratic age term in the models. I test different model specifications with likelihood-ratio tests which confirm that the random slope and intercept model with the quadratic for age is the preferred model.

I estimate the probability an individual will have employer-provided medical insurance or parental leave by educational attainment and cohort as follows:

$$log\frac{p_{ij}}{1-p_{ij}} = \beta_{0j} + \beta_{1j}age_{ij} + \beta_2 Race_j + \beta_{3j}age_{ij} \text{ x } Race_j \text{ x } + \beta_{4j}age_{ij}^2 + \beta_{xj}controls_{ij} + \varepsilon_{ij}$$

(1)

$$\beta_{0j} = \gamma_{00} + U_{0j}$$

(2)

$$\beta_{1j} = \gamma_{10} + U_{1j}$$

(3)

where p_{ij} indicates the probability of having employer-provided medical insurance in wave *i* for individual *j*. *Racej* is a time-invariant racial/ethnic categorical variable for individual *j* and $Cohort_j$ is a time-invariant cohort variable for individual *j* while *ageij* is time-varying. In Equation 1, every individual's benefits trajectory is modeled as a function of age and racial/ethnic groups with an interaction between the two measures.

The intercept β_{0j} is composed of two components: γ_{00} as the fixed component representing the mean intercept and U_{0j} as the random component representing individual deviation from the mean intercept (Equation 2). The coefficient for age, $\beta_1 j$, is also made up of two components: γ_{10} as the fixed component representing the mean slope with U_{1j} as the random component representing individual deviations from the mean slope (Equation 3). The variance of U_{0j} and U_{1j} is the individual variation in baseline share of individuals with benefits and changes in benefits with age, respectively. The coefficient β_2 is the fixed effect of differences by racialized/ethnic groups and β_3 is the fixed effect of the interaction between racialized/ethnic groups and age and indicates whether aging trajectories depend on an individual's racialized/ethnic group. The coefficient β_{xj} represents the fixed effects of the various controls added to the model. I calculate the share of women with medical insurance and parental leave using average marginal effects.

Employer-Provided Benefits at the Birth of a First Child

In addition, I estimate models for the share of women with employer-provided medical insurance and parental leave at the age of first birth using logistic regression and report my findings as average marginal effects. I include the same control variables as in the previous models and again, report my findings as average marginal effects. It is important to note that these are not trajectory models; this modeling strategy allows me to observe the proportion of women with benefits at the actual age of first birth. Using these estimates and the median ages at first birth, I reveal racialized/ethnic inequalities in access to benefits.

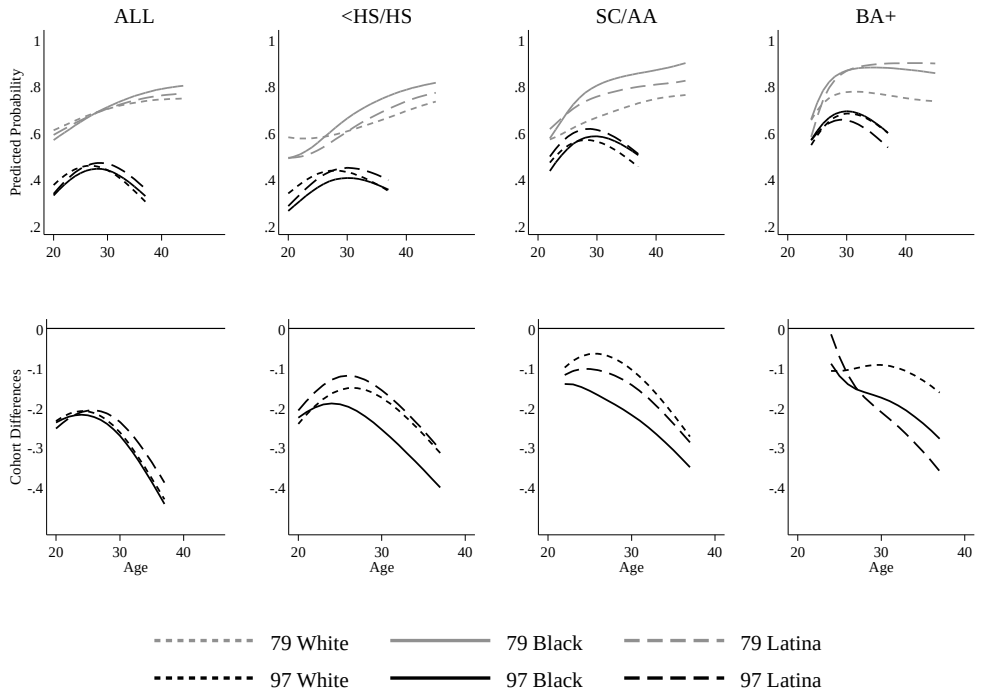
RESULTS

Life Course Trajectories of Employer-Provided Medical Insurance

Figure 20 show the trajectories of the share of women with employer-provided medical insurance by educational attainment and racialized/ethnic groups. I show the trajectories of Baby Boomers from ages 20 to 44 and Millennials from ages 20 to 37 (top set of figures). The bottom set of figures shows the cohort differences in each education and racialized/ethnic group. Black women are the solid lines, Latinas are the dashed lines, and White women are the short-dashed lines. The Baby Boomer cohort is in grey, and the Millennial cohort is in black. Confidence intervals in both cohorts are shown for Black women only for ease of interpretation. Moving from left to right, the first sets of panels show age trajectories by cohort and age across all education groups, then trajectories by education beginning with women with a high school diploma or less. As previously discussed, I present a different starting age for the trajectories by educational attainment: 20 for women who complete a high school diploma or less, 22 for some college or associate degree, and 24 for bachelor's degree or higher.

The top set of figures in Figure 20 provides mixed confirmation of my hypothesis that employer-provided medical insurance evolves in a similar way to wages. For Baby Boomer women, the share of women with employer-provided medical insurance starts out low, increases steeply in the early career, and then grows less steeply or flattens after age 30 across all education and racialized/ethnic groups. For Millennial women, trajectory patterns begin similarly to Baby Boomers, but instead of the curve flattening with age, Millennial women experience fairly sharp declines in medical insurance after age 30. Despite differences after age 30, the positive slope is steepest at younger ages across all education groups and cohorts. For example, approximately 65 percent of Black Baby Boomers with bachelor's degree have employer-provided medical insurance when they are 24 years old. This share peaks and flattens at 88 percent when they are approximately 36 years old. However, the steepness of the age gradient varies by cohort. For Millennial Latinas with a high school diploma or less, the proportion with employer-provided medical insurance only increases from approximately 28 percent to 44 percent, a 14-percentage point increase in comparison to the 23-percentage point increase for Black Baby Boomers with a bachelor's degree.

Fig 20. Medical Insurance Trajectories Age, by Educational Attainment, Racialized/Ethnic Groups, and Cohort.



These figures also show that there is an educational gradient in medical insurance trajectories for all racialized/ethnic groups and across cohorts. Specifically, there are significant differences between those with a high school diploma and those with a bachelor's degree, especially for Millennial women. Women with a bachelor's degree on average start with higher rates of medical insurance and continue to have higher rates of medical insurance in their 30s (and 40s for Baby Boomer women) relative to women with a high school diploma or less. For example, Black Baby Boomers with a high school diploma or less range from 48 percent (at age 20) to 80 percent (at age 44) with medical insurance while Black Baby Boomers with a bachelor's degree range from 65 percent to 89 percent at the same ages. In general, there are not any statistically significant differences by racialized/ethnic groups except for Baby Boomer

White women with some college or higher. The share of college educated White Baby Boomer women with medical insurance is lower than similarly educated Black women and Latinas. It is important to note that the downward slope for Millennial women is likely due to the squared age term that was included for account for non-linearities in benefit trajectories. To test whether medical insurance coverage actually declined after age 30 in the Millennial cohort, more flexible functional forms should be explored.

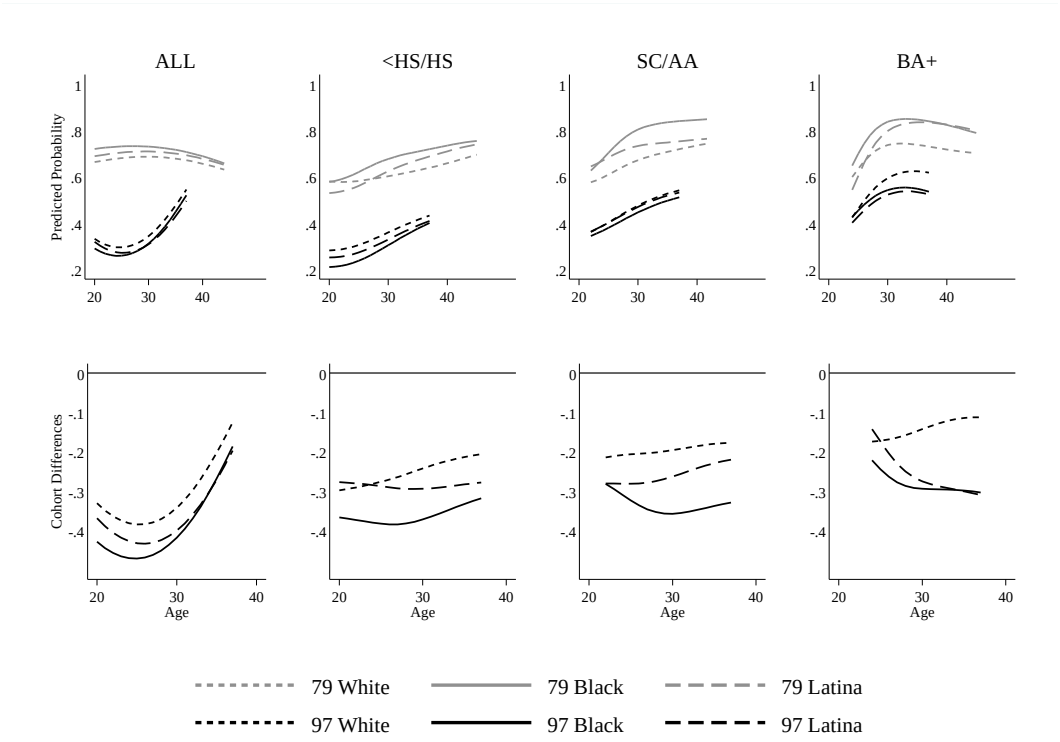
When turning to examine cohort differences (bottom of Figure 20), we see that for the most part, Baby Boomer women have higher (often much higher) predicted rates of employer-provided medical insurance relative to Millennial women across the entire early-to-mid-career life course and across all education and racialized/ethnic groups. Moreover, cohort differences increase with age. Although, Millennial women on average have lower rates of medical insurance than their Baby Boomer counterparts, cohort differences vary substantially by educational attainment. The largest cohort differences are among those with a high school diploma or less, and the smallest differences are among those with a bachelor's degree or higher.

In summary, access to employer-provided medical insurance increases with age for all racialized/ethnic and education groups across both cohorts. However, Millennial women are much less likely to have medical insurance in comparison to Baby Boomer women and these differences grow over time. Both the age gradient of benefits and the decline in access over time mean that, on average, less than half of Millennial woman have employer provided-medical insurance early in their careers.

Life Course Trajectories of Employer-Provided Parental Leave

Figure 21 shows the age trajectories of employer-provided parental leave (both paid and unpaid) by educational attainment, racialized/ethnic groups, and cohort for Baby Boomers ages 20 to 44 and Millennials ages 20 to 37 (top set of figures). I find Baby Boomer women's parental leave trajectories develops similarly to medical leave, increasing more steeply in the early career and then flattening out or slightly declining between 35 and 40 years old. For Millennial women, parental leave trajectory patterns are more similar to their Baby Boomer counterparts than their medical leave trajectories, although the slope is steeper in the Millennial cohort. However, with parental leave, cohort differences are much starker and consistent across ages than with medical insurance. Moreover, the educational gradient is much more pronounced among the Millennial cohort.

Fig 21. Parental Leave Trajectories Age, by Educational Attainment, Racialized/Ethnic Groups, and Cohort.



For Baby Boomer women, there are only small differences in rates of parental leave by educational attainment in the early life course and the slope is much flatter as these women age in comparison to the Millennial cohort. For example, for Baby Boomer White women with a high school diploma or less, parental leave increases from 58 to 70 percent while, for Baby Boomer White women with some college or an associate degree, parental leave only increases from 58 to 76 percent. The slope is slightly steeper for Baby Boomer White women with a bachelor's degree, ranging from 60 to 74 percent.

However, for Millennial women in all educational groups, parental leave rates start much lower and increase much more with age. Only 36 percent of Latina Millennial women with some

college or an associate degree have parental leave when they are 22 years old which increases to approximately 53 percent when they are 37 years old. This is much lower in comparison to similarly educated Latinas in the Baby Boomer cohort where parental leave rate which increased from 65 to 77 percent.

In addition, Millennial parental leave rates are highly stratified by educational attainment, especially in the early career. Twenty-three percent of Black Millennial women with a high school diploma or less have parental leave at age 24 in comparison to 37 percent for women with some college or an associate degree and 43 percent for women with a bachelor's degree at the same age. Although rates increase as women age, access to employer-provided parental leave remains highly stratified by education even at age 37: 43 percent (high school diploma or less), 54 percent (some college or an associate degree), and 62 percent (bachelor's degree or higher) among Millennial White women.

The bottom set of figures in Figure 21 shows cohort differences by racialized/ethnic group and educational attainment. We observe sharp declines in parental leave in the early career for Millennial women that remain relatively flat across ages. Nevertheless, cohort differences remain large even at 37 years old. For Millennial women with a high school diploma or less, there is a 20- to 33-percentage point difference between Millennial and Baby Boomer women even at 37 years old and these differences remain fairly consistent across all education groups. Cohort differences for White women are smaller relative to Black women and Latinas.

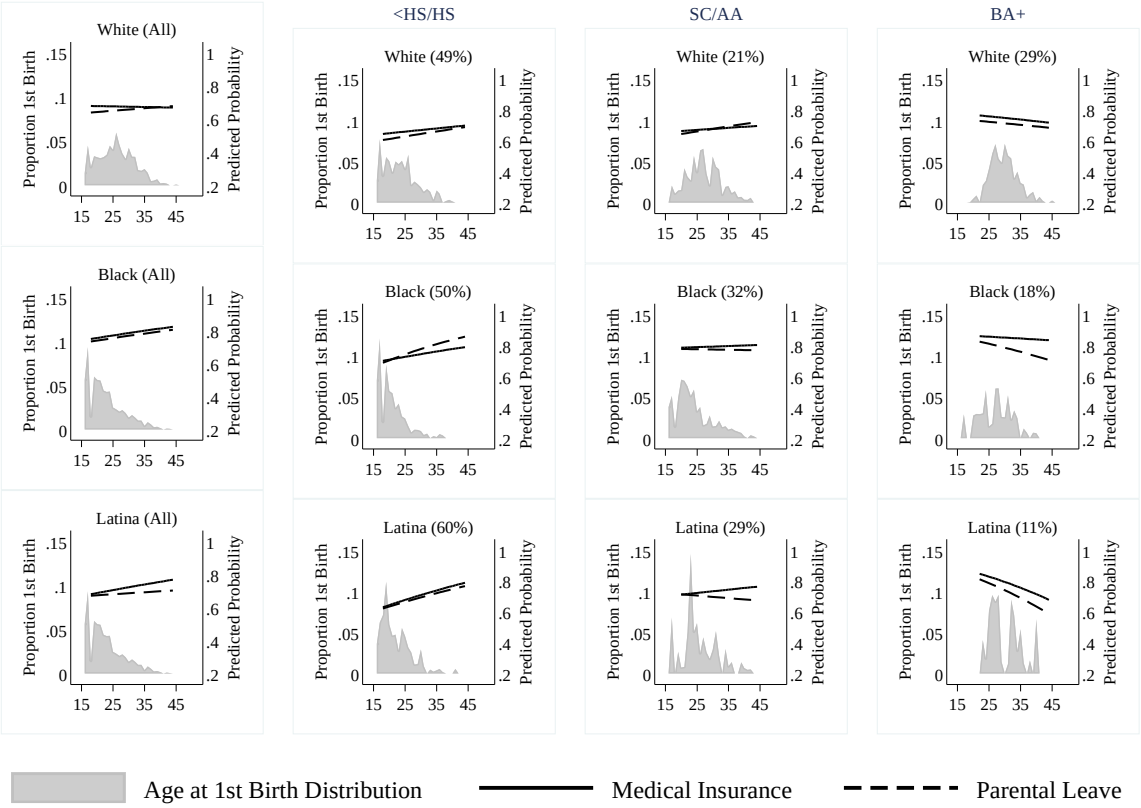
In summary, access to employer-provided medical insurance and parental leave is lowest when women enter the labor market in their early-to-mid-20s and increases with age across all education and racialized/ethnic groups and cohort. Millennial women are much less likely to have access to these benefits in comparison to Baby Boomer women, and benefits are more

stratified by education for the Millennial cohort. Considering the median age of first birth for women ranges from 21 to 30 by educational attainment and racialized/ethnic groups, it appears that while the majority of Baby Boomer women may have had access to employer-provided medical insurance or parental leave during this time, less than half of Millennial women did. In the next section, I examine benefits' trajectories by age at first birth for both cohorts and confirm the mismatch between benefits and the timing of women's first birth.

Mismatch in Timings of First Births and Millennial Women's Employer-Provided Benefits

To illustrate the timing mismatch in the age at first birth and benefits at age at first birth for Baby Boomer women, each panel in Figure 22 shows three different values: women's predicted employer-provided medical insurance rates by ages at first birth (solid line), women's predicted employer-provided parental leave rates by ages at first birth (dashed line), and the distribution of first births by age (shaded region). Each row represents a different racialized/ethnic group, and each row has four columns moving left to right: all, high school diploma or less, some college or an associate degree, and a bachelor's degree or higher. The left y-axis shows the proportion of women having their first child at a given age while the right y-axis shows the predicted probability of having employer-provided medical insurance and parental leave.

Fig 22. Baby Boomers Women's Predicted Probability of Having Employer-Provided Medical Insurance and Parental Leave at the Birth of Their First Child.



Beginning with the distribution of first births, we see that across racialized/ethnic groups, women with lower levels of education are more likely to have their children at young ages and that the distribution of first births by age increases and becomes more evenly distributed across ages as women increase their education. Moving to the proportion of women with medical insurance or parental leave at the birth of their first child, we see that for Baby Boomer women, the slope is positive and steepest for those with a high school diploma or less steep, flat, or even slightly declining for women who have at least some college education. The pattern is very similar across racialized/ethnic groups, although Black women and Latinas with a high school diploma or less

have steeper slopes than similarly educated White women (meaning that their benefits increase more with age than White women).

There are two important takeaways from Figure 6. First, the alignment or misalignment of benefits with age at first births is strongest for lower educated Black women and Latinas and low to nonexistent for women with high levels of education. They are more likely to have their first birth in their early 20's when they are least likely to have medical insurance or parental leave. For example, approximately 70 percent of Latinas with a high school diploma or less have parental leave at 22 years old (the median age of their first birth) compared to 82 percent at age 44.

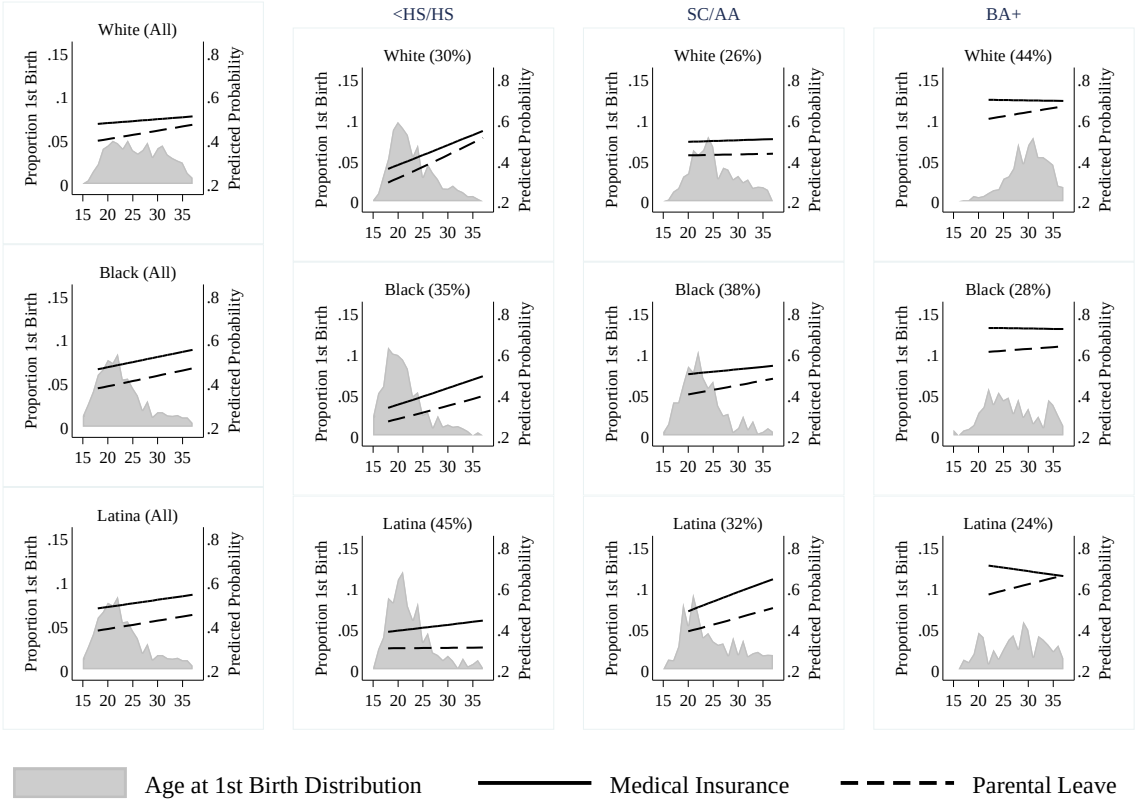
Second, even though Baby Boomer women (especially college educated women) do not appear to have severe mismatch between the timing of first births and the age trajectories of benefits, it is important to highlight that a significant proportion of women do not have employer-provided benefits at the birth of their first child. Even among women with a bachelor's degree, approximately 30 to 40 percent of women will not have employer-provided parental leave and 15 to 35 percent will not have employer-provided medical insurance.

Figure 23 is the same as Figure 22 but shows the predicted probability of having employer-provided medical insurance and parental leave among Millennial women at the age of the birth of their first child as well as the distribution of first births by age. Despite increases in the median age at first birth for Millennial women, there are still large differences in the distribution of first births by age by education and racialized/ethnic groups.

Comparing the first column of Figure 23 to the first column of Figure 22, across all racialized/ethnic groups, Millennial women have much lower rates of employer-provided parental leave and medical leave at their first birth than Baby Boomer women. Additionally,

there are substantial differences in the proportion of women with medical insurance in comparison to parental leave among Millennials, but Baby Boomers have fairly similar rates of both benefits. Overall, the age gradient and the education gradient in benefits are much larger for Millennial women than Baby Boomer women, meaning that the mismatch between the timing of births and the timing of benefits is greater for Millennials than Baby Boomers. There is a large age gradient among Black and White women with a high school diploma or less and a slight gradient for Latinas. Women with a high school diploma or less start out with very low rates of employer-provided medical insurance (40 percent or less) and even lower rates of parental leave (approximately 30 percent). For these Black and White women, the share with medical insurance and parental leave increased by 15-to 20-percentage points by age 37. We also can see that the age at first birth is clustered in their early-20s. This means that even if these women waited until their mid-30s to have their first child (which the vast majority will not), only about half of these women would have employer-provided medical insurance and less than half would have parental leave.

Fig 23. Millennial Women's Predicted Probability of Having Employer-Provided Medical Insurance and Parental Leave at the Birth of Their First Child.



There continues to be an age gradient for women with at least some college or an associate degree for both benefits, but it is much less steep. For women with a bachelor's degree or higher, the predicted slope for medical insurance remains flat (and is even slightly negative for Latinas) while the age gradient for parental leave remains positive across all education groups. For women with at least some college, the likelihood that they will have employer-provided medical insurance when they have their first child does not change very much across ages.

When we combine the low levels of access to parental leave across ages and education groups (peaking at approximately 55 percent by age 35) with most women's propensity to begin having

children in their early-to mid-20s, we see that regardless of educational attainment, the majority of women will not have access to parental leave when they have their first child.

There are large inequalities in access to employer-provided parental leave by educational attainment. For example, at age 24, approximately 33 percent of Millennial Black women with a high school diploma or less have parental leave at their first birth in comparison to 45 percent for Black women with some college or an associate degree and 62 percent for women with a bachelor's degree or higher. Additionally, the share of Millennial women with employer-provided parental leave is lower across all ages, education, and racialized/ethnic groups in comparison to the share with employer-provided medical insurance.

Table 4 provides some insight into racialized/ethnic inequalities in access to benefits at the median age of first births. The first set of values shows the proportion of Millennial women with medical insurance and parental leave across all education groups at the median age at first birth by racialized/ethnic groups. Because White women are more like to have their first child at older ages than Black women and Latinas, they are more likely to have both medical insurance and parental leave. For example, only 40 percent of Black women have parental leave at the median age of their first birth (22) compared to 45 percent of White women. Among women with a bachelor's degree, 61 percent of Latinas have parental leave compared to 66 percent of White women. However, it is important to note that only 22 percent of Latinas have a bachelor's degree compared to 41 percent of White women. This education difference means that overall Latinas have less access to benefits, because they are both less likely to have a bachelor's degree and more likely to have children at younger ages than White women.

Table 4. Proportion of Millennials with Medical Insurance and Parental Leave at Median Age at First Birth and Racialized/Ethnic Groups, Overall and Bachelor's Degree or Higher.

	Median Age First Birth	Medical Insurance	Parental Leave	Prop in Ed Group	Median Age First Birth	Medical Insurance	Parental Leave
	All Education Groups			Bachelor's or Higher			
White	26	0.55	0.45	0.41	30	0.70	0.66
		(0.52 0.57)	(0.43 0.48)			(0.68 0.73)	(0.64 0.69)
Black	22	0.50	0.40	0.25	26	0.72	0.60
		(0.47 0.52)	(0.36 0.42)			(0.68 0.74)	(0.56 0.62)
Latina	23	0.50	0.40	0.22	28	0.70	0.61
		(0.48 0.53)	(0.38 0.43)			(0.66 0.74)	(0.57 0.64)

Access to employer-provided medical insurance and parental leave becomes more stratified by education and age over time, meaning that despite increases in the median age at first birth, Millennial women still have lower rates of employer-provided medical insurance and parental leave at the birth of their first child relative to Baby Boomer women. Since there is both an educational gradient in benefits and a positive relationship between age and benefits, women who have children at younger ages and do not complete a bachelor's degree are less likely to have employer-provided medical insurance or parental leave when they have their first child in comparison to women who have children older and have higher educational attainment. Furthermore, Black women and Latinas are disproportionately impacted in comparison to White women. The decline in benefits and the age and education gradient in benefits all contribute to racialized/ethnic inequalities in access to these critical benefits for two main reasons: Black women and Latinas are less likely to complete a bachelor's degree relative to White women (see Figure 1) and they are more likely to have children at younger ages (see Figure 2).

Summary of Findings

On average, there is a positive relationship between benefits and age up to women's early-to-mid 30s. Millennial women have lower rates of employer-provided medical insurance and parental leave relative to Baby Boomer women across the early-to-mid-career life course, even among those with a bachelor's degree or higher, and they have steeper age gradients. However, the majority of women will give birth to their first child in their early-to-mid-20s. The positive relationship between age and benefits and education and benefits for both Baby Boomer and Millennial women means that they are less likely to have benefits when they are most likely to give birth to their first child, leading to a timing mismatch between childbearing and benefits. This mismatch is exacerbated for Black women and Latinas, because they are less likely to have a bachelor's degree and more likely to begin having children at younger ages in comparison to White women. Finally, regardless of how educated or how long women wait to have children, a large proportion of women will never have employer-provided medical insurance and parental leave.

DISCUSSION

In the United States, the lack of universal medical-insurance and parental leave, mean that most employed women are dependent upon employers for access to these benefits when they are most likely to have their first child. However, this study shows that even being highly educated and employed does not guarantee access to these critical benefits and that there are large inequalities by education and racialized/ethnic groups in such access. This study adds to the literature on employment inequalities in benefits among women during their prime fertility years by showing

how employer-provided medical insurance and parental leave develop over the early-to-mid-career life course and are mismatched with the timing of women's first births.

I extend previous scholarship with several contributions. First, I show that employer-provided medical insurance and parental leave trajectories evolve similarly to wages, meaning that access to these benefits are lowest in the early career and increase over time, peaking for most women in their mid-30s. Since the majority of women will give birth to their first child in their 20's, the timing of benefits is mismatched with the timing of first births. Second, I show that Baby Boomer women had higher rates of benefits across the entire age period than Millennial women, meaning that women today have lower access to these benefits than previous cohorts. We also see that for Baby Boomer women, the share with employer-provided medical insurance and parental leave were less associated with age and educational attainment, therefore, racialized/ethnic differences in the age at first birth mattered less than it does for the Millennial cohort.

Third, I show that because benefits are stratified by educational attainment and that lower educated women have their first child at young ages than more highly educated women, inequalities in the mismatch of benefits timing and age at first birth are exacerbated by differences in educational attainment. Finally, inequalities in this mismatch are compounded by racialized/ethnic groups differences in ages at first birth and educational attainment. Not only do Black women and Latinas have their first child at younger ages than White women across all education groups but are also more likely to have lower educational attainment. This means that the timing mismatch is worse for Black women and Latinas than it is for White women.

A significant limitation of the study is that I am unable to measure the quality of benefits. The NLSY surveys ask respondents yes or no questions about both employer-provided medical

insurance and parental leave. Therefore, I am unable to capture variation in the types of medical plans available to employees such as the share with high deductible major medical plans that leave individuals with large medical expenses in comparison to more comprehensive plans with small or zero deductibles and copays. There is also likely a great deal of variation in employer-provided parental leave which may range from a few weeks of unpaid leave to parental leave policies that allow women up to six months of paid leave. Future work on the timing of benefits and women's fertility could help scholars and policymakers understand how these differences may impact women and infant health and wellbeing as well as how these differences may impact women's future employment after the birth of their first child.

Previous studies on employer-provided benefits have documented the health benefits of both medical insurance and parental leave for women who are pregnant or have given birth such as increased prenatal care, lower risk of pre-term and low-weight births, lower rates of maternal and infant death, time to recover physically from childbirth leading to lower rates of postnatal health complications, and lower rates of post-partum depression (Oberg et al 1991).

The continued lack of universal medical insurance and parental leave policies has a direct impact on women's employment (Dyer 2023). By leaving the majority of women dependent upon these benefits through employers, we see that the logic to how employer's distribute benefits (by providing more benefits with experience) leaves women vulnerable to inadequate health care and time to recover from childbirth and bond with a new baby. The consequences of these inadequacies are severe and likely explain why the United States continues to have the highest maternal and infant mortality rates among rich countries.

Chapter 5 Conclusion

Christine Williams, in her 2020 American Sociological Association's Presidential Address entitled, *Life Support: The Problems of Working for a Living*, highlighted the many difficulties American workers' face. While recounting the problems of access to jobs, job quality and labor market stratification, she noted "Although work can be a source of meaning, identity, and fulfillment for people, it is a deeply flawed way to support human life" (Williams 2020:193). It is even more flawed in a labor market in decline. The share of jobs with low wages, non-routine schedules and few to no employer-provided benefits has grown dramatically since the post-World War II era of good jobs (Kalleberg 2009; Kalleberg, Reskin, and Hodson 2000; Schneider and Harkett 2019; Western and Rosenfeld 2011). Yet, a large and growing share of households must rely upon bad jobs for their livelihood (Kalleberg 2011).

One way in which other wealthy countries have addressed the inherent precarity of solely relying upon employment has been through a robust welfare state. The United States has long lagged its peer countries in providing a safety net that protects individuals from the instabilities of life, and there is a constant political battle to weaken it even more. The postwar era, regardless of how much better it was in comparison to now, was a failure of governance, because instead of developing a stronger safety net, we privatized our safety net through employment. And the well-documented increase in precarious work and extreme inequality that has recently arisen demonstrates its continued failure all too clearly (Kalleberg 2010; Lemieux 2006, 2008).

Instead of responding to this failure by investing in and transforming the welfare state to ensure economic stability, security, and equality to all its residents, the policy and philanthropic response has been to invest enormously in education (Giving USA 2018; U.S. Department of Education 2019). Spurred on by decades of research demonstrating the positive, causal relationship between education and wages, education, especially a college education, has become the only broadly supported answer for how to gain access to a job that pays well and provides benefits essential to health and wellbeing (Goldin and Katz 2009; Ma, Pender, and Welch 2016).

There is more to the changing labor market than increasing precarity; there has been a corresponding decline in an individual's ability to combat precarity with education. In response to the findings in my dissertation, in the future, I will seek to develop a theory of the *dysfunctional labor market*. A function, in the mathematical sense, merely defines a rule or relationship between an input and an output. In the United States, it is deeply embedded that a college degree is an input that outputs a good job. *Dysfunction* occurs when the input does not produce the expected output.

I argue that a labor market is dysfunctional when the norms or expectations surrounding the path to success do not work. The United States can be defined by the following principles:

1. Jobs should be the primary source of economic support for individuals and families.
2. A good job is available to all willing to work for it.
3. A college education is a good investment towards ensuring a good job.

An underlying assumption of the previous principles is that labor market is functional, meaning that these inputs (especially a college education) will output a good job. However, even

in during the best economic times, the labor market did not function accordingly. Intractable inequalities have plagued the labor market since the Industrial Revolution. I argue that we can't rely on a functional a labor because it never existed and that increasing heterogeneity in employment outcomes among the most highly educated workers provides a stark illustration of how limited these principles are.

In this dissertation, I drew upon data from the National Longitudinal Survey of Youth 1979 and 1997 to provide evidence for the dysfunctional labor market. First, in Chapter 2, employer-provided benefits are critically important for employment, especially women's employment. Through my findings, I provide a new explanation for both women's stalled labor force participation rate and men's declining labor force participation. In addition, I showed how the gender gap in transitioning from employed to not employed decreases as women have access to more benefits. In Chapter 3, I showed that, despite women's much greater educational attainment relative to men, women experienced job quality declines of the same magnitude as men. The similar decline was not because the returns to education had decreased, but because, for women, wages became more highly predictive of benefits than in the past. The continued gender gap in wages negatively impacted women job quality and undercut the job quality returns to women's increased educational attainment. Finally, in Chapter 4, I showed that women, even women with high levels of education, enter the labor market with much lower access to medical insurance and parental leave than in the past and that benefits increase with age. Even though women from all education backgrounds are increasingly delaying motherhood, between declines in benefits over time and the age trajectory of benefits, the majority of women will not have employer-provided medical insurance or parental leave at the birth of their first child.

I provide novel evidence on the differential availability of employer-provided benefits across cohorts and groups. I focus on how access varies by educational attainment, gender, and racialized/ethnic groups. I show how gender and racialized/ethnic inequalities in access to benefits persist despite efforts to improve access to "good jobs" through education. In this dissertation, I focus on an employee perspective with individual's reporting the benefits offered by their employers.

Other scholars focus on employer and occupation perspectives on job quality (Kalleberg 2011; Hodges 2020; Kristal 2017; Kristal et al 2011, 2021). This alternative approach allows scholars to identify prevalences and inequalities that occur within and across employers and occupations. Yet, because men and women and racialized/ethnic groups are not evenly distributed across employers and occupations, these alternative employer- and occupation-level approaches can obscure gendered and ethnoracial inequalities that my individual-level perspective captures.

Another fruitful line of research that is currently under-studied is how households potentially "pool" benefits and how inequalities are maintained or exacerbated. For example, if a woman has spouse/partner with medical insurance, does this lead to lower labor force participation or increased part-time employer over full-time employment? If so, how do we conceptualize gender equality within this context? Does partner access to benefits increase gender inequality, because women will be inclined to work less? Or does partner access decrease inequality because partnered women have more than one way to access benefits?

It is also important to acknowledge that this dissertation focuses on individuals from two specific time periods, late Baby Boomers and early Millennials. These Baby Boomers are currently in their late 50s and early 60s while Millennials were in their mid-to-late 30s when

most recently observed in the NLSY survey data. Younger workers entering the labor market now are beyond the scope of these studies. However, based upon the findings in this dissertation, it is reasonable to speculate about job quality of those entering the labor market now. Today's young workers are entering the labor market with even higher levels of educational attainment than the Millennials considered in this study. If the trends observed in these studies continue, then these workers will likely face continued declines in job quality across people with all levels of educational attainment. However, it is also possible that these young workers may see improvements in job quality over time. This possibility arises from another forthcoming change in the labor market: a shortage of workers. The United States is similar to other wealthy countries in that birth rates continue to decline (Vespa et al 2018). If this decline continues, it may provide an opportunity for workers to increase their labor power and demand better job quality. Further, tight labor markets may reduce the gender wage gap, and women's educational advantage over men may yet be rewarded with improved access to employer-provided benefits. Improved access to benefits could break the stall in women's labor force participation growth and decrease the timing mismatch between benefits and first births.

The United States' undue reliance upon employment for access to essential benefits and as the sole means of economic support ignores the inherent instability of everyday life. The policy and social push to increase educational attainment as a response to job quality decline ignores changes in the employment output. Education can only do so much within a dysfunctional system. In this modern era of outstanding scholarship on socio-economic inequality and the benefits of a strong welfare state, we should, in fact, be able to build something better (Esping-Andersen 1990).

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Appendix

Appendix Fig 24. Overall Job Quality Decline by Education and Gender.

Note: Predicted values from linear models using OLS regression and the Stata *margins* command. Standard errors clustered by individual respondents to adjust for within-cluster correlation.

Appendix Fig 25. Overall Job Quality Decline by Wages and Gender.

Note: Predicted values from linear models using OLS regression and the Stata *margins* command. Standard errors clustered by individual respondents to adjust for within-cluster correlation.

Appendix Table 5. Summary of Explanatory and Control Variables by Cohort and Gender.

	79 Women	97 Women	79 Men	97 Men
Education				
High School or Less	0.53	0.27	0.60	0.41
Some College or AA Degree	0.18	0.30	0.13	0.29
BA or Higher	0.29	0.42	0.27	0.31
Wages				
Low Wage	0.35	0.34	0.20	0.25
Mid Wage	0.36	0.34	0.36	0.36
High Wage	0.29	0.33	0.45	0.39
Control Variables				
Age	32.10	31.97	32.09	31.96
Black	0.13	0.17	0.11	0.14
Hispanic	0.04	0.12	0.04	0.14
White	0.73	0.66	0.76	0.68
Other	0.09	0.05	0.09	0.05
Number of Children in HH	1.23	1.37	1.02	1.04
Married	0.60	0.50	0.62	0.46
Cohab	0.07	0.17	0.08	0.19
Single	0.33	0.33	0.30	0.35
Number of Respondents	3,464	3,361	3,596	3,563
Number of Observations	12,268	12,937	14,183	13,841

Appendix Table 6. Comparison of Educational Attainment at Ages 24 and 29.

	Baby Boomer		**Millennial**	
	Age 24	**Age 29**	**Age 24**	**Age 29**
	White		White	
<HS/HS	0.55	0.53	0.38	0.33
SC/AA	0.22	0.20	0.26	0.26
BA+	0.23	0.27	0.36	0.41
	Black		Black	
<HS/HS	0.60	0.58	0.47	0.40
SC/AA	0.29	0.28	0.35	0.36
BA+	0.11	0.14	0.19	0.24
	Latina		Latina	
<HS/HS	0.68	0.67	0.53	0.47
SC/AA	0.25	0.24	0.30	0.31
BA+	0.06	0.09	0.17	0.22

Appendix Table 7. Sample Summary Statistics of Pooled Sample from Ages 20 to 44 (Baby Boomers) and Ages 20 to 37 (Millennials) by Racialized/Ethnic Groups with Educational Attainment Report at Age 29.

	Baby Boomers			**Millennials**		
	White	**Black**	**Latina**	**White**	**Black**	**Latina**
Age	32	32	32	29	29	29
<HS/HS	0.58	0.62	0.71	0.33	0.40	0.48
SC/AA	0.19	0.27	0.21	0.25	0.35	0.30
BA+	0.23	0.11	0.08	0.41	0.25	0.22
Single	0.22	0.50	0.27	0.31	0.64	0.37
Married	0.73	0.45	0.67	0.50	0.22	0.42
Cohabiting	0.04	0.05	0.06	0.20	0.14	0.21
Age at 1st Birth	25	21	22	27	24	24
Parent	0.78	0.89	0.87	0.50	0.67	0.61
# of Children in Household	1.44	1.74	1.82	0.97	1.48	1.45
Any partner income	0.57	0.21	0.35	0.54	0.21	0.44
Fulltime	0.61	0.76	0.75	0.62	0.65	0.65
Log Wages	2.65	2.52	2.59	2.79	2.62	2.73
Union	0.09	0.15	0.12	0.10	0.13	0.14
Medical Insurance	0.66	0.73	0.69	0.55	0.49	0.52
Parental Leave	0.64	0.73	0.69	0.53	0.41	0.42
Management	0.11	0.08	0.10	0.15	0.10	0.12
Professional	0.14	0.09	0.10	0.31	0.23	0.21
Service	0.21	0.26	0.19	0.21	0.29	0.23
Sales	0.43	0.42	0.45	0.27	0.31	0.38
Farming	0.01	0.00	0.03	0.00	0.00	0.00
Construction	0.03	0.02	0.02	0.01	0.00	0.01
Production	0.07	0.13	0.10	0.05	0.05	0.05
Number of Oberservations	1442	735	401	1488	844	670
Number of Person Years	24246	12459	6956	18867	11615	9033