

# Penalized or Protected? Gender and the Consequences of Nonstandard and Mismatched Employment Histories

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## Abstract

Millions of workers are employed in positions that deviate from the full-time, standard employment relationship or work in jobs that are mismatched with their skills, education, or experience. Yet, little is known about how employers evaluate workers who have experienced these employment arrangements, limiting our knowledge about how part-time work, temporary agency employment, and skills underutilization affect workers' labor market opportunities. Drawing on original field and survey experiment data, I examine three questions: (1) What are the consequences of having a nonstandard or mismatched employment history for workers' labor market opportunities? (2) Are the effects of nonstandard or mismatched employment histories different for men and women? and (3) What are the mechanisms linking nonstandard or mismatched employment histories to labor market outcomes? The field experiment shows that skills underutilization is as scarring for workers as a year of unemployment, but that there are limited penalties for workers with histories of temporary agency employment. Additionally, although men are penalized for part-time employment histories, women face no penalty for part-time work. The survey experiment reveals that employers' perceptions of workers' competence and commitment mediate these effects. These findings shed light on the consequences of changing employment relations for the distribution of labor market opportunities in the "new economy."

## Keywords

social stratification, gender, work and occupations, employment relations

Millions of workers are employed in positions that deviate from the full-time, standard employment relationship or work in jobs that are mismatched with their skills, education, or experience (Bureau of Labor Statistics 2005, 2013; Kalleberg 2000, 2007; Smith 1997). Working in part-time positions, through temporary help agencies, and at jobs below one's skill level have become common experiences for U.S. workers. At the same time, the consequences of these employment arrangements may be more significant than ever. Employers

are increasingly filling vacancies with job candidates from the external labor market (Cappelli 2001; Hollister 2011), candidates about whom they have less direct information than if

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they were promoting workers from within their organizations (Leung 2014). These changes in employment, often considered key aspects of the “new economy,” mean that workers’ experiences, including histories of nonstandard or mismatched employment, are increasingly important during the hiring process. However, little is known about whether these types of employment histories shape employers’ evaluations of candidates during the job applicant screening process. Understanding the consequences of nonstandard and mismatched employment for workers’ hiring outcomes is therefore necessary for a more comprehensive account of labor market stratification in the current economic landscape.

To address this gap in existing research, this article examines three questions. First, what are the consequences of having a history of part-time work, temporary agency employment, or skills underutilization for workers’ subsequent labor market opportunities? Second, given the gendered history of these employment arrangements—particularly part-time and temporary agency employment—in the United States, do these consequences vary for male and female workers? Finally, what mechanisms account for the effects of nonstandard or mismatched employment histories on workers’ labor market outcomes?

Workers experience nonstandard employment arrangements (e.g., part-time work and temporary agency employment) as well as mismatched employment positions (e.g., skills underutilization) for a variety of reasons. Sometimes these types of positions are sought as an alternative to unemployment. In other cases, these positions are used to balance competing demands outside of work. Little research, however, examines the effect of these positions on workers’ future employment outcomes. On the one hand, this type of employment may protect workers from the negative effects of long-term unemployment, signaling to prospective employers that workers have maintained their skills and are motivated to work (Becker 1964; Marler, Barringer, and Milkovich 2002; Ruhm 1991). This suggests that any job—even a nonstandard or

mismatched position—should improve a worker’s future hiring outcomes over remaining unemployed and, potentially, limit the penalties a worker may face for not having a full-time, standard employment history at his or her skill level. If this is the case, there may be an important role for nonstandard and mismatched employment in promoting workers’ opportunities.

Alternatively, histories of nonstandard and mismatched employment may result in penalties for workers similar to those stemming from long-term unemployment. For instance, employers may screen out workers with nonstandard or mismatched employment histories in favor of workers with standard, full-time employment histories that match their skill level. This would support the notion that the labor market is becoming segmented into jobs that provide mobility opportunities and those that are “dead ends” (Kalleberg, Reskin, and Hudson 2000). In this case, access to full-time, standard employment at one’s level of skill and experience may serve as an important axis of stratification in the labor market.

The consequences of different employment histories may also depend in important ways on a worker’s gender. Unlike skills underutilization, part-time work and temporary agency employment arose in the U.S. economy as heavily feminized types of work (Hatton 2011; Kalleberg 2000), potentially indicating that a female worker is on the “mommy track” or does not live up to the “ideal worker” standard (Acker 1990; Williams 2001). Thus, part-time and temporary employment may serve as a proxy for a worker’s parental status. In the case of women, this may result in a “motherhood penalty” in hiring opportunities (Correll, Benard, and Paik 2007). On the other hand, employers might perceive nonstandard employment histories as a common experience for women. Thus, a nonstandard work history may provide employers with limited information about a female worker’s quality, therefore reducing any negative influence of nonstandard work histories on women’s hiring outcomes. For men, by contrast, employers may take such a history as a signal that the

male worker was unable to find a full-time, standard job, raising concerns about worker quality. Thus, the protective or penalizing nature of nonstandard employment is likely to depend on a worker's gender, but the direction of the difference is uncertain.

Existing scholarship that addresses questions about the consequences of nonstandard and mismatched employment relies largely on standard labor force survey data (see Addison, Cotti, and Surfield 2009; Addison and Surfield 2009; Mavromaras, Sloane, and Wei 2015). This has limited the ability of extant research to examine employers' demand-side preferences, and has left open concerns about biased estimates due to unobserved selection processes. This article analyzes original data from two experiments: (1) a field experiment examining actual hiring decisions in five major U.S. labor markets; and (2) a survey experiment conducted with hiring decision-makers at U.S.-based firms. These experiments allow me to focus directly on how employers' demand-side preferences shape the consequences of nonstandard and mismatched employment histories, examine how those consequences vary by the gender of the worker, and alleviate concerns about unobserved selection (see Pager 2007). The primary manipulations in both experiments were workers' gender (signaled with male and female names) and the most recent work histories presented on applicants' résumés. Each application was randomly assigned 12 months of recent employment experience, either a full-time, standard job, a part-time job, employment through a temporary help agency, a job below the applicant's skill level, or a spell of unemployment. The results provide gender-specific causal estimates of the effects of nonstandard and mismatched employment histories for workers' future labor market opportunities.

## NONSTANDARD AND MISMATCHED EMPLOYMENT

Nonstandard and mismatched work deviate from common conceptions of employment in

which workers are assumed to be employed full-time, in a permanent position, and in a job commensurate with their skills and experience (Kalleberg 2007, 2009). Given that these conditions go unmet for a large proportion of workers in the "new economy," it is important to understand the consequences of these forms of employment on workers' labor market outcomes. This article focuses on three employment situations—part-time work, temporary agency employment, and skills underutilization—falling into two overarching employment categories: nonstandard work and mismatched work. Nonstandard employment is generally characterized as work that is *not* full-time, *not* expected to continue indefinitely, or *not* performed at the legal employer's place of business, nor under the legal employer's direction (Kalleberg 2000). Part-time work and employment through a temporary help agency clearly meet these criteria. Mismatched employment occurs when individuals' skills or preferences do not fit the characteristics of their job (Kalleberg 2007). Working in a job that is beneath a worker's level of skill, education, or experience—often referred to as skills underutilization (McKee-Ryan and Harvey 2011) or overqualification (Vaisey 2006)—is a classic example of mismatched employment. These two classifications may overlap; under certain conditions, part-time work and temporary agency employment can also be mismatched employment. For example, when workers want a full-time, permanent job but are able to obtain only a part-time position or work through a temporary help agency, they would be in a mismatched employment relationship (Kalleberg 2007; McKee-Ryan and Harvey 2011).

Researchers have identified multiple factors implicated in the rise of nonstandard and mismatched employment (Kalleberg 2000; Vaisey 2006). Global economic integration has increased competition for U.S. firms, creating incentives for companies to outsource work to lower-wage countries and implement "flexible," nonstandard employment relations for their U.S. employees (Kalleberg 2009).

Legal changes have also paved the way for employers to alter the employment contract and increase the use of nonstandard employment relations (Autor 2003; Gonos 1997). Additionally, changes in key labor market institutions, such as the decline in the power of organized labor (Clawson and Clawson 1999), have likely enabled the emergence of nonstandard positions in the U.S. labor market, placing workers in less desirable working arrangements, such as skills underutilization. Technological changes that improved communication and information systems also likely played a role in the increase of nonstandard employment relations by, for example, enabling employers to more easily coordinate their labor needs with temporary help agencies (Kalleberg 2000; Schilling and Steensma 2001). Moreover, the changing education landscape and shifts in the occupational structure of the U.S. economy are likely implicated in the rise of skills underutilization (Vaisey 2006). Regardless of the cause, part-time work, temporary employment, and skills underutilization have become common experiences for U.S. workers.

Part-time employment is defined as working less than 35 hours per week and is the most prevalent form of nonstandard work. Roughly 20 percent of the U.S. workforce is employed in part-time positions, and approximately a quarter of part-time workers are in those positions involuntarily, preferring a full-time job (Bureau of Labor Statistics 2013; Kalleberg 2000). Although the gender gap in part-time work has declined over time, significant gender differences remain. Currently, over 70 percent of part-time workers in the United States between the ages of 25 and 54 are women (Bureau of Labor Statistics 2015).

Temporary help agency employment captures workers who are on the payroll of one firm (the “temp agency”) but who perform their tasks on a temporary basis at a separate firm. Employment through temporary help agencies (THAs) has risen dramatically over the past 30 years. The THA sector grew at an annual rate of 11 percent between 1979 and 1995, more than five times the rate of growth

of nonfarm employment in the United States (Autor 2003), and then remained relatively stable at these higher levels (Bureau of Labor Statistics 2005). A majority of THA workers (nearly 60 percent) are in those positions involuntarily (Bureau of Labor Statistics 2005). Women historically dominated THA employment as the sector developed after World War II (Hatton 2011), but THA workers are now roughly half male and half female (Bureau of Labor Statistics 2005).

Finally, skills underutilization describes workers employed in jobs for which they have excessive skills, education, or experience (Erdogan and Bauer 2011). There is less research on skills underutilization than part-time or temporary work, in part due to the challenges with operationalizing the construct using survey data. However, Vaisey (2006) finds that skills underutilization (defined as excessive education for one’s job) increased significantly between 1972 and the early 2000s. One key difference between skills underutilization and part-time or temporary agency employment is that women have not been historically overrepresented in this type of position (Vaisey 2006).

## PENALIZED OR PROTECTED?

Social scientists have examined the forces behind the rise of nonstandard and mismatched employment in the United States and the consequences of those employment experiences for workers currently in those positions (Autor 2003; Epstein et al. 1999; Kalleberg et al. 2000). Limited scholarship, however, addresses how employers evaluate candidates with these types of employment histories during the job application process and how those evaluations vary by gender. We therefore need additional research aimed at understanding how experience with nonstandard or mismatched employment may shape male and female workers’ ability to get a job in the future. **At its core, this is an issue about the demand side of the job matching process,** focusing on employers’ perceptions of male and female workers with nonstandard and mismatched employment histories and,

ultimately, which applicants employers choose to hire. Extending the voluminous literature on how employers make hiring decisions (see Moss and Tilly 2001; Oyer and Schaefer 2011; Rivera 2012), I build on insights offered by theories of labor market signaling (Bills 2003; Spence 1973) as well as scholarship on unemployment scarring (Gangl 2006; Ruhm 1991) and “ideal worker” norms (Acker 1990; Williams 2001). I draw on this work to conceptualize how nonstandard and mismatched employment influences hiring outcomes, the mechanisms that drive those effects, and how those consequences may vary by gender.

### *Signaling and the Job Applicant Screening Process*

During the job applicant screening process, employers are often faced with dozens, or even hundreds, of applications for a single vacancy. Because obtaining information about the quality of a worker from a job application can be difficult, employers likely utilize signals from application materials to make inferences about the quality of potential employees (Bills 2003; Ma and Weiss 1993; Spence 1973).<sup>1</sup> What signals may be sent by a history of nonstandard or mismatched employment?

Two bodies of scholarship are particularly useful in conceptualizing the content of the signals sent by a history of nonstandard or mismatched work. First, there is the literature on the scarring effects of unemployment, which examines if and how histories of unemployment affect workers' future earnings and employment opportunities (Gangl 2006; Ruhm 1991). Building on theories of labor market signaling, this work argues that a spell of unemployment may serve as a signal that the worker possesses some unobservable negative quality, such as lower levels of competence or productivity (Eriksson and Rooth 2014; Kroft, Lange, and Notowidigdo 2013).<sup>2</sup> Existing research shows that competence is a key dimension of social perception (Fiske et al. 2002), with important consequences for the evaluation of workers (Correll et al. 2007; Cuddy, Fiske, and Glick 2004). Given the

critical role that perceived competence plays in affecting the labor market opportunities of unemployed workers, I argue that histories of nonstandard and mismatched employment are likely also read as signals of competence that shape workers' hiring outcomes.

The literature on the signaling effects of unemployment generally limits its focus to signals of competence, but other types of signals are possible. Sociological scholarship on the cultural construction of the “ideal worker” norm (Acker 1990; Williams 2001) highlights the penalties that accrue to workers who occupy social positions that are perceived to be incompatible with workplace performance expectations (Turco 2010). This work points toward a second dimension that can be signaled by a worker's employment history: commitment. Perceived commitment—the expected effort and dedication that a worker is perceived to put forth—is central to the evaluation of workers (Bielby and Bielby 2002; Correll and Benard 2006; Turco 2010). And, perceived commitment may be of particular relevance in understanding how employers evaluate workers' employment histories (Leung 2014), including histories of nonstandard and mismatched employment. I argue that, together, these two dimensions—competence and commitment—play a central role in affecting employers' evaluations of workers with nonstandard and mismatched work histories during the job applicant screening process.

### *The Potential Penalties of Nonstandard and Mismatched Employment Histories*

The competence and commitment signals sent by histories of nonstandard and mismatched employment may lead to penalties for workers, compared to workers who have remained in full-time jobs at the appropriate level of skill and experience. Negative competence signals are likely to be strongest if potential employers perceive job applicants' recent employment history as resulting from involuntary job loss followed by the inability to find full-time, standard employment at their skill level.<sup>3</sup> An

inability to find a full-time, standard job that matches a worker's skill and experience—when that is the type of position desired—may be read by employers as signaling a deficiency in ability, skill, or competence (Karren and Sherman 2012). In this way, the involuntary nature of most skills underutilization arrangements likely sends strong negative signals about a worker's competence. Similarly, involuntary part-time work and temporary employment may suggest to an employer that a job applicant is not competent or productive enough to find and keep a full-time job. In fact, when part-time work and temporary employment are involuntary, they represent a form of mismatched employment—similar to skills underutilization—because there is a lack of fit between workers' desires and their jobs (Kalleberg 2007). Insofar as employers perceive a worker's part-time or temporary agency employment history as involuntary, those employment histories will likely send negative signals about an applicant's competence.

A history of nonstandard or mismatched employment may also send negative signals about a worker's commitment. Even though survey data suggest there are few systematic differences between the reported commitment levels of full-time, standard workers and other types of workers, particularly part-time workers (Kalleberg 1995), employers may perceive workers with nonstandard and mismatched employment histories as less committed. These negative perceptions will likely be particularly strong if a future employer perceives a worker's move into nonstandard or mismatched employment as voluntary, resulting, for example, from the worker attempting to balance paid employment and family responsibilities (Epstein et al. 1999; Williams 2001). Because decisions about “voluntarily” moving away from full-time, standard employment are heavily gendered, the consequences of these decisions may be different for men and women. This issue will be discussed in detail below.

Some empirical evidence supports the aforementioned notion that histories of nonstandard and mismatched employment may

negatively shape workers' labor market outcomes. Using survey data, Ferber and Waldfogel (1998) find negative associations between histories of part-time and temporary employment and workers' future earnings, compared to workers who remained in full-time employment. Additionally, Mavromaras and colleagues (2015) analyze panel data from Australia and find that workers with histories of skills underutilization are more likely to be unemployed in the future, suggesting a “scarring” effect for histories of skills underutilization. However, the relative importance of supply- and demand-side forces in these studies is unknown, and researchers have been unable to tease apart the mechanisms underlying these results.

### *The Potential Protective Force of Nonstandard and Mismatched Employment*

It is also possible that nonstandard and mismatched employment positions might provide workers with an advantage over long-term unemployment. Insofar as employers prioritize an applicant's competence during the hiring process, workers who have any job—even if it is not a full-time, standard position—should fare better than unemployed workers who, by definition, have not been working (Becker 1964; Korpi and Levin 2001). Compared to workers with histories of long-term unemployment, employers may perceive applicants with histories of nonstandard and mismatched employment as keeping their skills more updated (Nollen 1996; see also Yu 2012), improving the competence signal they send to future employers. This benefit over long-term unemployment should be stronger for part-time or temporary workers, compared to workers in positions of skills underutilization, particularly if they remain employed in their desired occupation. Nonstandard or mismatched employment may also send positive commitment signals to future employers, compared to workers who remain unemployed. Taking a part-time position, temporary job, or job below one's skill level may



signal to future employers that a worker is willing to do “whatever it takes” to remain employed, even if that means taking an undesirable job (i.e., nonstandard or mismatched).

Empirically, there is some suggestive evidence that nonstandard employment may buffer workers against the negative effects of unemployment. Addison and Surfield (2009) find, using labor force survey data, that jobless individuals who obtain nonstandard employment of multiple kinds, including temporary agency employment, are more likely to be employed one year later, compared to the jobless who continue to search for work. Workers who move into these nonstandard positions also have employment continuity that is similar to full-time, standard employees. It is unclear, however, whether these findings derive from employer preferences, job seeker behavior, or some combination thereof. Additionally, the causal nature of the protective force of nonstandard work remains uncertain, given the challenges of dealing with various selection processes when utilizing standard survey data. Ultimately, while there are reasons to believe that having a job—any job—will provide workers with an advantage over joblessness during the job application process, research to date has not been able to provide strong causal evidence to support or reject this claim.

## **THE GENDERED CONSEQUENCES OF EMPLOYMENT HISTORIES**

The notion of the “ideal worker” norm has been used to understand persistent gender inequality in the labor market (Acker 1990; Williams 2001). The argument is that employers expect their workers, especially white-collar workers, to limit the aspects of their personal lives that may conflict with their paid work responsibilities, to work long hours, and to be willing to travel frequently (Kelly et al. 2010). Given that demands outside the workplace—such as childcare and household work—fall disproportionately on women, the “ideal worker” generally takes a masculine

form (Williams 2001). For many women in the United States, these competing demands intersect with unsupportive workplace practices and social policies that make it more challenging for them to live up to the “ideal worker” norm (Gornick and Meyers 2003; Kelly et al. 2010). Even if women are able to balance work and family demands, employers are likely more concerned about this set of issues for women than they are for men.

In contrast to the masculine construction of the “ideal worker,” part-time and temporary employment (although not skills underutilization) arose in the United States as highly feminized positions in the labor market (Hatton 2011; Williams 2001). Part-time jobs have historically been viewed as part of the “mommy track” (Williams 2001)—an employment option for women attempting to balance the “competing devotions” of work and family life (Blair-Loy 2003; Feldman 1990). Similarly, temporary agency employment developed as a form of women’s work (Vosko 2000). Hatton (2011) argues that during the emergence of the THA industry after World War II, industry leaders intentionally defined temporary jobs as “women’s jobs” to avoid confrontations with organized labor. Today, however, although female workers make up nearly three-quarters of all part-time workers between the ages of 25 and 54, there is approximate gender parity in the THA sector (Bureau of Labor Statistics 2005, 2014).

How might the masculine construction of the “ideal worker” intersect with the gendered histories of part-time and temporary work during the job application process? On the one hand, employers may make gendered assumptions about the selection processes that lead workers into nonstandard employment positions. For female applicants, histories of part-time or temporary employment may lead employers to perceive them as being on the “mommy track,” having significant demands outside the workplace that will conflict with their ability to perform on the job. Indeed, experimental research finds that women are assumed to be in part-time positions to deal with domestic and family duties (Eagly and

Steffen 1986). For women, therefore, nonstandard employment may serve as a proxy for motherhood, raising concerns about their competence and commitment as well as their compliance with the “ideal worker” norm. In turn, women may face greater penalties than men for nonstandard employment histories, similar to the “motherhood penalty” faced at the hiring interface (Correll et al. 2007).

On the other hand, consistent with some models of labor market signaling (see Spence 1973), signals will likely be most consequential when they are either costly or scarce. Given the disproportionate concentration of women in part-time positions (Kalleberg 2000) and, historically, temporary agency employment (Hatton 2011), nonstandard employment histories for women are *not* scarce and therefore may have limited signaling power. Given the perceived commonality of nonstandard employment histories among women, employers may obtain limited additional information about female job applicants with such histories, reducing any penalties women may face as a result. For men, however, part-time or temporary work histories are more rare and, therefore, may serve as stronger signals to employers. Such an employment history may trigger employers’ concerns about whether there is something deficient about a male worker—potentially his competence or commitment—making him unable to find a full-time, standard job (Eagly and Steffen 1986). Additionally, men with part-time and temporary employment histories may be seen as violating standard breadwinning models of masculinity (see Cha 2010). Significant research documents the ways that violating gender stereotypes can result in social and economic sanctions (Rudman and Phelan 2008). This suggests that men will be more heavily penalized than women for histories of part-time and temporary agency employment.

There is some preliminary empirical support for this line of thinking. For example, in the United States, histories of part-time work are associated with lower future earnings for both men and women, but the negative effects

are stronger for men (Ferber and Waldfogel 1998). In Canada, there is some evidence that women are more likely than men to exit temporary jobs for full-time employment, suggesting that temporary work is less scarring for female workers (Fuller 2011). Although not exactly the same as having a nonstandard employment history, some experimental research finds that men are penalized more heavily than women for taking a leave of absence or needing to leave work for family reasons (Allen and Russell 1999; Butler and Skattebo 2004).

Together, existing theoretical perspectives indicate that the effects of part-time and temporary agency employment histories will vary by the gender of the worker. Yet, whether men or women will face more severe penalties remains unclear. Given that there are limited gender differences in experiencing skills underutilization in the United States, and this type of employment does not have a feminized history, there is little reason to think that employers will treat men and women differently based on this factor.

## METHODOLOGICAL CONSIDERATIONS

The aforementioned studies about the consequences of nonstandard and mismatched employment rely on observational data, leaving open the possibility that workers’ selection into nonstandard or mismatched employment, employers’ demand-side preferences, or some unobservable worker or employer characteristics drive these associations. To my knowledge, only one U.S.-based study has attempted to deal with these endogeneity concerns by using a quasi-experimental research design. Autor and Houseman (2010) address the problem of selection bias by exploiting the random assignment of people in Detroit’s welfare-to-work program to different types of job placements (i.e., a temporary help agency placement versus no job placement). They find quite different results depending on whether they correct for unobserved selection



processes. Specifically, after correcting for selection, they find that temporary agency employment was actually no better than going without a job placement. Yet, temporary agency employment appears significantly beneficial when no corrections for selection processes are made. While the generalizability of the Autor and Housemen (2010) study is unknown, their findings clearly suggest that selection bias makes identifying the causal effects of temporary employment difficult using observational data. Given this challenge, experimental research designs that alleviate concerns about selection bias and bias due to omitted variables—and that specifically enable a direct investigation of employers' demand-side preferences—are vital to furthering our understanding of the consequences of nonstandard and mismatched employment histories.

To address the methodological issues in existing research and identify employers' responses to workers with different employment histories, I implemented complementary field and survey experiments examining the effects of nonstandard and mismatched employment for male and female workers' hiring outcomes. In the analysis, I first utilize data from the field experiment, where fictitious job applications were sent to apply for real job openings, to examine how nonstandard and mismatched employment histories intersect with gender to affect hiring outcomes in the actual labor market. The field experiment, however, provides information only about whether an employer responds positively to a job application. It does not provide any details about the mechanisms linking histories of nonstandard or mismatched employment to future employment outcomes. To identify these intervening processes, I analyze data from the survey experiment, which used the same experimental manipulations as the field experiment and collected information on hiring decision-makers' perceptions of job applicants' competence and commitment. The survey experiment thus enables an analysis of the mechanisms that may account for the consequences of

nonstandard and mismatched employment histories. This approach allows me to ascertain the ways various employment histories intersect with gender to shape workers' experiences at the hiring interface while removing concerns about unobserved selection processes and omitted variables bias.

## THE FIELD EXPERIMENT

What are the consequences of nonstandard and mismatched employment histories for workers as they apply for jobs? And, how do these effects differ by the gender of the worker? To examine these questions, I analyze original data from a field experiment. This involved submitting 2,420 applications to 1,210 job openings between November 2012 and June 2013.<sup>4</sup> After sending each application, I tracked the callbacks (i.e., positive employer responses) received by each application. The overall callback rate for the field experiment was 7.5 percent, which is consistent with previous studies that use similar methods (Bertrand and Mullainathan 2004; Correll et al. 2007).

The field experiment had two axes of variation. First, the experiment varied the most recent employment experience on the applicant's résumé. Each résumé was randomly assigned 12 months<sup>5</sup> of recent work experience: either a full-time, standard job, a part-time job, a job through a temporary employment agency, a job below an individual's skill level, or a spell of unemployment. The second axis of variation in the experiment was the applicant's gender, which was signaled using gendered names.<sup>6</sup> The male names were Jon Murphy and Matthew Stevens; the female names were Katherine Murphy and Emily Stevens. A résumé and a cover letter were included with each job application. Each cover letter was crafted with similar language, while also accurately reflecting the work history presented on the résumé. The cover letter for each experimental condition remained consistent across employers, except that each letter was personalized with the employer's name and the job title for the open position.

Because two résumés were submitted for each job opening, I constructed two résumé templates that were similar in content but aesthetically distinct.<sup>7</sup> Each résumé indicated that the applicant graduated from one of two large, public universities in the Midwest with similar rankings by *U.S. News and World Report*. Thus, an important scope condition of the findings is that they are limited to workers with a college education.<sup>8</sup> After graduating from college, each résumé indicated that the applicant had a first job that lasted for just under two years. Each applicant then had a second job that lasted for nearly four and a half years. All applicants then transitioned to a new job, which is where the experimental manipulations were implemented. The standard, full-time résumés were pretested before using them in the experiment, and they received similar ratings on key dimensions of perceived skill and experience.<sup>9</sup>

Histories of nonstandard and mismatched employment were carefully signaled on workers' résumés.<sup>10</sup> Part-time work was presented on a worker's résumé by including "part-time" in parentheses after the occupational title for the most recent job on the full-time, standard résumé. This method of signaling part-time work experience is consistent with how workers often present this information in online résumé banks. Temporary agency employment was presented on the applicant's résumé as working through one of two leading temporary help agencies and in the worker's chosen occupation (e.g., accounting, management). The description of the tasks and responsibilities completed as a temporary worker were very similar in content to those presented on the full-time, standard résumé. While the part-time and temporary agency employment histories were in the worker's occupation of choice, skills underutilization—for all workers—was denoted as working as a sales associate at a large retail store, working with customers in the retail space. The year of employment in this position followed approximately six years of work experience in professional, skilled jobs, and thus clearly indicates that these workers were employed at a level below their

skill and experience. Finally, a spell of unemployment was presented on workers' résumés by indicating that their most recent job ended one year before the application date.<sup>11</sup> To ensure résumés in the unemployment condition had the same number of employment experiences as résumés in the other conditions, a summer internship in college was added to résumés for the "unemployed" workers. Part A of the Appendix presents examples of the experimental treatments used in the field experiment.

Applications were submitted to four different job types that varied in the level and type of skill they required as well as their gender composition: sales, accounting/bookkeeping, project management/management, and administrative/clerical job types. The résumés submitted for each job type had an employment history with relevant experience for that occupation. The applications were submitted to job openings in five major U.S. labor markets—New York City, Atlanta, Chicago, Los Angeles, and Boston—to add geographic diversity to the analysis. Employment histories for each applicant were geographically specific to the labor market in which the applicant was applying. Each résumé also included a local phone number and a local address. Each phone number had its own voice mailbox and a unique gender-specific voice recording where employers could leave messages for the applicant. The applicants' street addresses were located a few blocks away from each other in each city. The addresses were real, but the apartment numbers were fictitious.<sup>12</sup>

The sample of job openings for the experiment was drawn from a leading national online job-posting website and therefore represents a broad cross-section of job openings. Using a national job-posting website ensured some level of consistency in the jobs being posted across labor markets. To collect the job openings that met the search criteria for the experiment, I worked with a computer programmer to design a script that executed the needed searches. Each search was for a particular job type (e.g., administrative assistant), within a

20-mile radius of each city, posted over the previous 30 days, and that could be applied for directly through the job-posting website.<sup>13</sup> After collecting the job openings that matched these requirements, duplicate postings from the same employer were removed to reduce the likelihood that employers would perceive the résumés as fictitious.

After the final set of job openings was selected for a given job type in a given city, I randomly assigned each job opening to a demographic category (male or female) and to receive applications with two different employment histories. However, the randomization ensured that each employer received at least one application with either the full-time or unemployment treatments. Two applications were sent to each employer, separated by one day. The names at the top of the résumés, the formats of the résumés, and the order of the résumés were randomized and counterbalanced to ensure that these aspects of the job application would not be correlated with the treatment. Part B of the Appendix presents the distribution of the characteristics of the applications submitted in the field experiment.

The primary outcome variable for the field experiment was whether the applicant received a positive response or callback from the employer via phone or e-mail. Responses were coded as callbacks if the employer requested an interview with the applicant, or if the employer asked the applicant to contact them to discuss the position in more depth. Auto-generated responses and simple requests for more information were not coded as positive responses.

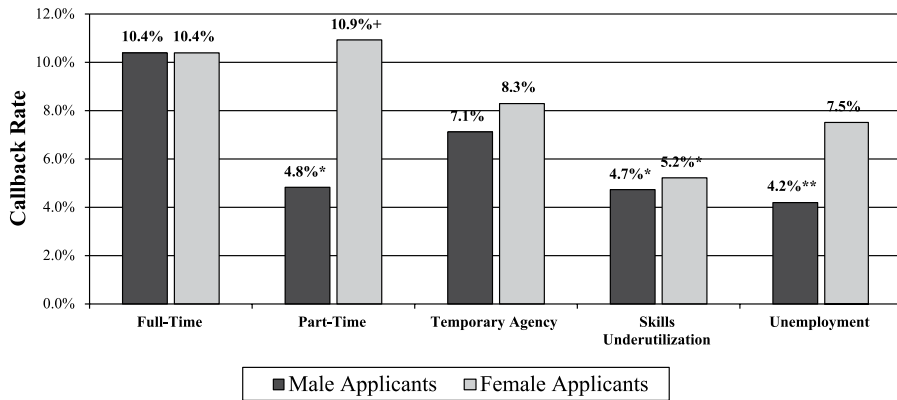
### *Field Experiment Results*

Figure 1 presents the main field experiment results as a bar graph with the callback rate for each employment history category, broken down by the worker's gender. For statistical tests, I use *z*-tests for differences in proportions and present results for two-tailed tests throughout. The results are nearly identical when I use logistic regression models with

standard errors clustered at the level of the job opening (results presented in Part C of the Appendix).<sup>14</sup> I begin by examining the consequences of nonstandard and mismatched employment histories for men and then turn to the consequences for women. I then compare the callback rates for men and women *within* each employment history category.

Male job applicants received a 10.4 percent callback rate in the full-time condition. In the other conditions, male job applicants received a statistically significant lower callback rate (part-time: 10.4 percent versus 4.8 percent,  $|z| = 2.18$ ,  $p < .05$ ; skills underutilization: 10.4 percent versus 4.7 percent,  $|z| = 2.07$ ,  $p < .05$ ; unemployment: 10.4 percent versus 4.2 percent,  $|z| = 3.11$ ,  $p < .01$ ). The one exception, however, was temporary agency employment (10.4 percent versus 7.1 percent,  $|z| = 1.21$ ,  $p = .23$ ), where no statistically significant effect was detected. The results also indicate that, for men, none of the nonstandard or mismatched employment history categories received statistically significantly higher callback rates than the unemployment condition. Together, these results indicate that part-time work and skills underutilization are as scarring for male workers as a year of unemployment. However, for men, temporary agency employment histories are statistically indistinguishable from histories of full-time, standard employment at a worker's skill level and histories of unemployment.

The callback rate for women in the full-time, standard employment condition was on par with the callback rate for men (10.4 percent), but the consequences of the various work histories appear quite different for female job applicants. Skills underutilization is the only employment category where female job applicants received a callback rate that was statistically significantly lower than the full-time condition (10.4 percent versus 5.2 percent,  $|z| = 2.05$ ,  $p < .05$ ). In terms of temporary agency employment and unemployment, the callback rates are slightly lower than in the full-time, standard employment condition, but these differences are not statistically significantly different from having a full-time work history. I found no reduction at



**Figure 1.** Callback Rates, by Employment History and Gender

Source: Original experimental audit study data.

Note: All statistical tests are z-tests for differences in proportions.

Statistical significance comparing given employment history to full-time employment history: \* $p < .05$ ;

\*\* $p < .01$  (two-tailed tests).

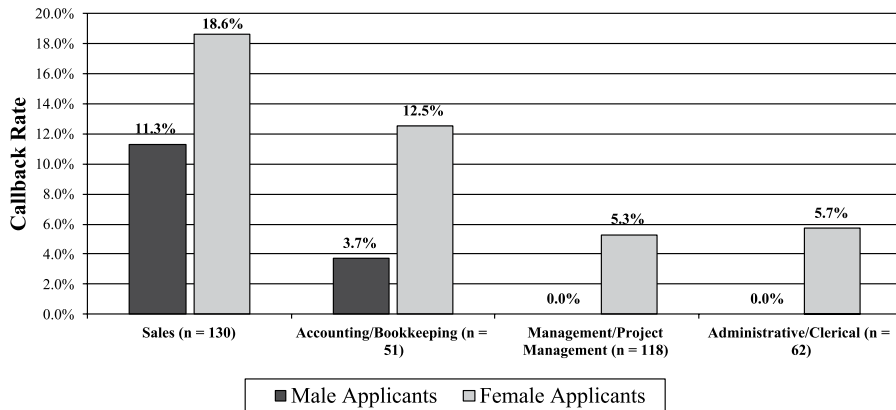
Statistical significance comparing male and female workers in the same employment history category: + $p < .05$  (two-tailed tests).

all in the callback rate for women with histories of part-time work (10.4 versus 10.9 percent). Women with histories of part-time employment—the most heavily gendered labor market position under investigation—do not face any penalties compared to women with histories of full-time employment. Overall, for female job applicants, there seem to be limited negative consequences of part-time work, temporary agency employment, and unemployment, but strong penalties for histories of skills underutilization.

Finally, I compare the callback rates for male and female job applicants in each employment history category. In the full-time, standard condition, male and female job applicants received the same callback rate from employers, 10.4 percent for men and 10.4 percent for women. The next cluster of columns in Figure 1 examines positive responses for résumés with part-time employment histories. Here, we see a statistically significant gender difference. Men with a part-time history received positive responses 4.8 percent of the time, compared with a 10.9 percent positive response rate for women with part-time histories ( $|z| = 2.14$ ,  $p < .05$ ).<sup>15</sup> Men and women with temporary agency employment histories had similar callback rates of 7.1 and 8.3 percent, respectively

( $|z| = .42$ ,  $p = .68$ ). Male and female applicants with a skills underutilization history also received callbacks from employers at similar rates (4.7 percent for men and 5.2 percent for women,  $|z| = .23$ ,  $p = .82$ ). However, a marginally significant gender difference emerges for histories of unemployment. For applicants with histories of unemployment, men received positive responses 4.2 percent of the time, compared with 7.5 percent for women ( $|z| = 1.89$ ,  $p = .059$ ).

What might explain the different callback rates for male and female applicants with part-time work histories? One possibility is that the differential effect of part-time work for men and women may vary by the gender composition of the different occupations in the field experiment. Indeed, the gender composition of these occupations ranges from 38 percent women in management occupations to 73 percent women in administrative and clerical occupations.<sup>16</sup> In more heavily feminized occupations, such as administrative and clerical jobs, part-time work may be more prevalent for women than in male-dominated occupations, thus limiting the strength of the signal sent by a part-time history for female applicants in these occupations. In this case, part-time employment histories may have



**Figure 2.** Callback Rates for Part-Time Employment Histories, by Occupation and Gender  
*Source:* Original experimental audit study data.

little effect on women's hiring outcomes in female-dominated occupations, but a strong effect in male-dominated occupations. It is also possible, however, that stereotypes about gender and employment histories transcend a worker's occupation, resulting in similar gendered patterns across occupations. To examine this possibility, I compared the callback rates for men and women with a history of part-time employment, broken down by occupational category. Figure 2 presents these results. The descriptive evidence indicates that, in each occupation, female applicants with part-time employment histories receive a higher callback rate than male applicants.<sup>17</sup> Thus, the gendered nature of particular occupations does not seem to be driving the gender-differentiated consequences of part-time employment histories.

The field experiment demonstrates important heterogeneity in the consequences of different types of employment histories for men and women. Male applicants with histories of part-time employment, skills underutilization, and unemployment are heavily penalized, whereas female applicants are negatively affected only if they have histories of skills underutilization. The results also indicate that female job applicants with histories of part-time employment and, to some extent, unemployment fare better than men with a similar background. Temporary agency employment does not appear to penalize male

or female applicants compared to having a history of full-time, standard employment. The field experiment findings, however, are not able to provide insights into the demand-side mechanisms underlying employers' responses to job applicants with different employment histories. For that task, I turn to results from the survey experiment.

## THE SURVEY EXPERIMENT

The field experiment results provide compelling evidence about the effects of nonstandard and mismatched employment in the actual labor market and how they differ by gender, but those data cannot examine the reasons why nonstandard and mismatched employment histories shape employers' evaluations of job applicants. Thus, to complement the field experiment, I conducted an Internet-based survey experiment with individuals in U.S. firms who make hiring decisions for their companies. The survey experiment was conducted between December 6, 2012, and January 4, 2013. Most hiring studies that use experimental methods are conducted on undergraduate or graduate students (e.g., Correll et al. 2007). The survey experiment presented here therefore advances research methodology in this area by surveying individuals who make actual hiring decisions and who work in five broad occupational groups: human resources managers, human resources

assistants/associates, business executives, mid-level managers, and business owners. The respondents in the sample are part of an online, opt-in panel and thus are not a random probability sample. Any potential limits on generalizability, however, do not affect the ability to generate internally valid, causal estimates of the effects of interest from the survey-experimental research design.

Table 1 presents descriptive statistics about the 903 respondents in the survey experiment. Roughly half (52.9 percent) of the respondents are men, 71.8 percent are white, the vast majority have at least a college degree, and 26 percent work in firms with 500 or more employees. To provide a sense of how respondents in the survey experiment compare to national estimates of similar individuals, Table 1 also includes a "National Estimates" column. The national estimates, however, are not exactly comparable to the survey sample's characteristics and thus are provided mainly as a guide for the reader. Additional details about characteristics of the sample of respondents, how the national estimates were generated and differ from the survey experiment sample, and the sample selection process are discussed in the online supplement (<http://asr.sagepub.com/supplemental>).

Once respondents were qualified to participate in the survey, they were asked to review and evaluate two experimentally manipulated résumés for an open accounting clerk position at their company. The accounting position was selected because nonstandard work is common in the accounting profession, and most companies have somebody who performs an accounting or bookkeeping role. It also parallels the accounting/bookkeeping category of jobs applied to in the field experiment. The two axes of variation on the résumés in the survey experiment were the same as in the field experiment. The most recent employment history of the applicant (full-time, part-time, temporary agency, skills underutilization, or unemployment) was varied along one axis and the gender of the applicant, using the same names as in the field experiment, was manipulated along the

other axis. Each respondent was randomly assigned to review either two résumés belonging to men or two résumés belonging to women, but having different employment histories (at least one of which was either a full-time or an unemployed résumé). Thus, the gender manipulation was between subjects, which reduces concerns about social desirability bias by making it less likely a respondent would identify gender as a key issue of interest, and the employment history manipulation was within subjects. The format and order of the résumés, as well as the names at the top of the résumés, were randomized and counter-balanced.

### *Variable Construction*

After reviewing each résumé, respondents were asked to evaluate the applicant. To parallel the outcome variable in the field experiment, respondents were asked on a five-point scale: "How likely would you be to recommend that your company interview this applicant?" Responses to this item were then converted into a dichotomized variable with the "very likely" category equal to 1 and the other categories equal to 0; 27.3 percent of job applicants were "very likely" to be recommended for interviews. Coding the *interview likelihood* variable in this way makes sense theoretically, because only applicants who attained the "very likely" category on the "interview likelihood" measure in the survey context would have been likely to receive callbacks in the field experiment context. Thus, the dichotomous measure in the survey experiment most closely parallels the outcome measure in the field experiment.<sup>18</sup>

Respondents were also asked to evaluate the applicant along a series of dimensions. This was designed to isolate the mechanisms leading to the consequences of nonstandard and mismatched employment: perceived competence and perceived commitment.

I combined the following items to generate a scale of perceived competence. Respondents were asked: "On a scale from one to seven, how strongly do you agree or disagree with the



**Table 1.** Survey Experiment Respondent and Firm Characteristics

	Sample Percent/Median	National Estimates
<i>Respondent Characteristics</i>		
Male	52.9%	50.7%
Race/Ethnicity		
White	71.8%	83.8%
Black	10.3%	8.6%
Hispanic	6.6%	10.1%
Asian	6.3%	4.6%
Other/Multiple Race	5.0%	
Education		
High School or Less	7.6%	16.3%
Some College	17.6%	32.6%
College	53.6%	35.3%
Graduate School	21.2%	15.8%
Income (Median)	\$67,500	\$88,007
Age (Median)	40.5	44.3
Job Tenure in Years (Median)	5	
<i>Firm Characteristics</i>		
Number of Employees		
Fewer than 10	17.4%	78.6%
Between 10 and 99	37.8%	19.6%
Between 100 and 499	18.8%	1.5%
500 or more	26.0%	.3%
Industry		
Agriculture, Mining, Construction	5.4%	13.6%
Education and Health	16.6%	11.8%
Financial and Information	16.3%	10.3%
Leisure and Hospitality	7.5%	10.0%
Manufacturing	14.4%	4.7%
Professional and Business Services	16.8%	24.7%
Public Administration	4.9%	5.6%
Retail	9.3%	11.7%
Transportation, Utilities, Wholesale	8.3%	8.5%
Other	.7%	.2%
Sample Size	903	

*Note:* While 903 respondents qualified for the survey, the sample sizes for the respondent and firm characteristics range from 893 to 899 in Table 1 due to item nonresponse. National estimates of respondent characteristics are derived from various sources at the Bureau of Labor Statistics and the Census Bureau. National job tenure estimates, by detailed occupation, were not available and therefore are not included. Additional details are discussed in the online supplement. National firm characteristic estimates are from the U.S. Census Bureau (2008) Statistics of U.S. Businesses. Collapsing some categories from the census data was necessary to align the data with the firm size and industry categories in the survey.

following statements about this applicant?" Responses ranged from "strongly disagree" to "strongly agree." The statements used to create the competence measure were "the applicant is competent," "the applicant is productive," "the

applicant is skilled," "the applicant has relevant work experience," and "the applicant has adequate accounting experience." Additionally, the competence scale included the following items with five response categories: (1)

"Compared to similar employees who already work at your company, how quickly do you think this applicant would learn how to perform new tasks?" and (2) "Compared to similar employees who already work at your company, how much relevant experience in accounting and bookkeeping does this applicant have?" These items combined with an alpha of .89, and the standardized scale is used throughout.

To generate a scale of perceived commitment, I combined four survey items. Using a seven-point scale, respondents were asked to respond to the statement "the applicant is committed." Then, on a five-point scale, respondents were asked, "Compared to similar employees who already work at your company, how committed do you think this applicant would be to their job if they were hired?" Also on a five-point scale, respondents were asked, "If your company needed to ask this applicant to work extra hours, how likely is it that this applicant would meet that request?" Finally, respondents were asked, "If this applicant were to be hired at your company, how long do you think that they would stay?" The five response categories ranged from "less than 1 year" to "more than 4 years." These four items combined with an alpha of .72, and the scale used in the analyses is standardized.

The key predictor variables for the analysis are the different employment histories on the résumé that the respondent reviewed—full-time, part-time, temporary agency, skills underutilization, or unemployment—and the gender of the applicant. All models include controls for the order the résumés were reviewed, the name at the top of the résumé, and the format of the résumé.<sup>19</sup> Listwise deletion is used to deal with missing data and only respondents who provided interview recommendations for both applicants that they reviewed are kept in the analytic sample.<sup>20</sup> All analyses adjust for the fact that respondents evaluated two résumés by clustering the standard errors by respondent.

### *Interview Likelihood*

The first analyses examine whether nonstandard and mismatched work histories affect

employers' responses about whether they would be "very likely" to recommend that their company interview the applicant. In essence, this analysis seeks to determine whether the main findings from the field experiment replicate in the survey experiment context. Because the interview likelihood variable is binary, I used logistic regression models in the analyses. I first examine the consequences of nonstandard and mismatched employment histories separately for male and female job applicants. Then, I test whether gender differences *within* each employment history category are statistically significant.

Model 1 in Table 2 examines the consequences of nonstandard and mismatched employment histories for male applicants. The results demonstrate that men with histories of part-time employment, skills underutilization, and unemployment are heavily penalized in terms of their interview likelihood. For example, male applicants with histories of part-time work have approximately 40 percent lower odds ( $\exp[-.513 = .599]$ ) of being "very likely" to be recommended for an interview, compared to male workers with full-time, standard employment histories. There is also a marginally significant negative effect of temporary agency employment for men ( $p < .10$ ). Additional tests indicate that none of the nonstandard or mismatched employment history categories are statistically significantly different from unemployment. Thus, the consequences of nonstandard and mismatched employment for male applicants in the survey experiment are very similar to those found in the field experiment.

Next, Model 2 in Table 2 examines the consequences of nonstandard and mismatched employment histories for female applicants. I find that the only employment history category where female applicants are penalized is the skills underutilization category. The scarring consequence of unemployment for women is marginally statistically significant ( $p < .10$ ). There are no discernable differences in the interview recommendations for women with histories of part-time or temporary employment versus a history of full-time employment. There are also no statistically significant differences

**Table 2.** Logistic Regression Models of the Consequences of Nonstandard and Mismatched Employment Histories on Being “Very Likely” to Be Recommended for an Interview

	Male Applicants (1)	Female Applicants (2)
Employment History		
Full-Time (omitted)		
Part-Time	-.513* (.236)	-.255 (.220)
Temporary Agency	-.445 (.235)	-.127 (.222)
Skills Underutilization	-.747** (.270)	-.610** (.233)
Unemployment	-.447* (.195)	-.320 (.182)
Constant	-.734*** (.178)	-.513** (.163)
<i>n</i> (clusters)	439	452
<i>n</i> (observations)	878	904

Note: Clustered standard errors are in parentheses. Log-odds presented. All models include controls for the order in which résumés were presented, the format of the résumé, and the name on the résumé.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$  (two-tailed tests).

between having a history of nonstandard or mismatched employment and having a history of unemployment. Again, the findings for female applicants in the survey experiment align closely with results presented in the field experiment.

The results presented in Table 2, however, do not test for differences in the interview recommendation likelihood for male and female applicants *within* each employment category. This is where the results diverge between the field and survey experiments. The field experiment found that female applicants received higher callback rates than male applicants in the part-time work and unemployment history categories. However, this is not the case in the survey experiment. There are no statistically significant differences in being “very likely” to be recommended for an interview between male and female applicants *within* employment history categories in the survey experiment. Why might this discrepancy exist? It is difficult to address this issue empirically, but the difference may be related to social desirability biases that arise in the survey context, which may limit respondents’ use of an

applicant’s gender in their evaluations (see Heerwig and McCabe 2009). There is also evidence that social categories, such as race and gender, are more likely to be used as heuristic devices when time is scarce (Fiske 1998). In the field experiment, hiring managers are likely screening hundreds of applicants in a short time period, making the activation of gender stereotypes more likely than in the survey context, where respondents had as much time as they wanted to review two résumés. Finally, the survey experiment asked respondents to review résumés for one job type—an accounting clerk position—whereas the field experiment examined four occupational groups, which included but were not limited to accounting and bookkeeping positions. Differences in the job types under investigation might contribute to the different gender findings in the field and survey experiments.<sup>21</sup>

### *Mediating Effects of Perceived Competence and Commitment*

Finally, I explore whether employers’ perceptions of job applicants’ competence and

commitment can account for the reduced interview likelihood faced by applicants with certain histories of nonstandard and mismatched employment. Because the gender differences within each employment history category are not statistically significant in the survey experiment, it is not possible to test for the mechanisms underlying gender differences in the consequences of nonstandard employment.

To examine whether hiring decision-makers' perceptions of applicants' competence and commitment can account for the consequences of nonstandard and mismatched employment histories, I utilize the average causal mediation analysis framework proposed by Imai, Keele, and Tingley (2010)—rather than linear structural equation modeling.<sup>22</sup> Imai and colleagues (2010) argue that linear structural equation modeling approaches to mediation are limited because they do not offer a general definition of causal mediation beyond a specific statistical model and they do not generalize to nonlinear models. To overcome these limitations, the method of Imai and colleagues (2010) derives a formal definition of causal mediation from the potential outcomes framework for causal inference and presents a clear set of assumptions under which causal mediation effects are non-parametrically identified. These aspects of the Imai and colleagues (2010) approach remove the need for model-specific assumptions to interpret a mediation effect as causal. Additionally, the nonparametric identification result of the Imai and colleagues (2010) approach results in an estimation procedure for mediation analysis that easily generalizes to nonlinear models, which are necessary for dependent variables such as the binary *interview likelihood* outcome examined in this manuscript.<sup>23</sup>

Table 3 presents results from the mediation analysis (Panel A is for male applicants; Panel B is for female applicants).<sup>24</sup> For each type of employment history, the table presents the average causal mediation effect (ACME) as well as the proportion of the total effect explained by either competence or commitment perceptions. If the ACME is bold, it

means the 95 percent confidence interval around the ACME does not include zero. For clarity, Table 3 only presents the mediation results for the types of nonstandard and mismatched employment histories that penalized workers in a statistically significant manner in the analysis presented in Table 2.

As Panel A in Table 3 shows, perceived commitment mediates 40.4 percent of the negative effect of part-time employment histories for men. Perceived competence, in contrast, does not mediate the effects of part-time work for male applicants. Skills underutilization, in turn, is scarring for male applicants due to *both* perceived competence and perceived commitment. For female applicants, skills underutilization appears penalizing due to perceived competence—which explains 94.1 percent of the effect—but not perceived commitment. Together, these empirical results provide compelling evidence that perceived competence and perceived commitment are important mechanisms linking histories of nonstandard and mismatched employment with workers' hiring outcomes. However, these findings also reveal the heterogeneous reasons why different employment histories are scarring for workers and that those reasons vary with the gender of the worker.

## DISCUSSION AND CONCLUSIONS

The increased prevalence of nonstandard and mismatched employment over the past four decades has occurred at the same time as employers have become increasingly reliant on the external labor market to fill vacancies. In this respect, workers' employment histories have arguably taken on a more important role in the hiring process. Yet, limited research has examined how job applicants' histories of nonstandard and mismatched employment shape employers' decision-making during the job applicant screening process. Employers may perceive workers with nonstandard and mismatched employment histories as being less competent or committed, penalizing them compared to workers with full-time, standard

**Table 3.** Mediation Analysis of the Role of Perceived Competence and Commitment in Explaining the Effects of Nonstandard and Mismatched Employment Histories on Interview Recommendations

	Perceived Competence		Perceived Commitment	
	ACME	Proportion of Total Effect Mediated	ACME	Proportion of Total Effect Mediated
A. Male Applicants				
Part-Time	-.008 [-.042, .028]	.098	<b>-.037</b> <b>[-.072, -.000]</b>	.404
Skills Underutilization	<b>-.090</b> <b>[-.128, -.053]</b>	.685	<b>-.040</b> <b>[-.077, -.003]</b>	.318
Unemployment	<b>-.032</b> <b>[-.063, -.001]</b>	.366	-.008 [-.038, .023]	.098
B. Female Applicants				
Skills Underutilization	<b>-.109</b> <b>[-.150, -.066]</b>	.941	-.034 [-.073, .004]	.301

*Note:* 95% confidence intervals are in brackets. Estimates were derived from 1,500 simulations; standard errors are clustered by respondent. Bold ACME estimates indicate the confidence interval does not include zero.

employment histories at their level of skill and experience. At the same time, however, any job may be better than no job in the eyes of future employers. Therefore, it is also possible that nonstandard and mismatched work may buffer workers against the scarring consequences of long-term unemployment.

Given existing data sources, it has been challenging for previous research to examine the set of theoretical issues explored in this article. To address these limitations, my analyses drew on original data from a field experiment and a complementary survey experiment. The findings demonstrate that skills underutilization is deeply scarring for both male and female job applicants. Indeed, a history of skills underutilization is as scarring for workers as a year of unemployment. As hypothesized, skills underutilization sends strong negative signals about both male and female applicants' competence. For male applicants, histories of skills underutilization are also penalizing because they send a negative commitment signal. Given recent evidence that jobs in the middle of the skills distribution are lost at high rates during economic recessions, and that these jobs tend not to rebound as the

economic climate improves (Jaimovich and Siu 2012), these negative effects of skills underutilization likely have broad implications for workers' employment opportunities as the recovery from the Great Recession continues.

The results also indicate that the consequences of part-time work histories are contingent on the job applicant's gender. Men face severe penalties for part-time work histories, but women experience no penalties. Overall, female job applicants with part-time work histories receive a nearly identical callback rate to women with full-time, standard work histories. Yet, men with part-time histories have a similar callback rate to men with a spell of unemployment. The results also suggest that women with part-time histories fare better than men with part-time histories across all four occupations in the field experiment, which vary in their gender composition. Additionally, results from the survey experiment provide compelling evidence that part-time work leads to penalties for male workers because it raises concerns about their level of commitment.

Finally, there are no discernable penalizing or protective effects of a history of temporary

agency employment for either male or female job applicants. This lack of consequence of temporary agency employment is intriguing. Perhaps temporary agency work positively signals to future employers that a worker has obtained broad and varied knowledge and skills from working in different companies (Marler et al. 2002). It is also possible that well-known temporary agencies, such as the ones used for the résumés in this study, provide a positive signal to future employers about the quality of the worker—potentially marking them as a “good” employee. These potential explanations could be fruitful avenues for future scholarship.

Together, these findings indicate that different types of employment histories send distinct signals and have highly varied consequences, which also vary by the gender of the worker. Yet, this article is not without limitations. First, the empirical findings leave open important questions about the mechanisms underlying the gender differences in the consequences of part-time work histories. Additionally, the discrepancy between the gender findings in the field and survey experiments raises important methodological questions about how, when, and why demographic characteristics (e.g., gender) produce evidence of bias and discrimination in survey experiments. Previous survey and lab studies that have conducted employment experiments using student samples have found moderating effects of workers’ gender (Castilla and Benard 2010; Correll et al. 2007), but the sample for the survey experiment in this article consisted of actual hiring decision-makers and the gender differences that emerged are relatively muted. Research disentangling why these discrepancies exist would assist in moving forward survey-experimental methodologies.

The analyses presented here are limited to employers’ decision-making at the initial applicant screening stage. Thus, they do not provide information on final hiring decisions, wage setting, promotions, or terminations. While previous research suggests there are penalties for part-time employment histories in terms of future compensation (Ferber and Waldfogel 1998), this topic and related issues

should be explored in more depth in future research. Additionally, all applications were submitted in response to online job postings. Consequently, it is not possible to assess whether the results would look different if applications were submitted through informal referral networks. The experimental manipulations are also limited to workers’ most recent work experiences. Future research should examine whether the consequences of non-standard and mismatched employment vary with the timing of those spells in a worker’s employment trajectory. Finally, the empirical results are limited to college-educated workers of a particular age in specific labor markets and occupations. While there are theoretical reasons to believe that the findings should generalize beyond the empirical scope of this project, empirically testing the generalizability of these findings—particularly, whether similar patterns emerge in the low-skilled labor market—opens up an important avenue for future inquiry.

Notwithstanding these limitations, this article makes important contributions to research on the changing nature of employment in the United States. First, the article extends theoretical insights from the literature on unemployment scarring by demonstrating that other types of labor market positions—specifically, nonstandard and mismatched employment—send consequential signals to future employers. At the same time, the article combines insights from the literature on unemployment scarring with gender scholarship on the “ideal worker” norm to suggest that commitment, in addition to competence, is an important signal sent by nonstandard and mismatched employment histories. Additionally, the findings contribute to sociological scholarship on inequality by demonstrating that access to full-time, standard employment that utilizes one’s skills appears to have become a key stratifying force in the “new economy.” The effects of nonstandard and mismatched work are varied, but part-time employment for men, and skills underutilization for both men and women, severely limit workers’ labor market opportunities. Workers with these histories may find themselves



stuck in undesirable labor market positions, facing challenges as they attempt to transition into more stable employment. These findings encourage a shift from research to date that has focused primarily on the consequences of nonstandard and mismatched employment for workers' earnings, benefits, autonomy, and control while they are working in a nonstandard or mismatched position. More research is needed to understand how these types of employment arrangements may have consequences for workers' labor market mobility and, ultimately, their long-term economic and social trajectories.

Gender differences in the effects of part-time work (and, to some extent, unemployment) also contribute to sociological theories of the "ideal worker." The findings suggest that employers have already incorporated certain types of employment experiences into their understandings of female labor force participation; therefore occupying those labor market positions does not violate the "ideal worker" norm for women. Men, however, appear to be expected to maintain full-time, standard—in other words, primary breadwinner—employment trajectories to comply with "ideal worker" expectations. As theories of labor market signaling might predict, this empirical pattern may emerge due to gender differences in rates of part-time employment, whereby the relative prevalence of part-time work among women likely limits the signal it sends to future employers. Thus, changes in the underlying gender distribution of part-time workers could potentially shift the ways part-time employment histories differentially affect men and women. Future research would be well served to examine this set of issues.

The findings from this research also complicate "work first" public policy prescriptions that argue that any job is better than no job. Many workforce development programs are based on the premise that assisting a worker to obtain employment, any employment, will serve as a "stepping stone" to better jobs in the future. While there are certainly good reasons that people take any job they can find—specifically in cases where economic hardship is imminent—the experimental data presented

here raise questions about whether all types of jobs actually open up new labor market opportunities for workers. Indeed, certain types of employment positions appear to send negative signals to future employers about workers' competence and commitment, penalizing them in similar ways to remaining unemployed.

The theoretical integration and empirical findings presented in this article advance contemporary scholarship on the consequences of the changing economic landscape. The increase of nonstandard and mismatched employment relations in the United States affects workers not just while they are in those positions, but in certain cases also limits their opportunities as they attempt to transition into their next job. Additionally, there is important gender variation in the consequences of part-time employment, shedding light on the complex ways that gender infuses the contemporary labor market. Together, these findings deepen current knowledge about how changing economic structures shape workers' employment opportunities and begin to identify the mechanisms through which those consequences operate.

## APPENDIX

### *Part A. Field Experiment Treatments*

This appendix provides examples of the different employment histories used in the field experiment. The following examples are drawn from the résumés for administrative assistant openings in Boston, Massachusetts. The employers' names have been altered. Each treatment was the applicant's work history for the 12 months prior to submitting the job application.

#### 1. Full-Time, Standard:

*Technology Company* – Boston, MA

June 2012 – Present

#### *Office Manager & Executive Assistant*

- Coordinate all office management tasks, which includes working with computer and phone system vendors, maintaining necessary levels of office supplies, and managing all office filing systems.

- Answer and screen incoming phone calls, coordinate travel arrangements, and draft memos and letters for executive staff.
- Plan and coordinate all aspects of meetings for executive staff and key stakeholders.

## 2. Part-Time:

*Technology Company* – Boston, MA

June 2012 – Present

*Office Manager & Executive Assistant (Part-Time)*

- Coordinate all office management tasks, which includes working with computer and phone system vendors, maintaining necessary levels of office supplies, and managing all office filing systems.
- Answer and screen incoming phone calls, coordinate travel arrangements, and draft memos and letters for executive staff.
- Plan and coordinate all aspects of meetings for executive staff and key stakeholders.

## 3. Temporary Employment Agency:

*Temp Agency* – Boston, MA

June 2012 – Present

*Temporary Administrative Assistant*

Serve as a temporary Administrative Assistant through [Name of Temp Agency]. Assignments at different companies have included:

- Answering incoming phone calls, scheduling travel arrangements, and writing

letters and other correspondence for executive staff.

- Coordinating conferences, meetings, and retreats for staff, managers, and clients.
- Developing and improving office coordination systems, such as ordering supplies and updating administrative technology.

## 4. Skills Underutilization:

*Large Retailer* – Boston, MA

June 2012 – Present

*Sales Representative*

- Provide high-quality customer assistance in merchandise selection and other service areas.
- Maintain high level of cleanliness and a welcoming environment on the retail floor.
- Build and strengthen relationships with repeat customers.

5. Unemployment: The most recent job was omitted in the unemployment condition. To ensure this résumé was of a similar length to and had the same number of work experiences as résumés in the other conditions, a college internship was added to the applicant's work history:

*Anonymous Bank* – Boston, MA

Summer 2004

*Summer Intern*

- Assisted with meeting and conference planning, scheduling, and answering phones.
- Drafted memos and correspondence and participated in special projects on an as-needed basis.

### Part B. Distribution of Field Experiment Applications

**Table B1.** Distribution of Applications Submitted in Experimental Audit Study

	Frequency	Percent
Employment History		
Full-Time	665	27.5
Part-Time	361	14.9
Temporary Agency	327	13.5
Skills Underutilization	342	14.1
Unemployment	725	30.0
Total	2,420	100.0
Applicant Gender		
Male	1,198	49.5
Female	1,222	50.5
Total	2,420	100.0
Labor Market		
Atlanta	318	13.1
Boston	484	20.0
Chicago	404	16.7
Los Angeles	484	20.0
New York City	730	30.2
Total	2,420	100.0
Occupation		
Accounting/Bookkeeping	372	15.4
Administrative/Clerical	416	17.2
Project Management/Management	828	34.2
Sales	804	33.2
Total	2,420	100.0

Source: Original experimental audit study data.

### Part C. Field Experiment Regression Results

**Table C1.** Logistic Regression Models of the Consequences of Employment Histories for Receiving a Callback from an Employer, by Applicant Gender

	Male Applicants (1)	Female Applicants (2)	All Applicants (3)
Employment History			
Full-Time (omitted)			
Part-Time	-.821* (.341)	.0484 (.272)	-.821* (.341)
Temporary Agency	-.419 (.285)	-.251 (.305)	-.419 (.285)
Skills Underutilization	-.859* (.397)	-.748* (.348)	-.859* (.397)
Unemployment	-.960** (.294)	-.352 (.255)	-.960** (.294)

(continued)

**Table C1.** (continued)

	Male Applicants (1)	Female Applicants (2)	All Applicants (3)
Interactions			
Part-Time × Female			.869* (.436)
Temporary × Female			.168 (.417)
Underutilization × Female			.111 (.528)
Unemployment × Female			.608 (.389)
Female Applicant			.00457 (.254)
Constant	-2.158*** (.179)	-2.154*** (.181)	-2.158*** (.179)
<i>n</i> (clusters)	599	611	1,210
<i>n</i> (observations)	1,198	1,222	2,420

Note: Clustered standard errors are in parentheses. Log-odds presented.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$  (two-tailed tests).

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## Notes

1. The insights offered by the literature on signaling and the hiring process are not entirely distinct from notions of statistical discrimination (see Phelps 1972).
2. The unemployment scarring literature also points to a human capital mechanism (Arulampalam, Gregg, and Gregory 2001), in addition to a signaling mechanism. However, the human capital mechanism and the signaling mechanism are empirically indistinguishable during the initial point of job applicant screening, because employers are not able to directly observe whether a worker has lost human capital due to an unemployment spell. Thus, insofar as employers are concerned about human capital deterioration for unemployed workers when making hiring decisions, it likely manifests in the content of the negative signal sent by a history of unemployment.
3. By involuntary job loss, I am referring to being fired or laid off, rather than being displaced due to a plant closing (see Gibbons and Katz 1991).
4. The findings may be influenced by the particular economic climate in which the study was conducted: the recovery from the Great Recession. In times of economic distress, employers may be more likely to perceive nonstandard and mismatched employment histories as being outside the worker's control and therefore penalize them less. It is also possible, however, that in times of economic distress, more individuals are unemployed and looking for work, enabling employers to be more selective during the hiring process. Future research should examine this set of issues.
5. I selected a treatment period of 12 months because of the need to keep the duration of the treatment equal across conditions, and the need to use an amount of time that would be appropriate for each employment history.

6. A separate set of field experiment conditions included a set of African American racialized names to examine how race shapes the effects of nonstandard and mismatched work. Those findings are presented separately.
7. There is no statistically significant difference in the callback rate for the distinct résumé templates.
8. This study examines college-educated workers, in part, for methodological reasons. Many low-skilled jobs for workers without any college education are not posted on national job websites.
9. The pretesting was conducted through Amazon.com's Mechanical Turk platform.
10. To determine how to signal each employment history, I examined résumés in online résumé banks.
11. Unemployment was signaled through dates that the applicant did not have a job. The formal definition of unemployment is that an individual does not have work *and* is looking for work. The second component of the definition is not formally signaled, although the jobless individual is clearly looking for work at the time the application is submitted. To the employer, unemployment and joblessness are indistinguishable; I thus refer to the condition with a spell of joblessness as the "unemployment" condition.
12. The anonymized field and survey experiment data necessary to reproduce the analyses in this article will be made available through the Dataverse Network (<http://www.thedata.org>) no later than July 2016.
13. In a few cases, I limited the search to jobs posted within fewer than 30 days. In these cases, the computer script would not run for the full 30-day search period, but worked for these shorter amounts of time. The level of education included in the search criteria was also different across occupations. For accounting and sales jobs, the education level was limited to jobs requiring an associate's or bachelor's degree. For the project manager/manager openings, the search was limited to jobs requiring a bachelor's degree. Finally, I did not limit the administrative assistant searches by education, because many employers did not specify any education level requirement for this job type. Additionally, some job openings required completing intensive applications on the employer's website, which the IRB protocol did not cover and which often required essay questions that would have made it more difficult to ensure that differences in answers were not responsible for driving the differences in callbacks. Thus, applications were not submitted for these job openings.
14. The findings are consistent when controls are included for occupation, labor market, and their interaction, as well as when linear probability regression models are used. Additionally, the findings are consistent when job-posting-specific random effects are included in the full regression model with controls for occupation, labor market, and their interaction.
15. There is also a positive and statistically significant interaction between having a part-time history and being a female applicant in a logistic regression model predicting callbacks (see Model 3 in Table C1 in the Appendix).
16. Additionally, 48.6 percent of workers in sales occupations and 72.9 percent of workers in accounting and bookkeeping occupations are female (Bureau of Labor Statistics 2014).
17. Given the large reduction in sample size when analyzing the data by occupation, these differences generally do not reach statistical significance. I also examined interactions between each occupation and each employment history. The results indicate that the consequences of nonstandard and mismatched employment do not differ by the occupation to which the application was submitted.
18. When the full interview likelihood scale is used, the results diverge slightly. Female applicants are more likely than male applicants to remain in the highest interview likelihood category ("very likely"), but if they do not receive the highest interview likelihood rating, they are more severely penalized than men. When women do not receive a "very likely" interview recommendation rating, they generally receive a rating of "somewhat likely," two points down the scale. Men, however, are more likely than women to face some penalty for nonstandard or mismatched employment. When men are penalized, though, they generally receive the "likely" rating, one point down the scale.
19. Results are consistent when these controls are excluded.
20. Twelve respondents did not provide an interview recommendation for at least one of the applicants they reviewed. Therefore, 891 respondents are included in the analyses in Table 2.
21. However, I replicated the survey experiment with a nonrandom sample of respondents from Amazon.com's Mechanical Turk and asked them to evaluate résumés for a managerial position. Again, I found no moderating effects of gender on the interview likelihood of workers with a part-time history, which provides some evidence against the argument that the discrepancy in the gender findings between the field and survey experiments is due primarily to the occupation under investigation.
22. For additional details about the exact procedure used to estimate the average causal mediation effect, see Imai and colleagues (2011:773–74). Imai and colleagues (2010) also provide techniques for examining the sensitivity of the mediation analysis findings to the key identifying assumptions of the approach. The sensitivity parameters for the mediation analyses presented here were in line with previous studies (see Imai et al. 2011), suggesting the findings are generally robust.
23. Each mediation analysis presented in this article was conducted using 1,500 simulations. The mediation

results are robust to the inclusion of controls for the hiring decision-makers' sex, race, age, marital status, income (logged), and education.

24. The empirical results are similar when a regression-based framework is used to examine the role of perceived competence and perceived commitment in explaining the effects of nonstandard and mismatched employment.

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