



The demand for teacher characteristics in the market for child care: Evidence from a field experiment[☆]

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ARTICLE INFO

Keywords:

Child care

Child care labor markets

Child care regulations

Teacher hiring practices

Resume audit study

Early childhood education

ABSTRACT

This paper sheds light on two key issues regarding the demand for teacher characteristics in the market for center-based child care. First, we study the extent to which teacher qualifications—often considered important inputs to classroom quality—are valued by providers during the hiring process. We then examine the impact of state regulations on hiring decisions. To do so, a resume audit study was administered in which job-seeker characteristics were randomly assigned to resumes that were submitted in response to real child care job postings in 14 U.S. cities. Our results indicate that center-based providers may not hire the most qualified applicants. For example, we find that although providers have a strong preference for individuals with previous work experience in early childhood education (ECE), those with more ECE experience are less likely to receive an interview than those with less experience. We also find that individuals with bachelor's degrees in ECE are no more likely to receive an interview than their counterparts at the associate's level. Our analysis of state regulations shows that they strongly influence teacher hiring decisions. We find that providers' advertised job requirements are largely in compliance with the state standards for teachers' experience and education. In addition, providers are substantially more likely to interview job-seekers who meet these requirements. Given that most providers voluntarily exceed the state regulations, a tentative conclusion is that such rules have a limited effect on child care supply and prices.

1. Introduction

In this paper, we present results from a field experiment that examines teacher hiring practices in the market for center-based child care. Specifically, we administer a resume audit study, which randomly assigns a number of job-seeker characteristics to resumes submitted on behalf of fictitious individuals in response to real child care job advertisements. Between May 2016 and January 2017, approximately 11,000 resumes were submitted to over 2700 online assistant and lead teacher advertisements in 14 U.S. cities. We then recorded whether a given resume was invited for an interview. These data allow us to shed light on two important issues. First, we examine the extent to which applicants' demographic and human capital characteristics are valued by child care providers during the hiring process. In particular, we estimate the causal effect of these resume characteristics on the odds of

receiving an interview. Second, we evaluate the influence of states' regulations on hiring decisions. Our analysis focuses on whether providers' posted job requirements for experience and education align with the corresponding state standards as well as providers' willingness to interview applicants who meet the standards.

Our interest in studying teacher hiring practices is rooted in the literature showing that center-based classroom quality may be causally related to children's cognitive and social-emotional development, with teacher qualifications—including the amount of relevant experience, level and type of academic preparation, and professional certifications—frequently cited as important structural inputs to the production of classroom quality (e.g., Auger et al., 2014; Pianta et al., 2009). Indeed, the presumed connection between teacher qualifications and classroom quality is a key justification for government regulation of child care settings, and it underlies the growing interest in raising

[☆] The authors contributed equally to this project and are considered co-lead authors. We thank Lauren Cater, Stephanie Hackett, Lindsey Hench, Leigh Jensen, Zoram Kaul, Elizabeth Kuttner, and Sweta Sen for outstanding research assistance. We also thank seminar participants at Kent State University, University of Virginia, and the Population Association of America as well as Mark Cassell, Ashley Nickels, Joanna Lucio, Erdal Tekin, Dan Silverman, and Spiro Maroulis for helpful conversations and feedback. This research is supported by the College of Public Service and Community Solutions at ASU and by the Smith Richardson Foundation (Grant Number 2016-1160). This study was approved by the ASU Institutional Review Board (STUDY00002128) and by the Kent State University Institutional Review Board (16225).

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teacher standards throughout the spectrum of center-based programs.

However, despite the potential importance of classroom quality and teacher credentials, center-based child care in the U.S. is frequently rated to be of low quality.¹ To date most research seeks to explain this problem by identifying constraints on the parent-side of the market. One issue receiving attention is the influence of information asymmetries in which parents may not fully understand the benefits of high-quality care, or they do not have sufficient information to distinguish between low- and high-quality programs. Indeed, the evidence suggests that although most parents claim to value high-quality, education-focused child care programs, actual decisions are instead driven by such considerations as program costs, location, and hours of operation (Mamedova and Redford, 2015; NSECE, 2014).²

Although these parental constraints are likely to be important, this paper focuses on the behavior of child care providers, specifically teacher hiring practices. A primary issue is that providers may face limitations on the ability to simultaneously offer high-quality programs and keep costs sufficiently low to stay in business (Blau, 2001). The labor-intensiveness of child care provision means that program quality is largely determined by the number and characteristics of teachers. As a result, the price that a provider can charge depends on the cost of these labor inputs—as measured by teacher compensation—as well as parents' willingness to pay for quality. In Section 2, we present estimates from hourly wage equations showing that compensation levels in center-based programs are strongly linked to teacher credentials. In addition, Blau and Hagy (1998) find that parents' child care choices are moderately sensitive to the market price of care. This discussion implies that although hiring high-skilled teachers may generate developmental benefits for children, doing so will increase program operating costs and, in turn, the price of child care. Therefore, providers may not produce the socially optimal level of quality, especially in markets where the willingness to pay for high-quality care is low.

In addition, providers may experience other challenges that prevent them from hiring the most qualified applicants. First, program directors may lack the financial resources needed to hire and retain high-skilled teachers. Indeed, quality improvements in the child care industry generally require expensive workforce adjustments such as lowering child-staff ratios or hiring teachers with more training and education. Second, program directors may inefficiently screen job applicants, or they may value characteristics that do not translate into the production of high-quality, education-focused care. For example, to comply with states' ratio requirements or to ensure that teachers meet the job's physical demands, directors may value characteristics like dependability and health status over experience and education. Finally, it is possible that highly-credentialed applicants are valued, but directors are reluctant to hire them because of concerns that they would be difficult to retain. Such concerns seem relevant in markets where child care providers compete for high-skilled teachers with Head Start and pre-kindergarten programs.

Added to these provider-level considerations is the presence of state-level regulations with which child care programs must comply. Child care is a heavily regulated market, with states setting minimum standards for child-staff ratios, maximum group sizes, the experience and education of program staff, and many other dimensions. Regulations

are set by individual states, creating substantial variation in the stringency of these requirements. For example, lead teacher work experience requirements range from no requirement at all to three years of experience, while the education requirements range from a high school diploma to a bachelor's degree. The canonical model of minimum quality standards predicts that binding regulations increase the marginal cost of child care production, thereby reducing the supply of low-quality services while increasing average market quality. Regarding teacher hiring behavior, the specificity of states' standards for staff experience and education means that such rules likely loom large in the applicant screening process. However, their effects on hiring likely depend on whether the rules are binding as well as the stringency with which states' licensing agencies enforce them.

This discussion suggests that it is important to understand how child care providers negotiate the trade-offs between program costs and quality when making hiring decisions, and the degree of alignment between the hiring preferences of directors and states' minimum teacher requirements. To study these issues, our analysis proceeds in two steps. We begin by estimating the impact of applicants' demographic and human capital characteristics on interview requests. By randomly assigning teacher credentials to resumes, we provide causal estimates on the set of attributes that are valued by center-based providers in the initial stage of the hiring process. We then turn our attention to evaluating the influence of states' child care regulations on hiring decisions. Whereas most prior work focuses on the impact of regulations on supply and quality (e.g., Blau, 2001; Hotz and Xiao, 2011), this paper analyzes whether regulations influence the demand for labor. In particular, we assess to what extent the advertised job requirements for teachers' experience and education are aligned with the corresponding state regulations. We also estimate the impact of meeting these requirements on interview requests. As such, these analyses shed light on whether providers comply with the regulations, at least in the initial stages of the hiring process.

Our results show that child care providers respond to a variety of job-seeker characteristics. However, a consistent theme emerges in which the most qualified applicants may not be favored in the hiring process. For example, although providers have a strong preference for applicants with previous work experience in early childhood education (ECE), those with more ECE experience (two years) are less likely to receive an interview than those with less (six months). A similar pattern unfolds for education: providers strongly prefer applicants with post-secondary education, favoring individuals with an associate's or bachelor's degree over those with a high school diploma. Yet resumes with a bachelor's degree are no more likely to receive an interview than those with an associate's. Our analysis of state regulations shows that they strongly influence teacher hiring decisions. In particular, we find that providers largely comply with the regulations: their advertised job requirements often meet or exceed the regulated minimum standards for teachers' experience and education, and they are substantially more likely to interview applicants who meet them. For example, our estimates imply that the interview rate is 63% higher among those meeting the posted requirements for experience and education. Nevertheless, we find that a non-trivial share of providers appear to be non-compliant. A number of providers post job requirements that fall below the regulated minimum standards, and we find that approximately 14% of non-compliant resumes received an interview request.

This paper is organized as follows. Section 2 establishes the context for our study, focusing on defining child care quality and providing a descriptive portrait of the center-based workforce. Section 3 summarizes the relevant literature on the effect of teacher credentials on program quality and child outcomes. Section 4 describes the details of our field experiment. Discussion of results proceeds in two steps. We begin in Section 5 by studying the impact of applicants' demographic and human capital characteristics on interview requests. We then turn our attention, in Section 6, to examining the influence of states' regulations on hiring decisions. Finally, we conclude the paper in Section 7.

¹ The NICHD ECCRN (2005) estimates that 41% of child care settings are of "poor" or "fair" quality, and a review by the National Research Council finds that 10 to 20% of child care settings are "inadequate" and may pose serious risks to child development (National Research Council and Institute of Medicine, 2000). Furthermore, the center-based workforce is characterized by low skills and low compensation. Our analysis in Section 2 shows that approximately 60% of lead teachers have less than a bachelor's degree, and Herbst (2015) finds that median wages, at \$9.77 per hour, have been largely stagnant for the past three decades.

² In addition, several studies find that parents tend to rate the quality of their child's arrangement more favorably than do trained observers (e.g., Mocan, 2007), while other work shows that the degree of parents' satisfaction with their child's program is unrelated to most characteristics of the classroom environment (Bassok et al., 2017).

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