

***High-Touch and Here-to-Stay: Future Skills Demands in Low
Wage Service Occupations***

Dr. Mary Gatta, Center for Women and Work, Rutgers University

Dr. Heather Boushey, Center for Economic and Policy Research

***Dr. Eileen Appelbaum, Center for Women and Work, Rutgers
University***

***Paper commissioned for a workshop organized by the National Academies Center for
Education on Research Evidence Related to Future Skills Demands
Washington, DC
May 31-June 1, 2007***

Introduction

Over the past few decades the growing economic inequality that has characterized the United States labor market has been a significant concern for academics and policymakers interested in ensuring all individuals have opportunities to prosper. Currently, 31 percent of Americans earn less than two-thirds of the national male median wage and the richest one percent of households own 42 percent of net financial assets.¹ Two explanations for these trends have dominated academic and policy discourses. First, computers and information technologies have automated routine and rule-based tasks in many occupations, delegating tasks that were once performed by individuals to equipment and technology. Second, the global outsourcing of jobs that can be performed more cheaply outside the United States has accelerated the decline in manufacturing employment and the movement offshore of a range of service jobs. Partly as a result of computerization and globalization many scholars have suggested that the labor market is “hollowing out”: high-wage, high-skill occupations and low-wage, low-skill occupations are growing, while the middle-range occupations (those that pay self-sufficiency wages and require moderate skills) are shrinking as a share of total employment (Levy and Murnane, 2005; Autor, et al, 2006). This creates significant challenges for the fabric of American democracy as workers with high levels of formal education are rewarded in the labor market, while workers with a high school education are stuck in jobs that pay low wages. The resulting income disparity, based on formal education attainment, appears poised to continue to widen.

¹ The median wage figure is from Heather Boushey, Shawn Fremstad, Rachel Gragg, and Margy Waller. 2007. *Understanding Low-Wage Work in the United States*. Washington, DC, Center for Economic and Policy Research; the wealth figure is from Table 5.1 in Mishel, Bernsetin and Allegretto (2007).

Yet this only represents part of the story. While there has been much research quantifying the bifurcated labor market and the importance of preparing individuals for the higher-end occupations, there has not been a great deal of work seeking to understand the future demand for lower-end service occupations. The literature has tended to group together a wide variety of jobs that require little or no higher education without connecting the actual skill content and job requirements to the trends supposedly driving the inequality: namely, technological change and globalization. More recent papers are seeking to tease out what kinds of skills are subject to mechanization or outsourcing to better understand what kinds of jobs will be likely to remain in the United States over time and thus what is the future demand for skills in the U.S. labor market (Blinder 2006; 2007; Levy and Murnane 2005).

In this paper we delve more deeply into the rapidly growing service occupations in the United States and the level of skills these jobs require. Our focus is on service occupations that require “face-to-face” contact, which includes nearly every service occupation. (See Appendix A for a full list of service occupations.) Many of these occupations are projected to be the fastest growing in coming years; moreover, they cannot be easily offshored or mechanized. In many ways, these are jobs of the future. Understanding the skills required for these jobs is important because:

- Many service occupations cannot easily be outsourced because they require face-to-face service work, emotional labor, and/or caring labor where the worker must personally perform the job (Blinder 2006, 2006; Gatta, 2002; Callaghan and Thompson, 2002; Payne, 2006).
- Many service occupations cannot easily be replaced by technology because they require human labor, or, to use Levy and Murnane’s (2005) typology, they require both “expert

thinking” and “complex communication skills” (Card and DiNardo, 2002; Petterson, Randall and Helgeson, 2004).

- The service occupations are predominately filled by women, minorities, and immigrant labor and there is economic evidence that these jobs are not paid their “comparable worth” compared to similarly skilled jobs held by male workers (Guy and Newman, 2004; Reskin and Roos,1990; Glomb, Kammeyer-Mueller, and Rotundo, 2004; England, Budig, and Folbre, 2002)
- More recently, there is evidence of the restructuring of some service occupations so that they are more skilled, productive and tied to higher labor market rewards (Appelbaum, Bernhardt and Murnane, 2003; Appelbaum, Bernhardt, Murnane and Weinberg, 2005).

These trends suggest that a more comprehensive understanding of service occupations is needed. Indeed, given the large current and projected growth in service occupations, there is a significant need to ascertain the skills required for particular jobs—namely the conditions of work and how the jobs and skill demands are changing. This paper will review both economic and case study/ethnographic literature on service occupations to understand what skills are required in service occupations and how the skill levels relate to wages in these jobs. Note that throughout the paper, we focus on service occupations, which are not the same as the service industry or what people refer to as the service sector. The service industry accounts for three-quarters (75.8 percent) of all jobs in the U.S. economy, while service occupations account for one-in-five jobs (20.0 percent) (see Hecker, 2005; Berman, 2005). This distinction is central to understanding the jobs of the future.

Service occupations: Growing rapidly, not offshoreable and not replaceable by machines

Researchers and policymakers have begun to realize that the skills required for service occupations have for too long been excluded from skills debates. Discussions have tended to focus on two trends affecting the labor market – the changes wrought by new technologies and globalization – rather than looking inside the jobs that have always been with us. As Marek Korczynski (2005) notes, “debates on skills both within policy circles and academia have too often leapt from a focus on manufacturing to a focus informed by the all-embracing new paradigm of the knowledge economy. In this breathless journey, there is one notable segment of the workforce that tends to be left by the wayside—service workers, particularly those in direct contact with service recipients or customers” (p. 3). Korczynski and others (Bolton, 2004; Brown et al. 2001) suggest that this exclusion is due, in large part, to a rigid definition of skills that, for too long, has been unable to grapple with job demands that are more intangibly based—the service quality experienced by the customer. Further, researchers and policymakers may have glossed over these jobs because they have relatively low wages and low formal education requirements—often only requiring a high-school degree or on-the-job-training—and are thus not the kinds of jobs we would hope are the jobs of the future.

There is growing recognition that looking inside service occupations may be increasingly important, especially for debates on wage inequality and the future composition of jobs in the U.S. labor market. Alan Blinder (2006; 2007) has developed a typology detailing jobs that are potentially “offshoreable,” and in the process developed a long list of jobs that will likely remain in the United States in the decades to come. While it is well understood that manufacturing jobs can be outsourced, it is less well understood is which kinds of service sector jobs can be outsourced. Blinder defines a non-offshoreable job as one that requires “personally-delivered”

services, which cannot “be delivered [to its end user] electronically over long distances with little or no degradation in quality” (Blinder 2007, p. 2). Based on this framework only one service occupation, Medical Transcriptionists (SOC code 319094), is highly offshoreable. All other service occupations are not offshoreable because they require face-to-face contact, either between the person doing the work and the person getting the service (a barber, for example) or between the person doing the work and a particular place of work (a janitor, for example). These services cannot be delivered from afar—yet; Blinder does point out that holograms may eventually replace professors, but for now, these are not jobs that are going abroad or can be replaced with new technologies.

Perhaps because they are not offshoreable, over the next decade, service occupations are projected to grow faster than all other occupations except professional and related occupations. Table 1 shows employment levels for 2004 and the U.S. Bureau of Labor Statistics employment projections for 2014. Service occupations are projected to grow by 19.0 percent, adding 5,257,000 new jobs, while professional and related occupations are projected to grow by 21.2 percent, adding 6,046,000 new jobs. Both occupational groups are projected to grow much faster than employment overall, which is projected to grow by only 13.0 percent.

<< Table 1 Here >>

Figure 1 shows that seven out of the twenty projected fastest growing occupations are service occupations. These jobs are growing faster than others, but may be starting from a small base, so they may not account for a large share of overall employment. Jobs in fast-growing service occupations are projected to grow from 1.3 to 1.9 percent of the entire U.S. labor force

by 2014. Comparably, the fastest growing professional occupations are projected to grow from 3.0 to 4.1 of the total U.S. labor force.

<< Figure 1 Here >>

Service occupations, especially low-wage ones, are also among the jobs projected to have the largest job growth over the next decade (Table 2). Of the ten occupations with the largest growth, five are in services. Notably, only one, nursing aides, requires more than short-term, on-the-job training (Hecker 2005) and has more than very low earnings (below \$20,180 annually, and this occupation is itself neither highly skilled nor highly paid). Of the eleven service occupations among the 20 occupations with the largest projected job growth, eight have very low median annual earnings, below \$20,180 annually and the remaining three, nursing aides, orderlies, and attendants; landscaping and groundskeeping workers; and medical assistants have low median annual earnings, between \$20,190 and \$28,570 (Hecker 2005, Table 3).

<< Table 2 Here >>

Given that the United States is likely to have more workers in service occupations in the years to come, that these jobs are ones that are less susceptible to the overarching trends of computerization and offshoring, and that they are relatively low-paid and thus cause concern about the future of work in the United States, we need to know more about the skills that they entail.

Measuring skill in service occupations

As shown in Table 2, many service occupations—and the fastest growing ones—require relatively little formal education and pay relatively low wages. Based on these facts, much of the economics literature on wage inequality would *a priori* define these as unskilled jobs since “skills” are often measured as the level of formal education required of workers currently employed in the job. In most research on employment and wages, the most common measures of skills—namely the level of required qualifications and the time needed for full training—become proxies for the skills they are intended to represent. However, conflating skills and proxies of skill measurements (i.e., educational attainment) masks the skill demands in service occupations (Koreczynski, 2005; Grugulis, et al. 2004; Sturdy, et al. 2001), perhaps more so than in other occupations. Conflating skills and educational attainment marginalizes and excludes the work performed in the service occupations within the skills discussion, as employers may not require extensive training or formal qualifications in many of these jobs. While most analysts would likely admit that defining skill by educational attainment is driven by data availability, not theory, and would prefer other measures, there are limited resources available to study “true skills” in empirical work for researchers that do not rely on conducting their own, new surveys or field work.

Many authors use the Dictionary of Occupational Titles (DOT) as their main source of job skills. The DOT, which is prepared by the Bureau of Labor Statistics, is the only source of fairly consistent, national time series data on the skill demands of work in the United States. The DOT provides a direct measure of skill for jobs in the U.S. economy. The measures include a wide variety of elements of jobs: the level of interaction with data, people, or things; educational

requirements; training requirements; aptitudes, including mathematical and verbal; and work conditions (Spenner 1983).

However, the DOT may not adequately incorporate the specific kinds of skills necessary for service occupations. To explain why, it is useful to look at the kinds of skills that are necessary in service occupations. Table 3 shows the skills for the service occupations that are projected to add the most jobs over the next decade, based on skills as measured by the U.S. Department of Labor's O*NET program. The skill requirements in these occupations are similar to service occupations more generally: all five occupations require active listening, instructing others, and speaking effectively. Other common skills are coordinating their job with respect to others, reading comprehension, service orientation, social perceptiveness, and time management. With the exception of reading comprehension, these are what the literature has typically referred to as "soft skills" or "people skills." This interactive aspect of service jobs complicates the understanding of skills in service work because it is highly subjective and not easily measured by an interviewer. For example, Attewell (1990) explores the skill content of jobs and notes that the DOT variables are susceptible to social judgments "leaking into what are ostensibly objective measures of task complexity" (p. 427). This can happen either if the DOT field officer holds cultural biases or if the DOT categories themselves reflect a bias. Attewell goes on to point out that because DOT field officers often spend little time evaluating job content, they may miss the interactive skills that are so critical to service occupations.

<< Table 3 Here >>

The original DOT measures were found to have a gender bias and while there have been changes to the measures, there are concerns that the skills of female-dominated occupations may be deemed less skilled because of this gender bias. Because service occupations are disproportionately comprised of women, minorities, and recent immigrants, we must carefully evaluate whether the skills required are not clouded by bias or notions of what is “natural” for these particular groups. The gendered composition of these jobs and, more importantly, the nature of the skills needed to perform the work contribute to their characterization as low-skill and low-wage. Indeed emotional work, caring labor, and relationship building are typically associated with women and mothering. The assumption follows that these jobs do not necessitate skill acquisition, complex communication, or expert knowledge, but instead rely on *natural* qualities of women. This reasoning then justifies the widely held view that workers should not be paid well for performing this work (England, Budig, and Folbre, 2002), as they are not performing skilled work. The typically negative consequences of emotional labor for job satisfaction, emotional exhaustion and well-being are well documented (Grandey, 2000; Hochschild, 1983; Morris and Feldman, 1996, Pugliesi, 1999; Wharton, 1993). Yet, higher levels of emotional labor are associated with lower, not higher, expected wages except for workers whose jobs include working with data and information (Glomb et al., 2004).

Further, the DOT may not do an adequate job of measuring skill changes over time. Alexandra Spitz-Oener (2006) notes that research using the DOT data cannot incorporate an understanding of changes in jobs skills within occupations (p. 236). She uses a West German panel survey, spanning from 1979 to 1998/99 that allows an analysis of task changes within occupation. Her results suggest that occupations have greater complexity, compared to twenty years ago; occupations have experienced a shift toward analytical and interactive activities and

away from cognitive and manual routine tasks. This has been ubiquitous within occupations and these intensified by the expansion of computer technologies. She argues that her research is more representative of true changes in skills because her panel data does not lead “analysts to underestimate the true changes in job content” (p. 242) as the DOT does. Kenneth Spenner (1983) delineates a series of examples of the DOT introducing a high degree of path dependency into the measure of skills because measures from prior editions are too-easily incorporated into new editions without substantial understanding of true changes in jobs skills over time. He concludes that the use of the DOT requires “even more caution until questions about the non-independence of successive editions are resolved” (p. 831).

There has been considerable work to expand the kinds of skills measured in low-wage occupations, many of which are service occupations. Some of the important conclusions of this research were that “soft skills” were not adequately measured in easily available national datasets (Moss and Tilly 2000; Newman, 1999) and that employers were looking for these skills in low-wage occupations, particularly service occupations that require “face-to-face” work. For example, Harry Holzer’s (1999) *What Employers Want*, explored what kinds of skills employers expected and found that they increasingly require greater cognitive and social skills as well as specific, job-related experience, and that employers rely heavily on testing, informal referrals, and stable work histories.

This review of the literature points to the conclusion that much of what we know about skill demands in service occupations must come from research that looks beyond nationally available surveys that may be able to easily measure “hard skills,” like educational attainment, but not the kinds of skills necessary for service work. Other work has, of course, relied on other measures of skill, for example a recent paper by Bernstein and Gittleman (2003) uses the

National Compensation Survey to examine the skills in low-wage work, but here, too, the types of skills specifically necessary for service occupations—the complex emotional, communication, and face-to-face work—is not adequately measured.

In reality, jobs that have traditionally been treated as “low-skilled” because of their technical aspects and/or formal qualifications may indeed represent higher skilled work as they require workers to engage in interactions in dealing with customers. Indeed the growth of interactive service work raises important concerns and challenges to traditional notions about the skills workers need to complete these jobs. Specifically we focus on four types of skill sets – emotion work, caring work, aesthetic work, and articulation work –which are used to create and manage the elements of the service interaction. In addition, we explore not only the debates surrounding these elements as skills via theoretical literature and case studies, but also how the demographic composition of service occupations impacts this discussion.

The interactive aspect of service work

Service occupations require face-to-face and emotional skills, like those outlined in Table 3. The literature that we review focuses on the skill demands of interactive service work, which encompasses jobs requiring face-to-face work, but includes jobs outside of service occupations, such as call centers and sales. Where appropriate, we include this literature below it examines the face-to-face component critical to understanding service occupations. The investigation of the “interactive” aspects of service work is not new. Indeed for several decades now, researchers have probed what Arlie Russell Hochschild first termed emotion work. Emotion work is “the act of trying to change in degree or quality an emotion or feeling” (1979, p. 561), and occurs both on and off the job. Emotion work is an

active process in which the individual creates, evokes, and shapes his/her feelings.

Hochschild then uses this theory to examine what she terms the commoditization of feeling, where emotions and feelings are bought and sold as part of labor power. Organizations develop rules of behavior and affect to replace the various elements of the individual's emotion management. However, it is not just the public display or face that organizations expect from their employees. Companies also demand the emotional labor of individuals, the deep acting of the individual. The private management of feelings is bought and sold in the public sphere. For example, Hochschild notes that flight attendants must smile. Yet this public face is not all that is expected. "Smiling is separated from its usual function, which is to express a personal feeling, and attached to another one—expressing a company feeling" (1983, p. 127). This is illustrated in Hochschild's story of a flight attendant. In response to a question from a customer as to why she was not smiling, the flight attendant stated, "you smile first then I will smile. Now freeze and hold that for fifteen hours" (p.128).

While emotion work requires workers to feel certain emotions and clearly display them during the service interaction, service employees may also be asked to provide caring work or caring labor. Scholars have differentiated care work from emotion work, as care work involves the active caring for individuals. Specifically, Paula England, Michelle Budig and Nancy Folbre (2002) define caring work as occurring in occupations in which workers are supposed to provide a face-to-face service that develops the human capacities of the recipient. These human capacities include the health, skills and/or proclivities that are useful to oneself or others. Occupations that England and her colleagues typically reference include (but are not limited to) nurses, teachers, healthcare assistants, child care workers, social workers. Most recently, Mignon Duffy (2005) has advanced a conceptualization of care work that is based on distilling the work

of Joan Tronto and Berenice Fisher (1990) and Francesca Cancian and Stacey Oliker (2000). Duffy defines care work as intertwining processes containing four main elements—feelings, responsibilities, responsive action, and relationships. Central to this is that care work is defined as a unique practice, skill, or way of thinking with an emphasis on relationships (Duffy 2005, p. 68). Indeed it depends on developing a relationship between the care giver (or care worker) and the person cared for. Rachel Sherman (2002, 2007) expands this definition to include in the conceptualization short-term relationships that are more service oriented. Specifically, she looks at the personal care in luxury hotel work, and how the employee’s anticipation of customers needs overlaps with “good care” in traditional caring occupations (2002, p.3)

Indeed Sherman’s attention to the service work in luxury hotels also highlights a burgeoning area of service work that scholars have recently been investigating: that of the aesthetic labor performed particularly in the style labor market (such as boutiques, high end hotels, designer retailers, and style café, bars and restaurants) but also increasingly expected of workers in non-style retail and hospitality. Aesthetic labor (Nickerson, et al, 2004; Witz, et al. 2003) goes beyond just the technical and emotional skills of service work to note that employees are also required to possess aesthetic skills. These skills enable employees to ‘look good’ and ‘sound right’ in their jobs by presenting themselves appropriately to customers. This presentation involves the body language, dress style, personal grooming and voice/accent, along with working knowledge of culture.

Finally, researchers also focus on articulation work—the linking together parts of a social action (Straus, 1985) in interactive service work. Articulation work involves the coordination and integration of the service interaction, relating to the intersection of social worlds, and the tacit management of the fragile social order that arises during the interactive service work

(Korczyński, 2002; Hampson and Junor, 2005). For example, the receptionist at the front desk of a hotel may have to access information from the computer system, process information from the hotel guests, answer phones, and maintain a conversation flow, all simultaneously. This work involves a blend of emotional, cognitive, technical, and time management skills performed often at speed and with varying levels of complexity and autonomy (Hampson and Junor, p. 176).

How are the skills conceptualized in the service work?

In this section we review some of the seminal research on skills demands in service work, focusing on case study and ethnographic research in the U.S. and beyond, highlighting what we know about skill demands for face-to-face service work and what still needs to be investigated. It is important to note that while the great advantage of using case study and ethnographic research is that it affords rich and detailed data about workers, it is typically derived from small samples of job-holders. Qualitative work typically involves purposeful, as opposed to probability sampling, which while producing deep understanding of social phenomena, comes with certain limitations regarding broader societal generalizations. As Margarete Sandelowski (1995) suggests: “it [qualitative methods] may be sufficient enough to permit the valuable kinds of generalizations that can be made from and about cases, variously referred to as ideographic, holographic, naturalistic, or analytical generalizations” (p.180). Further, while our paper is narrowly focused on service occupations, findings from occupations requiring face-to-face work outside of service occupations, such as call centers and sales, are also relevant to our study.

Before we review the case study and ethnographic research, it is first important to acknowledge the significant challenges this work brings to traditional definitions of skills. Many scholars have noted the need to move away from more rigid and conventional notions of skill

that focus on technical content, job complexity, and task discretion to include social and soft skills such as communication, flexibility, attitudes, and team work. Central to work, led by Marek Korczynski (2002; 2005) Sharon Bolton, and Carol Boyd (2003), is the understanding of the social interactions in service work as a delicate game where the worker must develop skills that can discern a customer's needs, select, and then adapt social scripts to meet those needs. Yet with even the most stringent attempts to routinize the service interaction (Leidner, 1993) degrees of variability and unpredictability are inevitable, so the success of the interaction lies with the worker. The worker then exercises choice and discretion in the service interaction, and requires skills in order to engage effectively in this work.

To substantiate these claims there has been much case study and ethnographic work exploring the daily life of service workers. Arlie Russell Hochschild's (1983) study of airline flight attendants opened the dialogue on how workers draw on organizational feeling rules and scripts to carry out the interactive work in the airline industry. Hochschild's work also helped to provide a vocabulary and paradigm for service work which, almost twenty five years later, has been expanded upon in order to discern the skills and quality of work lives of service workers in various growing occupations. As most service workers are dealing with others, generic skills including communication skills, team working, problem solving, and information technology (IT) skills are in great demand by employers (Belt and Richardson, 2004). In interactive service work, the worker is indeed part of the product that is sold and, as a result, interpersonal skills, personality, and appearance become a central attribute in securing and maintaining a service job. There is increased emphasis on looking and/or sounding the part, and also having the "fit" with the culture of the organization in terms of their values, attitudes, and personal outlook (Belt and

Richardson, 2004). So what does the literature tell us about these skills? And, perhaps even more importantly, what are the myths and realities of skills and service work?

The tenet of the discussion that tends to grab the biggest headlines is that there is a ‘deskilling’ in service jobs in terms of a loss of job autonomy and task narrowing. George Ritzer (1996) famously referred to this as the “McDonaldization” of jobs where speed and routine scripts were the central components of work, and workers enacted very routinized and rationalized jobs. Indeed Ritzer saw the increased routinization of service work as the future trend. In fact, the New York Times ran a front page story on April 11, 2006 demonstrating this rationalization and how it was leading to the outsourcing of the drive-through employees at local McDonald and other fast food restaurants. The process seemed simple enough: a customer places an order at the drive-through window, which is then routed to a worker at a remote call center. This worker enters the order into the computer and then the order is routed back to the local restaurant to be assembled as the customer drives up to pick up his/her food. One worker at a call center can then support the drive-through windows of several restaurants, increasing speed of service for the customer, and lowering costs. Ritzer (1996), among others, envisions that the future of service work will be characterized by continued integration of technology and streamlined services, thus relegating these workers to low-skill, routinized work.

However more recent work has called this assumption into question by demonstrating that indeed not all service occupations are subject to such a possible fate. Face to face interactive service work has one component that presents challenges to the routinization—it has to be performed in the moment in plain sight of the customer. Indeed, as Robin Leidner (1993) argues, while McDonald's tries to routinize the customers as well as the servers (e.g., by having them line up at the counters, by displaying a fixed menu of items, etc.), these attempts do not always

succeed. She notes that, because customer demands/reactions are not predictable and not always routine, McDonalds employs a large ratio of supervisors to front-line workers. These supervisors presumably require “non-routine problem-solving skills.” The ambiguity introduced into the service interaction requires service workers to do more than just employ a predetermined script. Instead they must possess the skills to respond quickly, and in some cases creatively to customers’ needs.

In restaurant work, although there are fairly precise scripts to guide the service interaction, and in particular the emotional labor process, waiters/waitresses need additional skills in order to successfully complete the interactions. In Mary Gatta’s (2002) ethnographic analysis of restaurant servers she demonstrated that while each server knew the prescriptions for emotional balance at work, they did not always follow them. For example, most of the official scripts of dealing with customers and the emotional labor needed, conceptualized the server’s feelings as analogous to the company’s feelings and attempted to direct the server to a company-produced emotive state. However, in restaurant interactions neither the practices to realize the company’s desired emotional state, nor the emotional state itself were often achieved. Instead individuals engaged in numerous practices to deal with the emotions that they were experiencing within workplace interactions. Servers chose, disregarded, altered, and created different scripts based on the unique characteristics of the micro-social context. Flexibility, creativity, and adaptability then become important skills.

Interactive service work is then more than just script performance. Hampson and Junor (2005) note that the skills required of interactive service work go beyond simply enacting routines and scripts (whether technical or emotional) but instead are a subset of articulation work skills. These skills involve a blend of emotional, cognitive, technical, and time management

skills, performed often at speed and at varying levels of complexity and autonomy (p. 176). For example, restaurant servers bear the brunt of the responsibility for their tables. They are responsible for greeting customers, taking orders, answering questions, getting drinks, processing orders in micro-computers where servers place customers' orders, bringing food, balancing as many plates as possible to save time by not making unnecessary trips to the kitchen, making change for customers, and being as nice and friendly as possible. Servers also deal with many emotional hazards from customers—those who were not happy with their meals, those who may have a particularly long time waiting for a table, or simply may just be having a bad day (Gatta, 2002). This articulation skill-work, while less visible, is critical to completing one's job. Indeed servers, among other things, must manage multiple tables at once, engage in creative rapport with customers, use technical skills (IT) to input and manage customer food orders so that they can be processed, and in some restaurants, steer customers to higher priced foods and drinks without appearing manipulative.

Yet it is not just the “serving” of tables that is required, waiters/waitresses also have “sidework” responsibilities, continuing to emphasize the need to manage time. For example, each server during the shift may be assigned to such duties as: filling items (sugars, creamers, ice); prepping foods (kale, lemons, tomatoes); cleaning (sweeping floors, wiping counters, emptying bus buckets); and/or stocking hardware (glasses, plates, silverware). As Greta Foff Paules (1991, p. 143) notes, although “the term sidework fosters the view that these tasks are peripheral to the waitress's work . . . the thorough completion of sidework duties is critical to the smooth functioning of each shift and to peaceful relations between shifts.” Running sidework then allowed servers to work more efficiently. However when the restaurant was busy, servers had to partition their time effectively to be able to do sidework and wait on customers. Time

management skills become a central aspect of work in the hospitality industry. Articulation skills are needed for restaurant servers have a seamless flow of work tasks. Indeed they simultaneously must manage the customer, the computer, and time; and all as seamlessly as possible.

Katherine Newman (1999) makes a similar argument in regard to fast-food workers in her two-year study of the working poor in Harlem, New York. She notes that the fast-food interaction requires the customer service representative to listen to orders, communicate with customers, send out a stream of instructions to co-workers who prepare food, pick up the food, check orders, and then receive money and make change for the customer. So while the multiple stations behind the counter of a fast-food restaurant have been broken down and routinized, the ability to make them work together under time pressures require higher-order skills in which workers track information, coordinate with others, and track inventory (p. 144). Newman goes on to note that these tasks are all completed while using emotional labor and people skills to manage customer interactions.

In addition to these skills, the growth of the style labor market demonstrates the increased demand for aesthetic skills, and this demand is growing in non-style retail and hospitality outlets as well (Nickson, Warhurst and Dutton, 2004). Dennis Nickson, Chris Warhurst and Eli Dutton (2004) in their quite comprehensive study of the Glasgow hospitality industry found that the skills that employers demanded were social and aesthetic skills. Compiling survey data from 950 retail, hotels, bars, restaurants, and cafes in both the style and non-style labor market of Glasgow they found overwhelmingly that both interpersonal communication and self-presentation were central to service work. Specifically they found that 99 percent of employers felt that social and interpersonal skills were of significant importance and 98 percent of employers felt the same of self-presentation skills. Alternatively, 48 percent of employers reported that technical skills were

important for customer service staff (p. 22)². Indeed the right appearance and personality took precedence over technical qualifications of staff.

This is further supported by Lynne Pettinger's (2004) ethnographic study of the London retail service sector, which also points to importance of social and aesthetic skills of workers. In her study, which included participant observation (both as a worker and customer) along with interviews, she found that sales assistants are a critical part of the "branding" of the retail store. She found that the social and aesthetic skills of the sales assistants were central to their success in the work. One of her interesting conclusions is that "fashion-orientation is one facet of brand-strategy [used by the stores] and the ability to present a fashionable appearance is one of the skills needed by sales assistants in many stores "(p.468).

Thompson, Warhurst, and Callaghan (2001) in their analysis of the case study work of the style labor market in Glasgow also highlighted the recruitment of employees who have the 'right' sort of disposition and appearance. They report on a personal manager of a hotel hiring staff for a café in the hotel who noted: "we didn't actually look for people with experience...because we felt that wasn't particularly important. We wanted people that had a personality more than the skills because we felt we can train people to do the job" (p. 932). Findings such as these, the authors posit, are critical as they suggest that management in the service industry is looking for a matrix of skills: aesthetic, social, and technical. Yet the technical skills, employers report, can be developed via training once the employee is hired. Thus, at the point of recruitment, it is the social and aesthetic skills that were demanded by employers, and only once the person was employed were the technical skills and product knowledge addressed: how to present food, take orders, use equipment, etc. The authors report that the training was

² It is important to note that this data are compiled from the employers' perspectives on skills, and is of course dependent on who completes the survey (for example, direct managers, human resources directors, etc). Nevertheless it does provide insight into what employers are experiencing in service work.

often quite basic and performed on the job, with employees shadowing more senior workers (p. 931).

Rachel Sherman's (2002, 2007) ethnographic account of luxury hotels in the U.S. found that workers expanded upon the skills associated with caring labor to complete their work. Workers were expected to be able to personalize and customize the experiences of guests. To do this, workers needed to be able to (among other things) discern nuances of guests' interactions, gather and act on information about guest preferences, and create authentic and caring experiences for guests. Sherman found that these required both observational and active listening skills. She notes that at one of the hotels she studied during the employee training session, the human resources manager encouraged workers to use visual cues to provide guests with something they may need. Examples include when a guest comes to the hotel and appears tired, hotel staff should offer him/her a place to sit down; or if a guest arrives with a crying baby the staff should find a private space for the mother even if her room is not ready (p. 33).

Hotel front-line workers also need to be able to discern the needs of the customer based on subtle cues. Sherman provides the following example from concierge work:

When a guest asks the concierge to recommend a restaurant, the concierge must (in addition to asking the guest about his tastes, of course) take into account factors such as where he is from, how old he is, and how sophisticated he appears, in order to increase the chances of making an appropriate choice. If the guest is older and appears unschooled in upscale dining, he may receive a reservation at a chain steakhouse; if a visitor from New York requests information on local entertainment, the concierge will not recommend the traveling version of the latest Broadway hit (p. 33)

In addition to observation and listening skills such work also requires skills to understand the nuances of cultural capital and how it is expressed in society. This requires a good working knowledge of culture centers and how they manifest across social and economic class. It is also

worthy to note, that it requires creativity in personalizing the experience for each customer to his/her needs.

Of course, it is not just in hospitality and retail work where these skills are important. Indeed Hampson and Junor (2005) suggest that while the technical skills have been routinized, the interaction with the customer requires higher-level skills to be successful. Drawing on the experiences of bank tellers, for example, they suggest that these workers must be able to develop abstract understanding of organizational networks and information flows; piece together rapidly assimilated information; ensure follow-through and follow-up; accept responsibility for coordinating and maintaining information flows; and, in some cases, tacitly help to develop systems and procedures (p. 178). Counter staff at banks have to be able to track customer information from their point in the data flow, maintain a flow of conversation with a customer (especially if screens are slow to navigate); and integrate data.

David Autor, Frank Levy and Richard Murnane (2003) in *Low-Wage America How Employers Are Reshaping Opportunity in the Workplace*, demonstrate how information technologies have penetrated deeply into banking—not just ATMs that have taken over many of the high-volume, routine tasks performed by tellers, but check imaging and optical character recognition have effectively automated several key tasks in check processing departments. One interesting result found in the case study of the introduction of computer-based technological change in two departments of a major bank is that the reorganization of work processes in one part of this bank *in advance* of the introduction of check imaging and recognition technology resulted in major improvements in productivity. The main point of this case study of the introduction of computer-based technology, however, is that managers have important discretion in how they organize the tasks that remain after technology has automated rule-based tasks. In

one department of the bank, the remaining tasks were fragmented and workers had narrow, repetitive jobs. In the other, the remaining tasks were integrated into more complex jobs that were both more interesting and more demanding, and that required greater skills.

Indeed the case studies in *Low-Wage America How Employers Are Reshaping Opportunity in the Workplace*, demonstrate that computer skills per se have not created a bottleneck. Frontline workers in a wide array of jobs *do* require computer skills. However, modest amounts of training have generally been sufficient to impart the requisite computer skills. In some of the case studies, however, managers found that it has proven more difficult to teach abstract problem solving skills to incumbent workers. Some employers have turned to hiring workers with at least a few years of college education for jobs that, in principle, can be performed by a high school graduate to ensure that workers have the appropriate level of abstract reasoning and problem solving skills. These findings are particularly important as these case studies represent interviews with over 1,700 managers and workers, along with surveys completed by over 10,000 workers and managers (Appelbaum et al., p. 7) representing one of the most comprehensive analysis of the labor market.

The importance of gender and race

The ethnographic and case study research also highlights a critical point in service work—that it is how it is gendered and racialized. For decades researchers have demonstrated the skills associated with service work—the emphasis on sociability, caring, nurturance, communicating and making customers feel good, etc—are frequently deemed as natural feminine qualities and the skill content of these jobs is typically unnoticed and poorly rewarded in the labor market. Not surprisingly, data bear out that the service jobs that emphasize these skills are

also characterized by a large composition of female workers, low wages and limited opportunities for advancement.

Mary Ellen Guy and Meredith A. Newman (2004) use state level data to quantify the impact of what they termed the “conflation of gender and emotional labor” on occupational wages. Specifically jobs in the career services class for the State of Florida present interesting comparisons between fruit and vegetable terminal market inspectors (which are 100 percent male), driver’s license examiners (which are 65 percent female), and family services counselors (which are 80 percent female). Of these jobs the two that require high levels of emotional labor—driver’s license examiners and family services counselors—are also the ones that women dominate. Moreover when we examine labor market rewards associated with each of these occupations, we learn that driver’s license examiners earn the least, while fruit and vegetable terminal market inspectors and family services counselors are compensated at the same level. This equal compensation exists despite the fact that family services counselors require a bachelor’s degree and passing a written assessment; and fruit and vegetable terminal market inspectors require completion of inspection school and six months experience. Guy and Newman’s analysis of state level data indicate that “the conflation of gender with the requirements of emotional labor, predominately emotional labor that involved *caritas*³, results in work skills and abilities that are taken for granted, not listed as bona fide requirements for the job, and not compensated (p. 296).

One important area of concern is that while service work skills are gendered female, they are highly sought after in our growing service economy. Vicki Belt, Ranald Richardson and Juliet Webster (2002, p. 20-21) sum up this line of thinking noting that “female labor power is increasing in demand at least in part because women are believed to naturally possess in

³ This term refers to altruistic actions.

abundance many of the social skills required by employers in the service-based economy.”

Moreover, some researchers have suggested that in fact femininity has become a market requirement (Woodfield, 1998), as many service employers are actively marketing a version of femininity that emphasizes passivity, servicing and attention to customers’ needs (p. 21).

Belt, et al (2002) use focus group and interview data from managers in 13 call centers⁴ in Ireland, the Netherlands, and United Kingdom to explore whether there is evidence that women are being recruited to interactive service work because they possess the right kind of skills. Their findings are quite interesting. They note that overall women are recruited by employers in part because they are deemed to “naturally” possess the kinds of communication skills required, as employers expect women to perform emotional labor over the phone. Specifically, women were perceived to be more comfortable with the ethos of customer service and particularly skilled at listening and empathizing with customers. In addition they were also assumed to be more tolerant with more difficult customers, and less like to react aggressively to them (p.26).

Yet the one exception to this pattern in hiring was in technical support jobs in computer services call centers. Here technical knowledge, qualifications, experience, and interest in computers were considered more important than communication skills. Moreover, when communication skills were specified in these jobs, the term was used to refer to problem solving abilities, and not related to having a “bubbly personality”. Perhaps even more telling is that Belt et al.’s data demonstrated that some managers believed that the workers who would fill technical support jobs were actually less likely to possess those types of social skills. Not surprising men consisted of a larger portion of the staff of these jobs.

⁴ While Belt et al.’s data focus on call center work, and this is not one of the occupations we explore in this paper, the gendered nature of the emotional labor performed have significant implications for our work.

This “market for femininity” has important implications for not only the recognition of the skills in the service work, but also the organization, training, and labor market rewards of that work. This is a point we will return to later in this paper, yet before we do, it is important to unpack this notion of femininity further. The impact of gender on service work and, in particular, on the skills demanded in that work, is more complicated than simply a social constructionist analysis of skills and gender. Instead a more useful paradigm incorporates an intersectional approach, which emphasizes the effects of historical patterns of inequality on overrepresentation of people of color and women, especially women of color, among the poor (Dill et. al. 2004). Central to this approach is the understanding that gender and race are not independent analytical categories that can be added together (Browne and Misra 2003) but instead are socially constructed categories that influence individual identities. The interlocking nature of the different structures of inequality has also been emphasized (Collins 1999). While a full discussion of this is beyond the scope of this paper, there are some salient points that shed important light on the skills in interactive service work.

What this suggests is that simply because there may be a market for what are deemed “feminine qualities,” not all women are recruited equally. Instead gender intersects with race, ethnicity, and class to marginalize groups of women within service work and to challenge assumptions associated with skills. While researchers have often focused on the gender division of labor in service work, this focus can mask differences among women, particularly around race and ethnicity in services. Nakano Glenn (1992) has demonstrated that white women tend to be in the jobs in services that are in the “public’s eye”, and require the most interactions and emotional labor; while women of color are over represented in “dirty back room” jobs, such as maids and kitchen workers.

Rachel Sherman (2007) in her ethnographic account of luxury hotel work found similar patterns. She noted that hotel work is divided into two main categories: interactive and non-interactive positions. Interactive or “front of the house” work consists mainly of intangible emotional labor, while “back of the house”, non-interactive work mainly involves physical labor. Sherman goes on to note that interactive workers are usually white (with the exception of bellman and door attendants, who provide more physical work and are usually men of color), and “back of the house” workers are typically people of color and immigrants. In addition, Sherman found wage differentials with each category of hotel work. Not only were back of the house workers paid less than front of the house workers (about one to two dollars less per hour in Sherman’s sites), they also did not typically receive the tips that front of the house workers received from hotel guests (p. 49-50).

Mignon Duffy (2005) succinctly sums up this demographic pattern as she notes, “it is where reproductive work is seen to lack the need for emotional skills and relational interaction that women of color are concentrated. Furthermore, these back-room jobs are even lower paying than those more public reproductive labor occupations in which white women are more concentrated” (p. 72). Duffy then, using 2000 U.S. Census data, empirically tests where groups of women were located in the services. She found that white women were represented at a much higher rate in jobs that required emotional labor and care work, while Hispanic women had the exact opposite pattern. These women were more likely to be concentrated in jobs that were “back of the room” and did not require high levels of emotion work and interactions. In regard to Black women, the pattern is a bit more complicated with Black women highly represented in both “front of the house” and “back of the house” labor. Duffy also found that the wages associated

with work that has high levels of interaction and emotion skills were higher than those that did not require those skills (p. 78).

This work has strong implications for our understanding and valuing of skills in service occupations. Duffy warns that:

One of the strategies suggested by a care movement is to revalue nurturance by making it more visible, emphasizing the skills required by the work, and aiming for ongoing professionalization of these occupations. In the context of a racial hierarchy in which women of color bear much more of the burden of those reproductive labor jobs that do not have the characteristics of nurturant care, a movement to revalue nurturance could have the unintended effect of making their jobs even more invisible and devalued. Framing the value of certain occupations in terms of the emotional and relational skills required—and even professionalizing those skills—may risk further devaluing those “menial” jobs that are not perceived to require those skills (p. 86).

Implications for the debate over the causes of wage inequality

Economists point to skill-biased technological change to explain the rising inequality in the U.S. labor force since the 1970s. The logic is that greater demand for high-skilled workers, spurred by the introduction of computer technology, has placed a premium on highly-skilled workers, relative to less skilled workers. However, if the demand for service occupations is growing faster than for other jobs, we might think that this would have a mitigating effect on wage inequality. There are three reasons why the skill-biased theory may be inconsistent with changes in the service occupations. First, these are occupations for which computers are not a substitute, but may be a complement, especially in years to come. Second, these are occupations in which there has been growing demand, which suggests that rising inequality may be more about bargaining power than demand for skills. Third, it is not clear that researchers have adequately identified skills in occupations that rely on emotional and other face-to-face skills, rather than more easily measured managerial or technical skills.

The latest research examining skill-biased technological change focuses on explaining how computer technology interacts with skills to create polarization in the labor market. Levy and Murnane (2005) articulate five categories of human skills: expert thinking, complex communication, routine cognitive task, routine manual tasks, and non-routine manual tasks. They argue that routine cognitive and manual tasks are ideal for computerization or to be offshored, while the other skills are not well-suited for at least computerization. Within this typology, service occupations would be considered to be manual, non-routine tasks. Waitresses may use computers to tally up their orders, but, at least for now, only a human can carry trays, take orders, fill water glasses, and smile – all at the same time. What is interesting is that the authors do not delve into how human-contact or emotional labor fits into this typology, despite the fact that such work is essential for the work to occur. Many service occupations are complemented by the introduction of computer technology, so by the argument for the higher-paid jobs, they should also be not only seeing greater demand, but greater pay. Yet, oddly, growing demand is associated with higher pay only at the high end of the economic spectrum.

Changing demand for service occupations may already be changing the path of rising inequality. Over the 1990s and early 2000s, economists have documented that rising inequality has taken a different path than the 1980s (Lemieux 2005; Autor, Katz, and Kearney 2005; Acemoglu 2002). In the 1980s, inequality grew both between the top and middle, as well as the middle and bottom. There was, essentially, a fanning out of wages across the entire distribution. However, over the past decade or so, the gap has not risen between the bottom and middle, but continues to rise—almost linearly (Autor, Katz, and Kearney 2005)—between the middle and the top of the wage distribution.

Levy and Murnane (2005) point out that the need for workers who have the skills of expert thinking and complex communications will rise with the introduction of computer technology since these are complements, rather than substitutes. But, as they quote Herbert Simon (Levy and Murnane 2004), the introduction of computers may lead to:

{I}n the entire occupied population, a larger fraction of members than at present will be engage in occupations where “personal service” involving face-to-face human interaction is an important part of the job (quoted in Levy and Murnane 2004, p. 8).

There is research showing that service occupations do not garner wages consistent with the skills required for the job (Glomb, Kammemery-Mueller and Rotundo 2004; Bernstein and Gittleman 2003). Glomb et al show that jobs requiring more emotional labor are associated with lower wages if the job has low cognitive skills and higher wages if the job has high cognitive skills. They argue that this may be compensating differentials: in low-cognitive jobs, the added emotional labor makes the job interesting, while in high-cognitive jobs, the added emotional work is just stressful. This reasoning is problematic as it suggests that emotional labor is a “perk” of low-cognitive work, as opposed to being a skill demanded, valued, and economically rewarded.

Training and education for service work

Throughout this paper we have demonstrated that the skill demands in service occupations indicate that “it is not only in the most highly skilled, professional jobs that image and social competencies are important. Even in the most routine, low-paid areas of interactive service work, employees are increasingly being seen as “marketable assets” (Belt and Richardson, 2005, p. 258). As such the training and education is critical for individuals’ ability to compete in service occupations. This is especially important as a large segment of the workforce

who are available to fill these jobs are already in the workforce, and indeed, the training and education for service work is inextricably tied to the training and education of the current adult workforce. *The National Center on Education and the Economy* notes that most of the individuals who will be in our workforce 20 years from now, are currently in our workforce. These workers need the skills training and education in order to be able to successfully fulfill the requirements of these jobs as many current service workers lack the basic literacy skills (as being able to communicate via oral and written word is a central starting point for interpersonal skills), and need to further develop their emotional labor, caring skills, and communication skills.

There are, of course, several challenges involved in training and education in service occupation skills. The jobs in the service occupations require skills, and in order to meet these skills demands the literacy crisis in the U.S. needs to be addressed. The 2003 National Assessment of Adult Learning (NAAL) found that nearly half the adult population does not possess the literacy skills required to achieve economic self-sufficiency in today's labor market (Kutner et al., 2006). The core competencies of literacy measured by the NAAL are prose literacy (ability to search, comprehend and use continuous knowledge – for example, read a news story or instructional materials); document literacy (ability to search, comprehend and use noncontinuous text in various formats – for example, job applications or transportation schedules); and quantitative literacy (ability to perform computations and use numbers embedded in printed material – for example, balance a checkbook or calculate and compare the cost per ounce of food items). As such, workers will need training to meet the skills demands in the service occupations.

Second, other skills sets demanded by service employers—social skills, emotional labor, caring labor, aesthetic labor, information technology skills—are typically unfamiliar to

many workers already located in the manufacturing jobs that are declining (Lindsay, 2005). As a result, workers will also need training in new skills sets in order to compete in our labor market. Alan Blinder (2006) notes that this requires a rethinking of education and training. As he suggests, “the United States and other rich nations will have to transform their educational systems so as to prepare workers for the jobs that will actually exist in their societies. Basically, that requires training more workers for personal services and fewer for many impersonal services and manufacturing.”

Pre-employment training initiatives can successfully deliver these skills in service occupations. Tom Barum (2002) observes that skill shortages in hospitality and other service occupations are increasingly seen in terms of generic rather than specific technical competencies. He notes that employers want workers trained in communications, people management, and problem solving. This finding is similar to other work that found that employers demand workers who possess the necessary social competencies and generic skills, and then the employers can train them in the technical skills and knowledge they need in the jobs.

Yet the delay in training initiatives to help individuals access service work may reflect the larger debate surrounding the skills of service work (Lindsay, 2005). That is, without a full understanding of the complex skills and work involved in service jobs, it is difficult to justify directing training funds and the attention of training providers to service work. In addition, service work must also be reorganized to include career pathways that build on the skills involved in service work, so that entry level service workers have opportunities to improve their economic self sufficiency. We believe that it is incumbent upon researchers and policy makers to examine service occupations holistically, using multiple approaches, in order to fully depict the

work and the workers. Indeed, what is clear is that until George Jetson's reality is ours, technology will not be a substitute for work in service occupations.

Table 1. Employment by major occupational group, 2004 and projected 2014
[Numbers in thousands]

2004 National Employment Matrix code and title	Employment				Change	
	Number		Percent Distribution		Number	Percent
	2004	2014	2004	2014		
00-0000 Total, all occupations	145,612	164,540	100.0	100.0	18,928	13.0
11-1300 Management, business, and financial occupations ¹	14,987	17,142	10.3	10.4	2,155	14.4
15-2900 Professional and related occupations ²	28,544	34,590	19.6	21.0	6,046	21.2
31-3900 Service occupations ³	27,673	32,930	19.0	20.0	5,257	19.0
41-0000 Sales and related occupations	15,330	16,806	10.5	10.2	1,476	9.6
43-0000 Office and administrative support occupations	23,907	25,287	16.4	15.4	1,380	5.8
45-0000 Farming, fishing, and forestry occupations	1,026	1,013	0.7	0.6	-13	-1.3
47-0000 Construction and extraction occupations	7,738	8,669	5.3	5.3	931	12.0
49-0000 Installation, maintenance, and repair occupations	5,747	6,404	3.9	3.9	657	11.4
51-0000 Production occupations	10,562	10,483	7.3	6.4	-79	-0.7
53-0000 Transportation and material moving occupations	10,098	11,214	6.9	6.8	1,116	11.1

¹ 11-0000 through 13-0000 in the 2000 Standard Occupational Classification (SOC)

² 15-0000 through 29-0000 in the 2000 Standard Occupational Classification (SOC)

³ 31-0000 through 39-0000 in the 2000 Standard Occupational Classification (SOC)

NOTE: Detail may not equal total or 100 percent due to rounding.

Source: Daniel Hecker, "Occupational employment projections to 2014," Monthly Labor Review, November 2005, Table 1.

Table 2. Occupations with the largest job growth, 2004-14
[Numbers in thousands]

2004 National Employment Matrix code and title	Employment Number		Quartile rank by 2004 median annual earnings ¹	Most significant source of postsecondary education or training ²
	2004	2014		
41-2031 Retail salespersons	4,256	4,992	VL	Short-term on-the-job training
29-1111 Registered nurses	2,394	3,096	VH	Associate degree
25-1000 Postsecondary teachers	1,628	2,153	VH	Doctoral degree
43-4051 Customer service representatives	2,063	2,534	L	Moderate-term on-the-job training
37-2011 Janitors and cleaners, except maids and housekeeping cleaners	2,374	2,813	VL	Short-term on-the-job training
35-3031 Waiters and waitresses	2,252	2,627	VL	Short-term on-the-job training
35-3021 Combined food preparation and serving workers, including fast food	2,150	2,516	VL	Short-term on-the-job training
31-1011 Home health aides	624	974	VL	Short-term on-the-job training
31-1012 Nursing aides, orderlies, and attendants	1,455	1,781	L	Postsecondary vocational award
11-1021 General and operations managers	1,807	2,115	VH	Bachelor's or higher degree, plus work experience
39-9021 Personal and home care aides	701	988	VL	Short-term on-the-job training
25-2021 Elementary school teachers, except special education	1,457	1,722	H	Bachelor's degree
13-2011 Accountants and auditors	1,176	1,440	VH	Bachelor's degree
43-9061 Office clerks, general	3,138	3,401	L	Short-term on-the-job training
53-7062 Laborers and freight, stock, and material movers, hand	2,430	2,678	VL	Short-term on-the-job training
43-4171 Receptionists and information clerks	1,133	1,379	L	Short-term on-the-job training
37-3011 Landscaping and groundskeeping workers	1,177	1,407	L	Short-term on-the-job training
53-3032 Truck drivers, heavy and tractor-trailer	1,738	1,962	H	Moderate-term on-the-job training
15-1031 Computer software engineers, applications	460	682	VH	Bachelor's degree
49-9042 Maintenance and repair workers, general	1,332	1,533	H	Moderate-term on-the-job training
31-9092 Medical assistants	387	589	L	Moderate-term on-the-job training
43-6011 Executive secretaries and administrative assistants	1,547	1,739	H	Moderate-term on-the-job training
41-4012 Sales representatives, wholesale and manufacturing, except technical and scientific products	1,454	1,641	VH	Moderate-term on-the-job training
47-2031 Carpenters	1,349	1,535	H	Long-term on-the-job training
25-9041 Teacher assistants	1,296	1,478	VL	Short-term on-the-job training
39-9011 Child care workers	1,280	1,456	VL	Short-term on-the-job training
35-2021 Food preparation workers	889	1,064	VL	Short-term on-the-job training
37-2012 Maids and housekeeping cleaners	1,422	1,587	VL	Short-term on-the-job training
53-3033 Truck drivers, light or delivery services	1,042	1,206	L	Short-term on-the-job training
15-1051 Computer systems analysts	487	640	VH	Bachelor's degree

1 The quartile rankings of Occupational Employment Statistics Survey annual earnings data are presented in the following categories: VH=very high (\$43,600 and over), H=high (\$28,580 to \$43,590), L=low (\$20,190 to \$28,570), and VL=very low(up to \$20,180).

2 An occupation is placed into one of 11 categories that best describes the postsecondary education or training needed by most workers to become fully qualified. For more information about the categories, see Occupational Projections and Training Data, 2

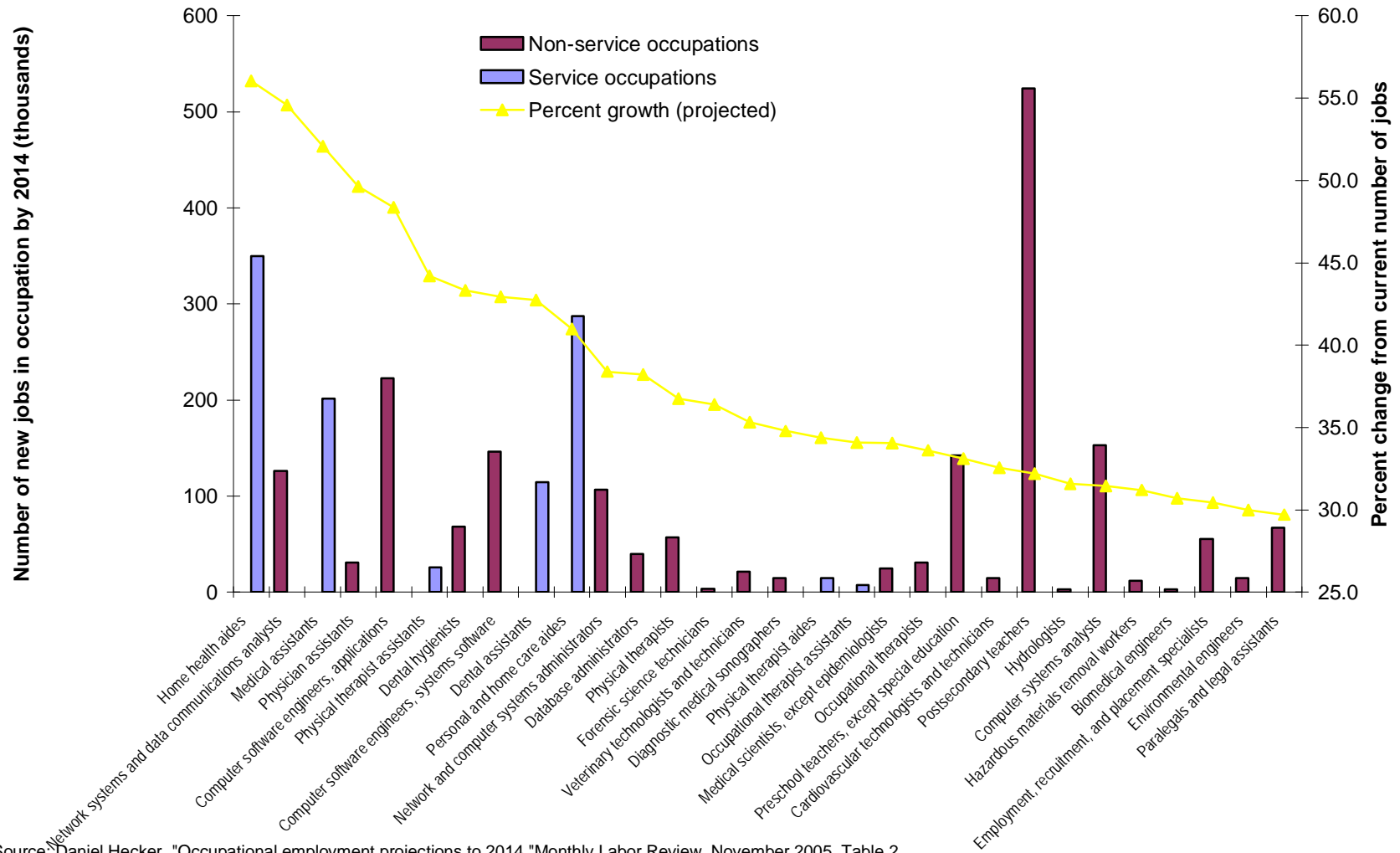
Source: Daniel Hecker, "Occupational employment projections to 2014," Monthly Labor Review, November 2005, Table 3.

Table 3. Skills required in top-five fastest growing service occupations

	Janitors and cleaners, except maids and housekeeping cleaners	Waiters and waitresses	Combined food preparation and serving workers, including fast food	Home health aides	Nursing aides, orderlies, and attendants
Active Listening — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.	X	X	X	X	X
Coordination — Adjusting actions in relation to others' actions.	X	X		X	X
Critical Thinking — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.		X			X
Equipment Maintenance — Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.	X				
Equipment Selection — Determining the kind of tools and equipment needed to do a job.	X				
Instructing — Teaching others how to do something.	X	X	X	X	X
Judgment and Decision Making — Considering the relative costs and benefits of potential actions to choose the most appropriate one.	X				
Learning Strategies — Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.		X			
Mathematics — Using mathematics to solve problems.			X		
Monitoring — Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.				X	X
Reading Comprehension — Understanding written sentences and paragraphs in work related documents.	X	X		X	X
Service Orientation — Actively looking for ways to help people.		X	X	X	X
Social Perceptiveness — Being aware of others' reactions and understanding why they react as they do.		X	X	X	X
Speaking — Talking to others to convey information effectively.	X	X	X	X	X
Time Management — Managing one's own time and the time of others.	X	X			X
Writing — Communicating effectively in writing as appropriate for the needs of the audience.	X			X	

Source: <<http://online.onetcenter.org>> O*NET OnLine was developed for the U.S. Department of Labor by the National Center for O*NET Development. For more information about the O*NET project,

Figure 1. Occupations with fastest projected job growth, 2004-14



Source: Daniel Hecker, "Occupational employment projections to 2014," Monthly Labor Review, November 2005, Table 2.

Works Cited

- Acemoglu, Daron 2002. "Cross-Country Inequality Trends," NBER Working Papers 8832, National Bureau of Economic Research, Inc.
- Appelbaum, Eileen and Mary Gatta. 2006. "Crossing Over: From Working Poverty to Self-Sufficiency Via Job Training That Is Flexible In Time and Space" in Berthoin-Antal, Ariane and Quack, Sigrid (eds). *Grenzüberschreitungen als Quelle gesellschaftlicher Innovation und Identitätsbildung*. Edition sigma. Berlin.
- Appelbaum, Eileen, Annette Bernhardt, Richard Murnane, and Jeremy Weinberg. 2005. "Low-wage Employment in America: Results form a Set of Recent Industry Case Studies." *Socio-Economic Review* 3:293-310.
- Appelbaum, Eileen, Annette Bernhardt, and Richard Murnane. 2002. *Low-Wage America: How Employers are Reshaping Opportunity in the Workplace*. New York: Russell Sage Foundation.
- Attewell, Paul. 1990. "What Is Skill?" *Work and Occupations* 17(4): 422-48.
- Autor, David, Lawrence F. Katz and Melissa S. Kearney. 2006. "The Polarization of the U.S. Labor Market." *American Economic Review Papers and Proceedings*, 96: 189 – 194
- Autor, David, Frank Levy and Richard Murnane. 2003. "Computer Based Technological Change and Skill Demands: Reconciling the Perspectives of Economists and Sociologists." Pp. 121-154 in Appelbaum, Eileen, Annette Bernhardt, and Richard Murnane. 2002. *Low-Wage America: How Employers are Reshaping Opportunity in the Workplace*. New York: Russell Sage Foundation
- Baum, Tom. 2002. "Skills and Training for the Hospitality Sector: A Review of Issues." *Journal of Vocational Education and Training*. 54:343-364.
- Belt, Vicki and Ranald Richardson. 2005. "Social Labour, Employability and Social Exclusion: Pre-employment Training for Call Centre Work." *Urban Studies* 42:257-270.
- Belt, Vicki, Ranald Richardson, and Juliet Webster. 2002. "Women, Social Skill and Interactive Service Work in Telephone Call Centres." *New Technology, Work, and Employment*. 17:20-34.
- Berman, Jay. 2005. "Industry Output and Employment Projections to 2014", U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review*.
- Bernstein, Jared and Maury Gittleman. 2003. "Exploring Low-Wage Labor with the National Compensation Survey." *Monthly Labor Review*.

- Blinder, Alan. 2006. "Offshoring: The Next Industrial Revolution." *Foreign Affairs*.
- Blinder, Alan. 2006. "How Many U.S. Jobs Might Be Offshorable?"
- Bolton, Sharon and Carol Boyd. 2003. "Trolley dolly or skilled emotion manager? Moving on from Hochschild's Managed Heart." *Work, Employment and Society* 17:289-308.
- Bolton, Sharon and Maeve Houlihan. 2005. "The (Mis)representation of Customer Service." *Work, Employment and Society* 19:685-703.
- Boushey, Heather, Shawn Fremstad, Rachel Gragg, and Margy Waller. 2007. *Understanding Low-Wage Work in the United States*. Washington, DC, Center for Economic and Policy Research
- Brown, Phillip, Andy Green and Hugh Lauder. 2001. *High Skills: Globalisation, Competitiveness, and Skill Formation*. Oxford: Oxford University Press.
- Browne, Irene and Joya Misra. 2003. "The Intersection of Gender and Race in the Labor Market." *Annual Review of Sociology* 29:487-513.
- Callaghan, George and Paul Thompson. 2002. "We Recruit Attitude: The Selection and Shaping of Routine Call Centre Labour." *Journal of Management Studies* 39:233-254.
- Cancian, Francesca and Stacey Oliker. 2000. *Caring and Gender*. Thousand Oaks, CA: Pine Forge Press.
- Card, David and John DiNardo. 2002. "Skills-Biased Technological Change and Rising Wage Inequality: Some Puzzles and Problems." *Journal of Labor Economics* 20:733-783.
- Collins, Patricia Hill. 1999. *Black Feminist Thought: Knowledge, Consciousness and the Politics of Empowerment 2nd Edition*. London: Harper Collins.
- Darr, Asaf. (2007). The Knowledge Worker and the Future Skill Demands of the U.S. Workforce. National Academies' Center for Education on Research Evidence Related to Future Skill Demands. Washington, DC.
- Dill, Bonnie Thornton, Avis Jones-DeWeever, and Sanford Schram. 2004. "Racial, Ethnic and Gender Disparities in Access to Jobs, Education and Training Under Welfare Reform." College Park, MD: Consortium on Race, Gender and Ethnicity.
- DiNardo, John, Nicole M. Fortin, and Thomas Lemieux. 1996. "Labor Market Institutions and the Distribution of Wages, 1973-1992." A Semiparametric Approach. *Econometrica* 64 (5):1001-44.

- Duffy, Mignon. 2005. "Reproducing Labor Inequalities: Challenges for Feminists Conceptualizing Care at the Intersections of Gender, Race, and Class." *Gender and Society* 19:66-82.
- England, Paula, Michelle Budig, and Nancy Folbe. 2002. "Wages of Virtue: The Relative Pay of Care Work." *Social Problems*. 49:455-473.
- Gatta, Mary. 2005 *Not Just Getting By: The New Era of Flexible Workforce Development*. Lanham, MD: Lexington Books.
- Gatta, Mary. 2005. "Developing Workforce Policy to Attend to the Lived Experiences of Single Working Poor Mothers." Commissioned Paper for the Consortium on Race, Gender and Ethnicity, University of Maryland.
- Gatta, Mary 2002. *Juggling Food and Feelings: Emotional Balance in the Workplace*. Lanham, MD: Lexington Books.
- Glenn, Evelyn Nakano. 1992. "From Servitude to Service Work: Historical Continuities in the Racial Division of Paid Reproduction labor." *Signs* 18:1-43.
- Glomb, Theresa, John Kammeyer-Mueller, and Maria Rotundo. 2004. "Emotional Labor Demands and Compensating Wage Differentials." *Journal of Applied Psychology* 89:700-714.
- Grandey, Alicia. 2000. "Emotion Regulation in the Workplace: A New Way to Conceptualize Emotional Labor." *Journal of Occupational Health Psychology* 5:95-100.
- Guy, Mary Ellen and Meredith Newman. 2004. "Women's Jobs, Men's Jobs: Sex Segregation and Emotional Labor." *Public Administration Review* 64:289-298.
- Hampson, Ian and Anne Junor. 2005. "Invisible Work, Invisible Skills: Interactive Customer Service as Articulation Work." *New Technology, Work and Employment* 20:166-181.
- Hecker, Daniel. 2005. "Occupational employment projections to 2014." *Monthly Labor Review* November:70-101.
- Hochschild, Arlie Russell. (1983) 2003. *The Second Shift*. New York: Penguin Books
- Hochschild, Arlie Russell. 1979. "Emotion, Feeling Rules, and Social Structure." *American Journal of Sociology* 85:551-575.
- Holtzer, Harry. 1996. *What Employers Want: Job Prospects for Low-Educated Workers*. New York: Russell Sage.
- Korczynski, Marek. 2005. "Service Work and Skills: An Overview." *Human Resource Management Journal* 15:1-12.

Korczynski, Marek. 2002. *Human Resource Management in Service Work*. Basingstoke: Palgrave Macmillan.

Kutner, M., Greenberg, E. And Baer, I. (2006). *A First Look at the Literacy of America's Adults in the 21st Century*. Washington, DC: U.S. Department of Education, National Center for Education Statistics, Report #2006 470. <http://nces.ed.gov/NAAL/PDF/2006470.PDF> .

Levy, Frank and Robert Murnane. 2005. "How Computer Work and Globalization Shape Human Skill Demands." Paper prepared for Planning Meeting for 21st Century Skills, National Academy of the Sciences.

Leidner, Robin. 1993. *Fast Food, Fast Talk: Service Work and the Routinization of Everyday Life*. Berkeley, CA: University of California Press.

Lemieux, Thomas. 2005. "Post-Secondary Education and Increasing Wage Inequality," University of British Columbia Working Paper.

Lindsay, Colin. 2005. "McJobs, Good Jobs and Skills: Job-seekers' Attitudes to Low-Skilled Service Work." *Human Resource Management Journal* 15:50-65.

Mishel, Lawrence, Jared Bernstein, and Sylvia Allegretto. 2007. *The State of Working America*. 2006-7. Ithaca, NY: Cornell University Press.

Morris, Andrew and Feldman, Daniel. 1996. "The Dimensions, Antecedents, and Consequences of Emotional Labor." *Academy of Management Journal* 44:1018-1027.

Moss, Philip and Chris Tilly. 2000. "How Labor Market Tightness Affects Employer Attitudes and Actions Toward Black Job Applicants." in *Prosperity for All? The Economic Boom and African Americans*. Robert Cherry and William Rodgers. New York, NY, Russell Sage Foundation.

Munger, Frank, editor. 2002. *Laboring Below the Line: The New Ethnography of Poverty, Low-Wage Work and Survival in the Global Economy*. New York City: Russell Sage Foundation.

National Center on Education and The Economy. 2006. *Tough Times, Tough Choices: The Report of the New Commission on the Skills of the American Workforce*. National Center on Education and The Economy: Washington DC.

Newman, Katherine. 2006. *Chutes and Ladders: Navigating the Low-Wage Labor Market*. New York City: Russell Sage Foundation.

Newman, Katherine. 1999. *No Shame in My Game: The Working Poor in the Inner City*. New York City: Russell Sage Foundation.

- Nickson, Dennis, Chris Warhurst, and Eli Dutton. 2004. "Aesthetic Labour and the Policy-making Agenda: Time for a Reappraisal of Skills?" Research Paper 48, SKOPE Publications: Warwick Business School, Coventary, England.
- Nickson, Dennis, Chris Warhurst, Anne Marie Cullen, and Allan Watt. 2003. "Bringing in the Excluded? Aesthetic Labour, Skills and Training in the New Economy." *Journal of Education and Work* 16:185-203.
- Paules, Greta Foff. 1991. *Dishing It Out: Power and Resistance Among Waitresses in a New Jersey Restaurant*. Philadelphia, PA: Temple University Press.
- Payne, Jonathan. 2006. "What's Wrong With Emotional Labour?" Research Paper 65, SKOPE Publications: Warwick Business School, Coventary, England.
- Pettersson, Marten, Dave Randall and Bo Helgeson. 2004. "Ambiguities, Awareness, and Economy: A Study of Emergency Service Work." *Computer Supported Cooperative Work* 13:125-154.
- Pettinger, Lynne. 2005. "Gendered Work Meets Gendered Goods: Selling and Service in Clothing Retail." *Gender, Work and Organizations* 12:460-478.
- Pettinger, Lynne. 2004. "Brand Culture and Branded Workers: Service Work and Aesthetic Labour in Fashion Retail." *Consumption, Markets and Culture* 7:165-184.
- Pugliesi, Karen. 1999. "The Consequences of Emotional Labor: Effects on Work Stress, Job Satisfaction, and Well-being." *Motivation and Emotion* 23:125-154.
- Reskin, Barbara and Patricia Roos. 1990. *Job Queues. Gender Queues: Explaining Women's Inroads into Male Occupations*. Philadelphia, PA: Temple University Press.
- Ritzer, George. 1996. *The McDonaldization of Society*. Thousand Oaks, CA: Pine Forge Press.
- Rose, Mike. 2007. *Reframing the Debate on Career and Technical Education*. Los Angeles, UCLA.
- Sandelowski, Margarete. 1995. "Sample Size in Qualitative Research." *Research in Nursing and Health* 18:179-183.
- Sherman, Rachel. 2006. *Class Acts: Service and Inequality in Luxury Hotels*. Berkeley: University of California Press.
- Sherman, Rachel. 2002. "Better Than Your Mother: Caring Labor in Luxury Hotels." Working Paper #53. Berkeley, CA: Center for Working Families.
- Spenner, Kenneth. 1983. "Deciphering Prometheus: Temporal Change in the Skill Level of Work." *American Sociological Review* 48:824-837.

Strauss, Anselm. 1985. "Work and the Division of Labour." *The Sociological Quarterly* 26:1-19.

Sturdy, Andrew, Irena Grugulis, and Hugh Willmott (eds.) *Customer Service: Empowerment and Entrapment*. Basingstoke: Palgrave Macmillan

Spitz-Oener, Alexandra. 2006. "Technical change, Job Tasks, and Rising Educational Demands: Looking Outside the Wage Structure." *Journal of Labor Economics* 24(2): 235-70.

Thompson, Paul, Chris Warhurst, and George Callaghan. 2001. "Ignorant Theory and Knowledgeable Workers: Interrogating the Connections Between Knowledge Skills and Services." *Journal of Management Studies* 38:923-942.

Tronto, Joan and Bernice Fisher. 1990. "Towards a Feminist Theory of Caring." In Emily Abel and Margaret Nelson (eds), *Circles of Care: Work and Identity in Women's Lives*. Albany, NY: State University of New York Press.

Wharton, Amy. 1993. "The Affective Consequences of Service Work: Managing Emotion on the Job." *Work and Occupations* 20:205-232.

Witz, Ann, Chris Warhurst, and Dennis Nickson. 2003. "The Labour of Aesthetics and the Aesthetics of Organisation." *Organization* 10:33-54.

Woodfield, Ruth. 1998. "Working Women and Social Labour" Working Paper in Rusel Forum For Comparative Political Economy, University of Exeter.

Wray-Bliss, Edward. 2001. "Representing Customer Service: Telephones and Texts." Pp. 38-59 in Sturdy, Andrew, Grugulis, Irena, and Willmott. Hugh (eds.) *Customer Service: Empowerment and Entrapment*, Basingstoke:Palgrave Macmillan.

Appendix A: Bureau of Labor Statistics Service Occupations

31–3900	Service occupations	33–3052	Transit and railroad police
31–0000	Healthcare support occupations	33–9000	Other protective service workers
31–1000	Nursing, psychiatric, and home health aides	33–9011	Animal control workers
31–1011	Home health aides	33–9021	Private detectives and investigators
31–1012	Nursing aides, orderlies, and attendants	33–9030	Security guards and gaming surveillance officers
31–1013	Psychiatric aides	33–9031	Gaming surveillance officers and gaming investigators
31–2000	Occupational and physical therapist assistants and aides	33–9032	Security guards
31–2010	Occupational therapist assistants and aides	33–9090	Miscellaneous protective service workers
31–2011	Occupational therapist assistants	33–9091	Crossing guards
31–2012	Occupational therapist aides	33–9092	Lifeguards, ski patrol, and other recreational protective service workers
31–2020	Physical therapist assistants and aides	33–9099	Protective service workers, all other
31–2021	Physical therapist assistants	35–0000	Food preparation and serving related occupations
31–2022	Physical therapist aides	35–1000	Supervisors, food preparation and serving workers
31–9000	Other healthcare support occupations	35–1011	Chefs and head cooks
31–9011	Massage therapists	35–1012	First-line supervisors/managers of food preparation and serving workers
31–9090	Miscellaneous healthcare support occupations	35–2000	Cooks and food preparation workers
31–9091	Dental assistants	35–2010	Cooks
31–9092	Medical assistants	35–2011	Cooks, fast food
31–9093	Medical equipment preparers	35–2012	Cooks, institution and cafeteria
31–9094	Medical transcriptionists	35–2013	Cooks, private household
31–9095	Pharmacy aides	35–2014	Cooks, restaurant
31–9096	Veterinary assistants and laboratory animal caretakers	35–2015	Cooks, short order
31–9099	Healthcare support workers, all other	35–2019	Cooks, all other
33–0000	Protective service occupations	35–2021	Food preparation workers
33–1000	First-line supervisors/managers, protective service workers	35–3000	Food and beverage serving workers
33–1010	First-line supervisors/managers, law enforcement workers	35–3011	Bartenders
33–1011	First-line supervisors/managers of correctional officers	35–3020	Fast food and counter workers
33–1012	First-line supervisors/managers of police and detectives	35–3021	Combined food preparation and serving workers, including fast food
33–1021	First-line supervisors/managers of fire fighting and prevention workers	35–3022	Counter attendants, cafeteria, food concession,
33–1099	First-line supervisors/managers, protective service workers, all other	35–3031	Waiters and waitresses
33–2000	Fire fighting and prevention workers	35–3041	Food servers, nonrestaurant
33–2011	Fire fighters	35–9000	Other food preparation and serving related workers
33–2020	Fire inspectors	35–9011	Dining room and cafeteria attendants and bartender helpers
33–2021	Fire inspectors and investigators	35–9021	Dishwashers
33–2022	Forest fire inspectors and prevention specialists	35–9031	Hosts and hostesses, restaurant, lounge, and coffee shop
33–3000	Law enforcement workers	35–9099	Food preparation and serving related workers, and all other
33–3010	Bailiffs, correctional officers, and jailers	37–0000	Building and grounds cleaning and maintenance occupations
33–3011	Bailiffs	37–1000	Supervisors, building and grounds cleaning and maintenance workers
33–3012	Correctional officers and jailers	37–1011	First-line supervisors/managers of housekeeping and janitorial workers
33–3021	Detectives and criminal investigators		
33–3031	Fish and game wardens		
33–3041	Parking enforcement workers		
33–3050	Police officers		
33–3051	Police and sheriff's patrol officers		

37-1012 First-line supervisors/managers of landscaping, lawn service and groundskeeping workers
 37-2000 Building cleaning and pest control workers
 37-2010 Building cleaning workers
 37-2011 Janitors and cleaners, except maids and housekeeping cleaners
 37-2012 Maids and housekeeping cleaners
 37-2019 Building cleaning workers, all other
 37-2021 Pest control workers
 37-3000 Grounds maintenance workers
 37-3010 Grounds maintenance workers
 37-3011 Landscaping and groundskeeping workers
 37-3012 Pesticide handlers, sprayers, and applicators, vegetation
 37-3013 Tree trimmers and pruners
 37-3019 Grounds maintenance workers, all other
 39-0000 Personal care and service occupations
 39-1000 Supervisors, personal care and service workers
 39-1010 First-line supervisors/managers of gaming workers
 39-1011 Gaming supervisors
 39-1012 Slot key persons
 39-1021 First-line supervisors/managers of personal service workers
 39-2000 Animal care and service workers
 39-2011 Animal trainers
 39-2021 Nonfarm animal caretakers
 39-3000 Entertainment attendants and related workers
 39-3010 Gaming services workers
 39-3011 Gaming dealers
 39-3012 Gaming and sports book writers and runners
 39-3019 Gaming service workers, all other
 39-3021 Motion picture projectionists
 39-3031 Ushers, lobby attendants, and ticket takers
 39-3090 Miscellaneous entertainment attendants and related workers
 39-3091 Amusement and recreation attendants
 39-3092 Costume attendants
 39-3093 Locker room, coatroom, and dressing room attendants
 39-3099 Entertainment attendants and related workers, all other
 39-4000 Funeral service workers
 39-4011 Embalmers
 39-4021 Funeral attendants
 39-5000 Personal appearance workers
 39-5010 Barbers and cosmetologists
 39-5011 Barbers
 39-5012 Hairdressers, hairstylists, and cosmetologists
 39-5090 Miscellaneous personal appearance workers
 39-5091 Makeup artists, theatrical and performance
 39-5092 Manicurists and pedicurists
 39-5093 Shampooers
 39-5094 Skin care specialists
 39-6000 Transportation, tourism, and lodging attendants
 39-6010 Baggage porters, bellhops, and concierges
 39-6011 Baggage porters and bellhops
 39-6012 Concierges
 39-6020 Tour and travel guides
 39-6021 Tour guides and escorts
 39-6022 Travel guides
 39-6030 Transportation attendants
 39-6031 Flight attendants
 39-6032 Transportation attendants, except flight attendants and baggage porters
 39-9000 Other personal care and service workers
 39-9011 Child care workers
 39-9021 Personal and home care aides
 39-9030 Recreation and fitness workers
 39-9031 Fitness trainers and aerobics instructors
 39-9032 Recreation workers
 39-9041 Residential advisors
 39-9099 Personal care and service workers, all other