

BUILDING JOB QUALITY FROM THE INSIDE-OUT: MEXICAN IMMIGRANTS, SKILLS, AND JOBS IN THE CONSTRUCTION INDUSTRY

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Using an ethnographic case study of Mexican immigrant construction workers in two U.S. cities and in Mexico, the authors illustrate the contribution of immigrant skill as a resource for changing workplace practices. As a complement to explanations that situate the protection of job quality and the defense of skill to external institutions, the authors show that immigrants use collective learning practices to improve job quality from inside the work environment—that is to say from the inside-out. The authors also find that immigrants use collective skill-building practices to negotiate for improvements to their jobs; however, their ability to do so depends on the institutions that organize production locally. Particular attention is given to the quality of those industry institutions, noting that where they are more malleable, immigrant workers gain more latitude to alter their working conditions and their prospects for advancement.

The U.S. labor market has changed dramatically in recent decades, creating more meaningful and rewarding employment opportunities for some, yet considerable job and income insecurity for many others (Appelbaum, Bernhardt, and Murnane 2003; Kim and Sakamoto 2008). Common assumptions are that immigrants deemed low-skilled will experience these labor market changes in negative ways, and that they are largely confined to segments of the labor market in which jobs are low-wage and working conditions are dangerous and degrading (Mehta et al. 2002).

Scholars often attribute immigrant vulnerability to two reinforcing factors. The first is limited formal education, which creates more challenges for immigrant workers in navigating labor markets and securing better jobs

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(Enchautegui 1998; Gordon 2006). The second is the erosion of workplace protections (Bernhardt et al. 2008). These institutional protections, which range from union representation and enforcement of legal labor standards to entrenched social norms governing employment relationships, act as external mechanisms to safeguard job quality (Kalleberg 2011; Osterman and Shulman 2011). While many workers have suffered in recent decades as a result of a systematic weakening or dismantling of these protections, scholars presume that low-skilled immigrants in particular carry much of the burden of this institutional erosion. The dominant narrative is that immigrants viewed as low-skilled and lacking educational qualifications have few skill resources to use for occupational advancement. Thus, they remain trapped in dead-end jobs that provide limited financial security and tenuous job quality protections (Pérez and Munoz 2003; Gammage 2008; Kerwin and McCabe 2011).

This standard portrait glosses over a more complex set of mediating factors that shape how immigrant workers acquire and use skills. Drawing on a qualitative study of Mexican immigrants working in the construction industries of Philadelphia, Pennsylvania, and Raleigh-Durham, North Carolina, we present a more textured analysis of the relationship between immigrant skill development and gains in job quality. We shift from a traditional focus on external labor market institutions and their impact on employer behavior to investigate instead processes internal to the work environment through which immigrants transform workplace routines and environments. We first examine the skills that immigrants with low levels of formal education or limited participation in structured training programs may nevertheless possess. In particular, we analyze competence related to the performance of job-related tasks that workers may have learned through previous employment, including employment before migration. Second, we examine the extent to which immigrant workers are able to use existing or cultivated skills to affect and alter workplace practices and routines. These two lines of inquiry allow us to consider whether worker skill development and deployment within the workplace can be a source of institutional bargaining power for workers, and if so, under what conditions.

Our findings complement existing literature on immigrant participation in low-wage labor markets, illustrating the ways in which immigrants can and do use their skills to improve job quality (Greenwood and McDowell 1991; Rivera-Batiz 1999). We demonstrate the ways that immigrants considered “unskilled” execute complex work processes and leverage their ability to defend the quality of their jobs.

Our argument draws on qualitative research that focuses specifically on the micro-processes of skill development and demonstration that immigrants author in the workplace. This methodology, longitudinal and contextual in its approach, offers a window into the everyday processes through which immigrants marshal skills to change job quality from the inside-out. By limiting our industry focus, we are able to analyze how those skill-based processes respond to constraints and opportunities generated by the production

requirements of the construction industry (Applebaum 1981; Palladino 2005). By exploring the construction industry in two different labor market contexts, we are also able to explore the ways in which localized institutions that structure production inform the emergence and evolution of immigrant skill-based bargaining strategies. This approach provides the basis for our argument that the skills immigrants develop cooperatively can be viewed as an alternative source of worker bargaining power that does not necessarily derive from immigrant participation in any broader labor movement or any explicit connection to external labor market institutions. Rather, as our ethnographic exploration reveals, it can grow out of immigrants' concerted engagement with, and modification of, the labor process at the worksite, and by extension from their engagement with the industry-specific institutions that govern their workplaces.

Connecting Skill and Job Quality

The concept of job quality captures a diverse range of material and intrinsic benefits for workers. At a basic level, job quality is associated with quantifiable monetary gains, such as payment for hours worked, steady wage increases, and employer-funded health insurance and pension contributions (Osterman and Shulman 2011). But improvements to job quality can also be highly subjective and thus hard to quantify. In this article, we are particularly interested in gains that stem from workers' enhanced autonomy and control over their daily work environment, including how and when they apply and augment their skills (Jencks, Perman, and Rainwater 1988; Handel 2005). With this emphasis, our definition of job quality incorporates elements of what is often described as "job crafting"—defined as workers' ability to "shape their own work identities and work roles through personal construction of their jobs and the execution of the work" (Leana, Appelbaum, and Shevchuk 2009). Where we differ is in our exploration of skill use and deployment by workers. While studies of job crafting often presume worker agency involves matching existing skills to assigned tasks and activities (Wrzesniewski and Dutton 2001; Leana et al. 2009), we recognize the ability of workers to also draw on their skills and expertise to amend, enhance, and transform the tasks and activities they undertake at work. In other words, worker skill is not merely a resource for better job alignment but also an asset that workers use to innovate and improve daily work routines and work environments. By extending the concept of job quality to capture more creative forms of skill application, we open up the possibility to examine the ways that workers leverage their skills contribution to secure more tangible monetary and mobility gains as well.

The link between the deployment of worker skill and gains in job quality has long been noted by labor scholars. The emphasis, however, has been on the historic role that labor standards institutions (be they formal, such as laws and regulations, or informal, such as social norms) and the organizations that enforce them (including government regulatory bodies, unions,

and worker centers) have played in promoting and protecting worker skill (Osterman 2002). By creating formal markers to assign value to informal skill, through mechanisms such as seniority rules, certifications programs, and licensing requirements, these institutions have improved job quality for less-educated workers by making the skills they acquire through on-the-job learning processes more visible and easier to defend (Cobble 1991). In turn, these institutions reinforce worker demands for adequate compensation for the skills they contribute to the industries in which they work (Osterman 2002; Fine 2006).

As this implies, this institutional explanation attributes the quality of jobs held by less-educated workers almost exclusively to factors that are clearly identifiable and external to the workplace. In this sense, the analytic focus of this argument is “outside-in.” And by extension, it presumes that the main leverage workers have in shaping and enhancing working conditions, especially those that pertain to the use of skills, is through external institutional channels. While nuanced and robust, this analytic approach risks overlooking strategies which workers themselves devise to reveal and defend their skill contribution from the “inside-out” and thus, potentially obscure this as an alternative source of institutional bargaining power for workers generally, and for immigrant workers more specifically. With this possibility in mind, how might we better situate a discussion of worker skill and worker-authored training processes as equally influential factors in improving job quality, and ultimately, in facilitating institutional change? The evisceration of external protective institutions in recent decades, including deunionization and weakened labor laws (Peck and Theodore 1998; Bernhardt, Dresser, and Hatton 2003; Valenzuela 2003; Erlich and Grabelsky 2005; Levy and Temin 2007), further reinforces the need to focus greater attention on internal sources of job quality.

Earlier writings on labor market institutions recognized an intimate link between processes of skill development at the workplace and opportunities for advancement within a given industry, occupation, or craft (Osterman 1984). Awareness of this relationship emerged initially from in-depth studies within organizations and places of work; these careful and largely ethnographic examinations of work processes revealed complex internal labor markets in which worker learning was related to job quality (Burawoy 1979; Juravich 1985; Thompson 1988; Leidner 1993; Ouellet 1994; Waldinger and Lichter 2003). They made clear that workers play a critical—although often underestimated—role in shaping the allocation of labor within a workplace and the conditions under which workers are employed. Peter Doeringer and Michael Piore (1971), in their classic analysis of internal labor markets, go so far as to contend that the on-the-job training that workers initiate and reproduce is *the* most important contributor to internal labor market formation, more so in fact than any of the formal structures that employers impose in an attempt to control labor processes.

In studies of internal labor markets, the characterization of worker-driven on-the-job learning begins with a definition of skill as applied knowledge

that is not derived from classroom education or formal schooling, with its hallmark being its casual informality (Burawoy 1979; Kalleberg and Sorensen 1979; Juravich 1985; Bailey and Waldinger 1991). The everyday learning that occurs at the jobsite is collective: learning by and between workers depends on myriad social interactions at the worksite, including observation, experimentation, apprenticeship, “playing around with equipment” (Doeringer and Piore 1971: 19), demonstration, and a careful assignment of tasks by more experienced workers to promote contextual learning. As studies of cognition in the workplace have also underscored, this informal learning is so deeply folded into social interactions among workers and so integral a part of their routine performance of tasks at the worksite that neither employers nor workers can pinpoint precisely which social exchanges at work support learning and in what ways (Scribner 1984; Orr 1996; Rogoff and Lave 1999).

Still, the informality and invisibility of worker-driven learning processes does not mean they are unstructured or undefended. Doeringer and Piore specify that the social exchanges involved in on-the-job learning are tightly aligned with workplace custom, defined as “an unwritten set of rules based largely on past practice or precedent” (1971: 23). This custom can govern aspects of work ranging from discipline to compensation to the allocation of tasks. What is significant about the rules that workplace custom embodies is their function as an ethical barometer: They express what is considered “fair” and “just,” and notions about what constitutes things like “a fair day’s pay,” “just cause for discharge,” and “just treatment” stem from the normative weight of customary rules. Observers of internal labor markets have noted that of all the social interactions at the jobsite, the exchanges around the use and development of skill most powerfully shape and defend accepted norms and rules (Hill 1974; Burawoy 1979; Storper and Walker 1983). As workers trade understandings about how best to do their job and collaborate with one another to develop the skills to complete their responsibilities, they also exchange and reinforce normative understandings about the conditions under which they use their expertise (Scribner 1984; Juravich 1985).

Precisely because the social rules within a workplace or industry have enormous influence on wages, labor processes, and technical performance, the stakes around the collective skill-building processes that construct workplace custom are very high. Michael Burawoy, in his study of machinists at a Chicago agricultural equipment factory, for example, discusses the manner in which workers appropriate their productive function in the factory by turning their work into a game of “making out” over which they have some sway (1979: 81–86). Moreover, as stressed by ethnographies of skill in the workplace, when workers’ use of skill threatens managerial objectives in explicit or fundamental ways, management may try to reassert its control. Tense negotiations, if not outright conflict or work stoppages, often ensue (Juravich 1985; Leidner 1993). These challenges may stem from worker efforts to improve the organization of production, to present alternative

interpretations of production problems and solutions, or even to produce at a pace that is significantly lower *or* higher than managerial expectations. The more collective this unsanctioned use of skill, the more it is perceived as a threat to managerial authority and the more acrimonious the struggle over the application of skill (Gordon 1981).

So, what role do external labor market institutions play in this context? Observers of internal labor markets suggest that they are structures that regulate the use of skill and reinforce the norms that govern the execution of expertise within an industry (Peck 1996). An example of this is the U.S. construction industry, where the emergence of formal bargaining structures that once demarcated the parameters of negotiations between employers and workers were tied tightly to the way workers have deployed their skill at the jobsite. As historical accounts of the rise of building trade unionism demonstrate, workers were first able to shape working conditions when they organized as work groups—that is, informal associations of workers at the jobsite (Price 1980; Galenson 1983; Palladino 2005). In both the United States and Britain, work groups in construction made demands about pay, hours worked, workplace jurisdiction, and training (Price 1980; Palladino 2005). Furthermore, the demands of these work groups were often strategically difficult for employers to challenge because workers anchored them in arguments about skill and its relationship to product quality (Haber and Levinson 1956; Price 1980; Applebaum 1981; Erlich and Grabelsky 2005)—work groups often maintained that their claims represented the minimal requirements to guard against “botch jobs” (Galenson 1983).

On jobsites throughout the United States and Britain, these skill-based demands soon became workplace custom (Applebaum 1981). As the workers endured the brusque changes in negotiating power that accompanied the “boom and bust” periods of the construction industry, there was a push at the turn of the 20th century to formalize and strengthen these existing norms through labor unions that could better defend their interests and consolidate their power across skill specializations (Galenson 1983; Palladino 2005). Building trade unions insisted on explicit markers of skill and jurisdictional rules about how employers could use worker expertise (Steiger 1993; Palladino 2005; Paap 2006). Ultimately, however, building trade unions suffered the same pressures as other protective labor market organizations, and their weakening over the past two decades has resulted in the rollback of tangible gains in job quality (Erlich and Grabelsky 2005; Fine, Grabelsky, and Narro 2008; Theodore et al. 2008).

Given the well-documented erosion of these labor market institutions in U.S. construction and their diminished ability to protect job quality, can workers in this industry still use skill—and especially informal ability acquired on the job—to shape working conditions and generate binding workplace customs about fairness? With this study, we return to a worker-centered approach to studying internal labor market dynamics to explore the influence that workers can have on workplace practices and standards

through the collective deployment and enhancement of skill. This type of exploration requires the pursuit of two lines of inquiry.

First, it necessitates a detailed attention to the skills that immigrants possess and the ways they continue to develop and deploy those skills at the worksite. This involves an attention to skills not captured by years of schooling and that are often acquired on-the-job, often before migration, but equally it requires looking at social exchanges through which skill development becomes collective and what that may imply.

Our second line of inquiry starts with our recognition that the erosion of formal labor market institutions has meant that they can provide less of an external container for the contest over the use of worker skill and for the workplace and industry norms that result. This is particularly true for immigrant workers with limited access to external labor market institutions that strive to make skills visible. This shift suggests the need to pay attention to the impact that institutions other than those concerned directly with labor standards may have on immigrant workers' autonomy in determining how to use their skill at the jobsite. Especially important are localized institutional structures and routines that develop within industries in different labor market contexts and their function in controlling the ways in which workers learn and apply their skill. To what extent does the quality of those institutions matter, and what impact do the features of those institutions have on worker ability to marshal skills for improvements in job quality at the worksite? In the empirical portion of this article, we examine these issues with respect to Mexican immigrant workers in the construction industries of Philadelphia and Raleigh-Durham in the United States, in particular, how the malleability or inclusiveness of industry institutions shape workers' ability to use skills to affect job quality.

An Industry-Centered Research Design

During the first decade of the 2000s, the U.S. construction industry began to rely heavily on Latino construction workers. By 2007, Latinos represented more than 25% of workers employed in the industry and numbered almost 2.3 million. After the housing crash of late 2007, those numbers dipped somewhat, dropping by 300,000, but even in the wake of the construction downturn, Latino workers remained a mainstay of the industry's labor force. Throughout the early 2000s, Mexican immigrants represented the lion's share of Latino workers in construction and continue to do so. In 2007, more than 60% of the 2.3 million foreign-born Latinos in the industry were from Mexico, and throughout the decade they represented the majority of new entrants into the industry (Kochhar 2008).

From late 2006 through early 2010, we analyzed patterns of labor market incorporation and skill development for Mexican immigrants in the construction industries of two U.S. cities: Philadelphia, Pennsylvania, and Raleigh-Durham, North Carolina. Mindful that labor market environments

differ considerably across the United States, we chose these two urban areas where radically different institutions govern their construction industries and mediate immigrant participation: As far as construction is concerned, Philadelphia is still very much a union town whereas Raleigh-Durham is solidly enconced in a right-to-work state. We conducted interviews with a range of industry actors, from representatives of industry associations to officials from government regulatory agencies, and high-level supervisors and employers. Our interviews addressed the structure of the labor market, the organization of production, and the incorporation of Mexican and Latino immigrants in industry labor processes.

At each of our research sites we interviewed approximately 100 immigrant workers (96 in Philadelphia and 115 in Raleigh-Durham). We used a variety of sampling methodologies to connect with immigrant workers: We approached immigrants in community locations, such as taquerías, corner stores, soccer games, and cultural fairs; we made announcements about our research in local Spanish-language Catholic masses and asked for volunteers to participate in the study; finally, we relied heavily on snowball sampling, asking immigrants we interviewed to put us in contact with friends and colleagues who worked in the construction industry. The interviews were all conducted in Spanish and explored employment trajectories, skill development practices, and working conditions on jobsites. They varied in length depending on the flow of the conversation from 20 minutes to several hours, and many of our interviewees spoke with us on several occasions. We complemented individual interviews with several focus group conversations, with numbers of participants ranging from three to twelve. Many of these group conversations were involved, lasting in some cases more than three hours. While some of the interviews were conducted in community spaces, many were conducted on jobsites or nearby. Cognizant of the importance of context to the way that skill was understood and constructed, we visited numerous construction sites where interviewees were employed and observed work practices as they unfolded. Although members of our sample conducted small jobs on their own account on the side, or to hold them over until they had found employment with a contractor, the majority of immigrants we spoke with worked as steadily for an employer as the cyclical nature of the construction industry in both cities allowed.

In an effort to better identify and contextualize the skills that the Mexican immigrants in our study brought to U.S. labor markets, we interviewed construction workers in Mexico, including return migrants with considerable U.S. construction industry experience. To that end, we conducted interviews with more than 75 workers and institutional actors in the Mexican construction industry in Mexico City, Monterrey, and Puebla. Finally, we completed site visits on construction projects in both large urban centers and the interviewed immigrants' villages of origin.

Our fieldwork and our data analysis was recursive and longitudinal (Dabbs 1982; Van Maanen 1982). The theoretical concepts that we used to consider our interview findings—with particular emphasis on notions of

skill and its implications for work processes at the jobsite—were continuously revisited and refined as we collected more data (Van Maanen 1979; Dodge, Ospina, and Foldy 2005; Burawoy 2009). For example, our understanding of the meaning and significance of building approaches in Mexico and the United States rested on an initial round of interviews in Philadelphia and Raleigh-Durham that indicated to us that our respondents were trying to communicate aspects of skill that were difficult to articulate in the abstract and thus necessitated our travel to Mexico to conduct fieldwork there. After returning, we were able to ask questions about skill, referencing specific Mexican training and construction practices to explore their implications for the ways Mexican immigrants navigated their worksite in the United States. Over the course of our research, we continually refined our understanding of the various meanings that immigrants attached to concepts such as skill, learning, collaboration, and advancement and explored the specific connections of those concepts with their notions of autonomy, respect, dignity, and other qualifiers of job quality that they identified (Applebaum 1981; Dodge, Ospina, and Foldy 2005).

Our research was also highly contextual: We grounded our study in a single industry in order to narrow the skill spectrum to those required by construction, but we situated our research in cities where the segment of the industry in which immigrants participated was structured by contrasting industry institutions. This variance allowed us to explore how differing institutions informed the processes by which immigrants deployed and developed their skills at the jobsites we visited (Locke and Thelen 1995). Stated differently, rooting our research in Philadelphia and Raleigh-Durham in this way allowed us to analyze the relationship between institutional macrostructures and the microprocesses of immigrant skill use and development (Lave and Wenger 1991; Burawoy 2009)—and ultimately, the ways in which the interplay between these two levels created openings for improvements in job quality.

Our interviews revealed that while the immigrants in our study had minimal levels of formal educational, with many not even having attended high school, the skills they possessed bespoke a more nuanced picture than their educational levels would suggest. We found that Mexican workers brought robust skills to their jobs and that their employers used these abilities to significant effect. In both sites, approximately 60% of the Mexican immigrant workers we interviewed had acquired construction experience before migrating to the United States. Moreover, we found that, by and large, this experience was extended and sophisticated. While virtually all of the immigrants who had worked in construction in Mexico had helped build family homes, including their own, in their hometowns, more than half had also worked on high-end residential, commercial, or infrastructure projects in large metropolitan centers. Their tenure in Mexican construction varied from several months to several years, with many of the immigrants we interviewed working in the industry in order to earn the capital necessary to cover the costs of migrating to the United States. In the process, they

acquired deep experiential knowledge of a wide range of complex building structures and of the construction techniques required to complete them.

Immigrant Skills across Institutional Settings

Although Mexican immigrants who had worked in construction before migrating to Philadelphia or Raleigh-Durham arrived with broadly similar skill profiles, the way they and their less-experienced compatriots were integrated into the construction industry differed markedly by city. In Philadelphia, building trade unions still commanded a sizable share of the construction market, up to 60% according to city government, and dominated luxury residential and commercial construction projects in the city center. Mexican immigrants, shut out of these quality jobs, were relegated to largely informal labor markets for housing construction and renovation; and the small-scale contractors and freelance “flippers” who predominated in this segment of the industry leaned heavily on this influx of labor.

In Raleigh-Durham, in a right-to-work state with few institutional barriers to the use of immigrant labor, construction contractors, both commercial and residential, were enthusiastic employers of Mexican immigrants. They integrated Mexican workers into projects ranging from large-scale housing developments to commercial and industrial projects. According to recent estimates, Latino immigrants made up around 75% of the state’s urban construction workforce during the period covered by our study, and Mexican immigrants constituted a significant portion of that group (Iskander and Lowe 2010).

Despite different institutions and patterns of integration of immigrant labor, employers in both cities benefited significantly from the skill base Mexican immigrants brought with them. While employers in both cities were often unable to trace the qualities they saw in their Mexican workforce back to previous construction experience in Mexico, they consistently described Mexican immigrants as “quick learners” and “flexible”: Comments such as, “They apply themselves and learn fast,” “You can ask a Mexican worker to do anything and he will do it well without complaining,” “These guys *want* to work and it shows,” and other variants were common refrains in our interviews.

Mexican immigrants were “quick learners” because they were able to absorb new construction techniques rapidly by referencing their previous building experience. This was true whether the new techniques involved the use of certain precision tools and prefabricated materials uncommon in Mexico and thus unfamiliar to the immigrant workers or whether the techniques involved U.S.-specific approaches to materials, like concrete, with which Mexican workers were already familiar because of their widespread use on Mexican construction projects. The reflections of Rigoberto, a Mexican immigrant to Philadelphia who had worked on large-scale projects in Mexico City, were typical of those we heard: “Most everything I know, I learned in Mexico. You just have to watch the process once or twice, and

then you understand how they do things here. Even the tools, once you figure them out, make your life easier.” Similar experiences were noted in Raleigh-Durham, where immigrants referenced the “techniques” and “methods” they brought from earlier construction work in Mexico, with one immigrant worker, for example, estimating that up to 70% of the skills used on a daily basis in North Carolina were developed initially in Mexico.

Second, immigrants with Mexican construction experience tended to have a much wider repertoire of skills than was typical of U.S. construction workers who had not completed an extended apprenticeship program (Lee 1981), especially those U.S. workers who were more likely to have specialized abilities in a single task area acquired through contractor-sponsored training (Agapiou, Price, and McCaffer 1995). Employers and supervisors interviewed for this project often acknowledged greater breadth of skill among their Mexican immigrant workforce in comparison with native-born workers. This range stemmed from the value placed in the Mexican construction industry on the conceptual and practical understanding of the relationship between the elements of a building—how foundation related to roof pitch, for example—and the capacity to perform the range of tasks needed to protect and reinforce those connections. In Mexico, being what is called a *todologo*—a specialist in everything—is critical to occupational advancement: To become a construction supervisor, a worker is expected to develop mastery in several different task areas, such as carpentry, masonry, or plumbing (Bueno Castellanos 1994). In the United States, by contrast, concentrated knowledge in a particular area of building facilitated worker demonstration of skill and the opportunities for occupational advancement that came with it.

Although employers in both cities benefited from the learning ability and flexibility of Mexican immigrants, skill advantages of immigrants with previous construction skill did not automatically translate into measurable, external indicators of job quality, such as high wages reflective of deep skill, retention and promotion, or benefits. Our interviews confirmed that low wages, inconsistent work hours, safety violations, and barriers to career advancement remained a significant challenge for many immigrant workers in both Philadelphia and Raleigh-Durham. In Philadelphia, for example, wages for most Mexican immigrants in the housing market hovered at around half the hourly wages for all construction workers in the city (union and nonunion alike) (Bureau of Labor Statistics 2008) and remained within a fairly narrow band of \$80 to \$120 per day regardless of the complexity of the tasks carried out or the quality delivered. Furthermore, injury rates in our sample were quite high: One in three workers we interviewed reported suffering a work-related injury during their time in Philadelphia, which averaged less than four years. In Raleigh-Durham, workplace injuries were much less common as a result of strict enforcement of safety standards at most large-scale construction sites. Nevertheless, immigrant workers in Raleigh-Durham sometimes suffered as a result of work intensification, even to the point that they felt pressured to skip much-needed breaks.

Furthermore, the task specialization on the worksite combined with the adaptability of Mexican immigrant workers limited the need for training investments and allowed many contractors in Raleigh-Durham to simply treat their immigrant workers as interchangeable and easily replaceable.

Additionally, broader institutional constraints to immigrant mobility stemmed from immigration regulations in both cities that prevented workers from easily extending their labor market boundaries or averting bad employment situations by establishing themselves as independent contractors. The Secure Communities and 287g programs, which mandated the verification of legal status of immigrants detained for even minor infractions, discouraged many undocumented immigrants from opening their own business. These factors were compounded by the inability of undocumented immigrants in both cities to acquire driver's licenses, thus further restricting their employment or entrepreneurial alternatives (Iskander, Lowe, and Riordan 2010). The challenges that immigrants faced due to the erosion of many labor market institutions and exclusion from those that remained were not insurmountable, however, as further exploration of the ways that immigrants used skill strategically at workplaces in both our research sites demonstrates.

Inside-Out Changes in Workplace Practices

Attention to the way immigrants applied the skills they brought to, and further developed at, their worksites revealed the strategies that immigrants used to acquire greater control over their work environment, and in turn, to redefine the scope and quality of their jobs. Quality improvements significant to the workers we interviewed were not just monetary in nature (i.e., wage hikes or employer-financed benefits), but also included actions that resulted in more meaningful forms of work, improved worker prestige, and better job security. In both Philadelphia and Raleigh-Durham, Mexican immigrants deployed skills as resources for altering the structure of production and for innovating around new construction and training techniques. This role as actors who improved production systems allowed them to amend labor processes in ways that also upgraded their working conditions; their skill, when applied and with its value demonstrated, became a source of bargaining power. However, the locus of this activity and how it influenced job quality depended on local institutional context and most specifically on those institutions that governed the organization of production.

Because Mexican immigrants in Philadelphia were confined primarily to low-end housing construction and renovation, they had more limited labor market mobility than we observed in North Carolina. Within this narrow slice of the construction industry, however, they still enjoyed considerable discretion. In part, this was because they dominated the labor market, representing the virtual totality of workers on renovation and reconstruction jobs in center and south Philadelphia. But more important, the autonomy they enjoyed stemmed from the fact that their employers were often literally

and figuratively absent from the jobsite. The small-scale contractors or freelance “flippers” who hired them often arrived in the morning to provide supplies and give direction and then would not return until the end of the day or the following morning. Rarely did employers provide intensive or even steady supervision of labor processes, and for many of them, the language barrier made it impossible to give extensive description of the construction processes they wanted workers to employ. As one worker we interviewed explained, “Sometimes you don’t really understand what they are asking you to do and how they want you to do it, but you know they are coming back at 4 pm—that much is clear—so you are going to just figure it out.” Frequently, the employers themselves had less than full expertise in construction processes. Some of the contractors were experienced building tradesmen who had worked and trained on union construction jobs, while others were amateur contractors or professionals in related fields, such as architecture and engineering, who did not have deep or robust construction skill. Most checked the quality of the construction process by evaluating only the finished product. This employment arrangement meant that employers played a marginal role in structuring day-to-day labor processes on the jobsite. Institutional norms about how work should be organized in this informal segment of the industry were, from the workers’ vantage point, highly malleable.

Workers used the latitude this arms-length supervision provided to organize their work processes as they saw fit. According to immigrant descriptions and corroborated by our own observation on worksites, they took advantage of the autonomy they enjoyed to coordinate their efforts in interpreting construction challenges endemic in the rehabilitation of the wood-frame and brick row homes characteristic of northeastern U.S. cities. Confronted with new tools, materials, and construction approaches on their U.S. jobsites, they self-organized in ways that supported knowledge sharing and experimentation. In most cases, they borrowed heavily from the flexible and holistic approaches characteristic of Mexican construction. They opted for heterarchical teams in which the worker who had the most expertise in the task assigned would take a temporary leadership role. Interactive mentorship was a central feature of the work teams in Philadelphia: Although workers most familiar with a given construction task would teach others on the team what they knew, the learning went both ways, as less-experienced workers used their questions to point out slippages between the knowledge that their mentors brought from Mexico and the construction materials they encountered. For example, questions about why cement for brick mortar repair needed to be much more liquid than for other uses elicited reflections about how pointing—repairing red brick facades—was different from laying mortar in the construction of the cement walls that are ubiquitous in Mexico. Collective improvisation with unfamiliar tools and materials was another common practice. Several workers would contribute their recollections of previous experiments, their ideas, and their observations as they applied tools, some of which were highly specialized and not

widely used in Mexico, to coax desired outcomes from new materials that workers were still mastering.

As workers developed these skill-building practices, they cultivated a set of norms—or workplace customs—that governed learning on the jobsite but went beyond a narrow focus on procedural skill acquisition to cover worker interaction and job quality. Skill was generally viewed on work teams as a shared resource; workers explained that a strong expectation at worksites in Philadelphia was that they all participate in and value the process of teaching and learning. “The most important thing for learning and teaching on the job is respect . . . respect for each other and for your *compadres* who have worked in construction for a long time,” explained Rafael. Another worker, Juan, explained that the workplace norms around learning became clear to him during an incident in which he violated them. Tired of carrying cement bags from one end of the site to the other, recounted Juan, he began a work slowdown to show his displeasure. His actions meant that his colleague who was mixing the concrete had to wait for more cement, and the mixture he was working on was compromised. “So he told me, ‘If you want to do more than haul cement, you have to first learn how to mix it right, and for that, you have to respect those who can teach you.’ I went home that night, and I thought hard about what my co-worker had told me, and the next day I started paying more attention to what others were doing and trying to learn new things.”

Over time, the collective learning practices that workers developed led to innovations in production techniques. Among the innovations they authored were more cost-effective uses of cement, more efficient approaches to drywall and plastering especially tailored to the rehabilitation of the 19th-century housing stock in downtown Philadelphia, and more adaptive techniques for repairing brick wall facades. The work product of these immigrant teams differed from employer expectations, drawing attention to the fact that the process by which the task was executed differed from what they had come to regard as accepted practice. Such changes were generally appreciated as improvements in product, although they also emerged as sites of tension and contest with employers. Our interviewees widely reported that their employers were reluctant to grant them the explicit freedom to experiment and innovate. For immigrant workers, however, the collective practices of improvisation and learning were a core workplace norm that they came to regard as central to job quality and their dignity as workers. They viewed their autonomy to self-organize as the basis for these upskilling practices and relied on their finished work product to defend the collaborative learning processes on which they rested.

In engaging in this conflict, immigrant workers used their employers’ absence from the worksite strategically. To gain leverage in negotiations with their employers, they pushed discussions over how they should apply their skill back onto evaluation of their finished work. A common refrain among the immigrants we interviewed, for example, was that they were more skilled in the use of concrete than their employers but did not reveal their ability to

them until after they had finished the task successfully. Only then did they detail to their employers the steps they had taken to complete the job and the ways in which those differed from the instructions they were given. In this sense, withholding information from employers about the processes immigrants used to undertake a task was a strategy to initially protect the methodology but equally created an opening to reveal to their employers the expertise they possessed. “A lot of times, the gringos don’t ask you what you know—they think you don’t know anything,” explained Efrain. “It is hard to find an opportunity to show what you know. You have to push.” Once a task was complete, they had a tangible product they could use to demonstrate the value of their knowledge, and this in turn gave workers leverage in contests with employers over production processes. Indeed, workers reported that when they proposed process improvements without first demonstrating their effect, it almost inevitably led to serious conflict and strained negotiations. The altercations Julio describes having with his employer were typical: “Several times, I have threatened to quit and take my *compadres* with me if he doesn’t let me do things the way I know how. My boss wants me to do things his way, but I know it will turn out badly and then he’ll blame me.”

Ultimately, it was the quality of immigrants’ finished work products—products that even their employers would concur were often superior to what workers would have produced had they followed employer directions—that protected the organizational autonomy of teams. In the end, the arms-length employers in Philadelphia housing renovation were more concerned with the end-products than with the day-to-day work processes that produced them and the norms around collaborative mentorship that undergirded them.

Immigrants used collective skill to achieve other improvements in job quality. For example, by revealing the final results of these work practices but not necessarily the nature of the collective processes that produced them, immigrants made it difficult for employers to isolate any given worker in the team as the driver of innovation or quality in producing a work product. By pushing for collective pay increases, they safeguarded the cohesion of their work group from employer attempts to create divisions by paying workers differently. More specifically, they protected the least skilled among them, giving them time to learn as they preempted any employer attempts to winnow out the novices or to pit workers on the team against one another as a strategy to drive down wages. Immigrant workers thus tied the employment security of one to that of the team as a whole. “The most important skill is to know how to work in a team, and to be in a team you have to be a *compadre*. It’s all relationships. You treat your teammates with respect, with solidarity. It is your friends who teach you . . . you need all different skills you can get to keep working,” explained Rafael, an immigrant from Mexico City. More tangibly, the bonuses that immigrants secured for their work team as a group were much higher in value than any reward they could have garnered individually. Immigrants reported that group bonuses for teams of three to five workers could be as much as two thousand dollars for task sets

of about two weeks duration that were completed more quickly and at superior quality.

Somewhat paradoxically, in Raleigh-Durham, where the broader construction labor market was certainly more inclusive than in Philadelphia, the workplace structures were markedly less flexible. Building processes on projects ranging from modest residential to large-scale commercial were subdivided into highly specialized tasks, and the building techniques were standardized and sophisticated. Supervision of building techniques was extensive and focused on making sure that workers did not deviate from the mandated use of tools or handling of materials. The rigid production routines severely limited immigrants' ability to exercise their autonomy and discretion, especially when it came to equipment use and the application of construction materials. Under the close watch of supervisors, immigrant workers were often forced to use their skills in more prescribed and piecemeal ways and mostly drew on such skills to leapfrog rigidly defined job categories and task delineations by moving from one employer to another. As a result, immigrants in North Carolina faced more difficulties compared with those in Philadelphia in deploying broad-based skills to challenge dominant workplace practices and routines.

Even career development opportunities were tightly controlled through rigid workplace hierarchies. These structures not only reinforced positions of authority—with immigrant workers frequently referring to themselves or others as “subordinates”—but equally pushed many immigrant workers to adopt individualistic strategies for attempting to climb the rungs of the career ladder. Anglo superintendents actively enforced this hierarchy when allocating job and task assignments—in one case, a superintendent admitted to writing “foreman” in indelible black ink on the hardhats of Latino immigrants he selected for promotion. He knew there would be some resistance to this practice—but he claimed this was the best way to ensure clear lines of authority and to establish norms around supervision and leadership.

Despite the dominance of these practices, Mexican immigrants in Raleigh-Durham collectively devised alternative strategies for securing greater control over their work environment. In many cases, these strategies involved the application and development of skills in new and more collaborative ways. As a result, immigrant workers in Raleigh-Durham were able to create more autonomous spaces for promoting collective knowledge sharing and for facilitating greater coordination of immigrant expertise. In turn, they were able to establish themselves as vectors for process innovation.

As in Philadelphia, their ability to do so often stemmed from initially subversive acts, including a willingness to preserve certain dominant practices in order to initially shield the challenges they were actually introducing to the status quo. In several instances, highly ranked immigrant workers in Raleigh-Durham used their labor market status to promote, yet simultaneously obscure, the new forms of work organization they developed with immigrant members of the work crews they were assigned to supervise. Aware

of the vast knowledge and expertise within their crews, yet also mindful of the need to support learning among newcomers, these immigrant supervisors took steps to relax job categories and flatten job ladders, thereby encouraging members of their work crew to engage in cross-task training and job rotation. Within these crews, immigrant workers combined their task specialization with a generalist's—a *todologo's*—understanding of the construction process, and together, they complemented one another's knowledge.

Immigrant superintendents also used their position of power as a resource to further enhance learning opportunities for newer members of work crews. In one case, an immigrant supervisor used jobsite safety training videos to demonstrate a variety of building techniques to members of the crew—this repurposing of safety videos for technical skill development was not obvious to Anglo coworkers or superintendents. In another example, an immigrant supervisor used his responsibility for jobsite safety standards, which typically involved walking around the jobsite and stopping to observe and discuss work practices, as a teaching and team-building moment. In the process, he would encourage more experienced immigrant crew members to share insights with other members of the crew and empower newcomers to speak up about past work experience yet also flag potential skill gaps.

In a strategy reminiscent of the approach used by immigrant workers in Philadelphia, immigrant supervisors took decisive steps to demonstrate the collective knowledge contribution of immigrant workers to employers once those practices were well established. Doing so allowed them to broaden their influence over production practices and standards. They helped their Anglo bosses and supervisors understand the efficiency and quality gains that stemmed from innovative and nontraditional work practices. In describing his recognition of the contribution of one such crew, an Anglo field superintendent acknowledged they were more than simply the sum of their parts. As he explained it, this crew—which he nicknamed his “A-Team”—“performs like a professional sports team. Every one of them knows what the other one is doing. . . . We just tell them to go prep a slab and it's done.” Recognizing their value, the superintendent dispatched the A-Team to multiple jobsites to control the quality of production processes on-site and to solve construction problems that crews more narrowly focused on specific task areas were unable to prevent or resolve.

Immigrant supervisors also used their position of authority to negotiate for tangible improvements in job quality. As one example, when several members of one crew lost their driving rights as a result of changes in North Carolina's licensing requirements, their immigrant crew leader put pressure on their employer to provide transportation to and from the jobsite in order to reduce risk of deportation. Given concerns about a postrecession work slowdown, another immigrant crew leader secured a sizable wage increase for all members of his crew, along with a guaranteed minimum weekly workload of 40 hours. This outcome resulted from the simple suggestion to

his Anglo superintendent that the work team would likely disband without this support and search for more stable employment and income sources outside the state. In this case, as well as in others we observed in Raleigh-Durham, immigrant supervisors and their work crews made otherwise rigid production process and institutions more malleable and enabled both the industry and themselves to benefit more fully from their skill contributions.

Discussion and Implications

In this article, we illustrate the contribution of immigrant skill as a resource for changing workplace practices and improving job quality from inside the work environment, that is to say, from the inside-out. Although immigrants in our study often held construction jobs that displayed characteristics associated with low-wage, low-quality employment, we find these individuals brought significant skill to their jobs, which they continued to develop over time. And they deployed and deepened their skills collectively in ways that refashioned internal labor markets and the norms on which they rested, and ultimately enabled them to negotiate for job quality improvements. Their leverage was not simply produced by aggregating the skill of multiple individuals; rather, it was developed through participatory and collaborative efforts to develop skill on-the-job.

Immigrants' ability to wrest these improvements depended on the institutions that organized production locally. Where institutions were more malleable, immigrant workers often gained more latitude in altering their working conditions and prospects for advancement. In Philadelphia, employers' arms-length supervision of their crews gave workers the flexibility to organize production in ways that enhanced the quality of their jobs, and workers used the quality of their work products to protect their autonomy at the jobsite. In Raleigh-Durham, where the construction labor market was more inclusive of immigrants, workers too focused their efforts to improve job quality on aspects of the organization of work that were most malleable. Still, in this second setting, where production processes were highly specialized, strictly hierarchical, and rigidly enforced, workers had to carve out areas of flexibility. Immigrant supervisors collaborated with their teams to promote alternative processes of collective knowledge sharing and cross-task learning, and these practices provided a vehicle to reform production routines from within.

Our work has implications for how scholars and advocates represent immigrant workers and their contribution not only to improvements in job quality but also to the associated resources their collaborative learning practices represent for the industries in which they work. Latino immigrant workers, and Mexican workers in particular, remain a significant segment of the construction workforce, equivalent to proportions they represented before the construction crisis hit around 2008. The ability of immigrant construction workers to adapt to and improvise within various institutional environments suggests they are likely to remain an important contributor to

construction industry development and upgrading. Looking forward, we see obvious signs of construction industry transformation in the United States, much of it stemming from the decline in demand for construction services in the wake of the 2008–2009 crisis. In response, construction businesses are being consolidated, subcontracting and labor management systems are being revamped, construction standards are being altered, and materials are being modularized (Sebestyén 1998; Weil 2005; Abernathy et al. 2011). While some of these changes may produce greater efficiencies, others will likely create significant challenges for construction management and industry development. Many of these changes may also adversely affect the quality of jobs in this industry, with some efficiency gains possibly achieved at workers' expense. In this context, the collaborative skill-building practices we have outlined may prove an essential resource for addressing production problems that stem from industry restructuring. They may also act as a mainstay against the erosion of job quality: Immigrant workers may very well use similar processes for collective learning to adapt to industry changes and in ways that protect important elements of quality jobs. This possibility suggests a supportive role to be played by immigration scholars and advocates in raising the visibility of immigrant workers and the skill-based improvements they can make to the industries and jobs in which they work.

Beyond immigrant workers, our research has broader implications for studies of worker power and agency. Our findings suggest the need to recognize the role of internal labor processes, and not just external labor movements, in shaping the ability of workers—particularly those at the lower end of the labor market—to achieve gains in job quality (Osterman 2011). In this regard, we depart from contemporary labor scholarship that has turned its eye toward external channels for mobilizing workers to demand improvements in job quality and efforts by workers and labor advocates to organize for change outside the workplace (Burawoy 2008). This outward approach has shed light on new forms of labor organizing, including the contribution of broad-based coalitions and identity politics in helping to bolster the U.S. labor movement. Still, by privileging external spaces for organizing—and more specifically by concentrating primarily on “outside-in” forms of institutional intervention and advocacy—the risk is considerable that we will lose sight of internal sources of worker power that stem from actions and interactions of workers at the jobsite. This is not to say that processes internal to the work will eliminate all forms of employer abuse and worker vulnerability. Nonetheless, our research suggests that an opportunity exists for scholars to better document the ways in which workers, especially those employed in low-wage jobs, use their skills, their creativity, and their ingenuity as a source of bargaining power and collective action.

Our work also indicates that structural constraints to making skill a resource for bargaining power are likely to vary by industry and even by industry location. Such differences have implications for the kinds of maneuvering room workers may have in circumventing or challenging the structures they

encounter (Storper and Walker 1983). In this regard, our research has implications for a broader debate about industry upskilling by demonstrating that simply featuring or cataloging the skills that less-educated workers bring and continue to develop at the jobsite is not enough (Livingstone and Sawchuk 2005). Rather, what is needed is a more encompassing framework that allows us to understand the specific struggles that less-educated workers encounter in making their skill a recognized and rewarded asset and also to document the innovative solutions they devise at work that make this outcome possible.

Still, while our research suggests a return to studies of labor at work, it also allows us to step back from the workplace itself to comment on labor advocacy. Our findings show that worker organizations that seek to strengthen labor protections would also do well to pay closer attention to the inside-out strategies that workers craft to improve job quality. By connecting to the collaborative ways in which workers develop skills, worker organizations may uncover potential inroads into firms and industries as well as strategies to better support worker initiatives to defend their skills and autonomy in the workplace. Moreover, institutional actors can broaden these internal pathways to fortify the labor standards they have been working to uphold from the outside-in.

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