



## **About Achieve**

Achieve is an independent, bipartisan, nonprofit education reform organization based in Washington, DC, that directly helps states raise academic standards and graduation requirements, improve assessments, and strengthen accountability. Through Achieve's 35-state American Diploma Project Network, governors, state education officials, postsecondary leaders and business executives work together to improve postsecondary preparation by aligning key policies with the demands of college and careers.

[www.achieve.org](http://www.achieve.org)

## **About the Society for Human Resource Management (SHRM)**

SHRM is the world's largest association devoted to human resource management.

Representing more than 250,000 members in over 140 countries, the Society serves the needs of HR professionals and advances the interests of the HR profession. Founded in 1948, SHRM has more than 575 affiliated chapters within the United States and subsidiary offices in China and India. [www.shrm.org](http://www.shrm.org)

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# Introduction



In today's job market, middle and high skills jobs — jobs that require some education and training beyond high school — comprise the majority of job openings and typically provide the best wages and opportunities for advancement. And almost every day, there is an article or news story discussing the “skills mismatch” phenomenon, the ongoing challenge employers have in finding qualified and skilled employees to fill the more than 3 million jobs currently open in the United States, even in a time of high unemployment.

There is much speculation about why this may be the case, but no matter the reason, the fact is — as the Society for Human Resource Management (SHRM) and Achieve survey shows — employers are searching for employees with more training and skills than ever before — a trend that human resource (HR) professionals expect will continue in the future. This trend makes it incumbent on the United States to ensure that future generations have the academic and technical foundation needed to succeed in tomorrow's economy and to mind that skills gap.

As policymakers develop policies and programs that aim to ensure that the future U.S. workforce has the academic and technical preparation (from both K–12 and postsecondary education) necessary to access the careers of their choice, it is important to examine the issue from all angles. While there is an increasing amount of research around the education and skills jobs demand, the changing landscape of available jobs, and the role of education and training in addressing this skills mismatch, less is known about how the skills mismatch affects companies' hiring practices — and how companies' hiring practices affect the skills mismatch.

For instance, do organizations expect to require higher levels of education for future job openings at some or all job levels? Do the education and skills requirements listed in job postings reflect current hiring practices? What are the most significant changes these HR leaders see for their organizations in the future? And what opportunities are truly available within organizations for advancement, particularly for individuals with lower levels of education and skills?

To answer these questions and others, SHRM and Achieve partnered on a national survey of nearly 4,700 HR professionals representing nine industries.

## Major findings from the survey include:

- » **Companies are hiring.** Every industry was hiring in 2011, with more than 95 percent of respondents saying they had open positions in 2011. Most job openings required a high school diploma (36 percent on average) or a bachelor's degree (36 percent on average).
- » **Demand is growing for more education and skills at all levels.** At the same time, all industries are projecting that future jobs will require more skills, education and credentials at all levels, with some variations based on the industry and current levels of education required. Similarly, many HR professionals anticipate higher education requirements for most jobs (50 percent of survey respondents) and more jobs with more specific technical requirements (60 percent of survey respondents) in the next three to five years.

- » **Companies are investing in training for their employees.** With 57 percent of companies having a training budget, this finding is particularly true for larger organizations, the federal government, and finance and high-tech companies. Most respondents report that their organizations' training takes place on site (81 percent), but a significant portion say it takes place on a college campus, be it a technical or community college (44 percent) or university campus (41 percent).
- » **Opportunities exist for low skills workers, but there is reason to suspect that these opportunities will shrink in the future.** More than 80 percent of respondents say their organizations offer advancement opportunities for low skills workers, mostly lateral or one-step promotions, with more than a third of respondents saying promotion pathways are endless for low skills workers with the right work ethic and attitude. The data, however, suggest that opportunities for advancement for low skills workers are more limited than respondents believe; more than 80 percent of respondents acknowledge that they hire employees with education credentials above a high school diploma for jobs that — *as posted* — require only a high school diploma.

## Methodology

To identify the changing demands for employees across industries and job levels, SHRM and Achieve jointly developed a survey, which was fielded between March 28, 2012, and April 30, 2012, to more than 25,000 HR professionals across nine industries. The survey yielded responses from 4,695 HR professionals, for a response rate of 18 percent. The margin of error for the full sample is +/-1 percent.<sup>1</sup> The professionals surveyed have titles such as HR manager, HR specialist, vice president of HR, HR administrator and (associate) director of HR.

**Table 1. Number of Responses, by Industry**

Industry	Total number of respondents	Response rate	Margin of error
<b>All Industries</b>	4,695	18%	+/-1%
<b>Construction, Mining, Oil and Gas</b>	491	17%	+/-4%
<b>Federal Government</b>	356	17%	+/-5%
<b>Finance</b>	530	18%	+/-4%
<b>Health</b>	526	18%	+/-4%
<b>High Tech</b>	447	15%	+/-5%
<b>Manufacturing</b>	526	18%	+/-4%
<b>Nonprofessional Services</b>	479	17%	+/-4%
<b>Professional Services</b>	492	17%	+/-4%
<b>State/Local Government</b>	848	22%	+/-3%

### Examples of Occupations within Job Categories

- » *Labor, low skilled:* janitorial, aides, laborers
- » *Labor, skilled:* technicians, mechanics, foremen
- » *Administrative/secretarial:* secretaries, office managers, word processors
- » *Salaried professional:* analysts, nurses, engineers

### Professional versus Nonprofessional Services

*Professional services* cover industries such as legal services, engineering/design, accounting services, nonprofit organizations, education and telecommunications.

*Nonprofessional services* cover industries such as utilities, retail, accommodation and food services, transportation, wholesale trade, repair and maintenance, and waste management.

This report highlights key findings from a national survey of HR professionals. For complete survey results, including all industry breakouts, please see [www.shrm.org/Research/SurveyFindings/Articles/Pages/ChangingEmployee-Skills-Education.aspx](http://www.shrm.org/Research/SurveyFindings/Articles/Pages/ChangingEmployee-Skills-Education.aspx).

# Key Survey Findings

## Minimum Education Level for Full-Time-Equivalent Employees

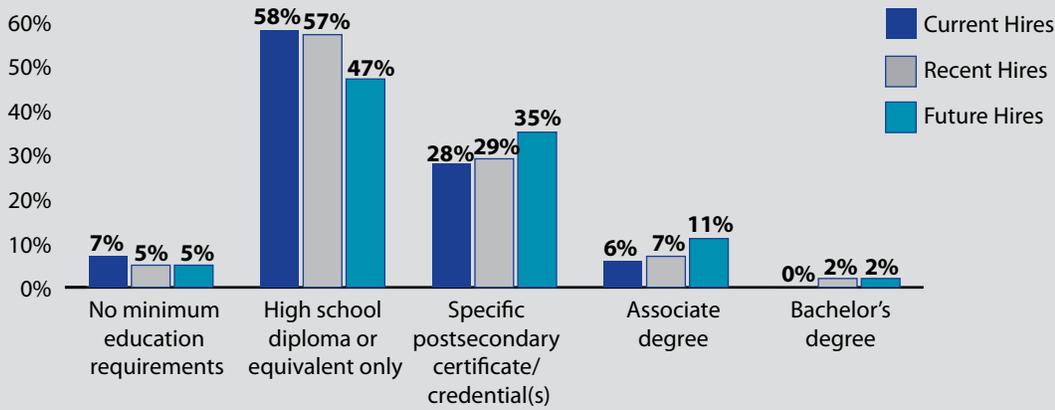
What is your organization's minimum education level for full-time-equivalent *current/recently hired/future* employees?

Overall, organizations across all industries are projecting that future jobs at all levels will require more skills, education and credentials/certifications, with varying degrees of magnitude. The largest differences between current education and skill levels and future requirements are in skilled labor and administrative/secretarial positions — key middle skills jobs for which growth is projected.<sup>2</sup> In nearly all areas, the percentage of jobs that will have no minimum education requirements or require only a high school diploma or equivalent will decrease in the future — by as much as 16 percentage points for administrative/secretarial positions and 8 percentage points for skilled labor; in these areas demand for postsecondary certificates and associate degrees will increase. The data suggest that employers' demand for higher levels of education will continue to increase in coming years, particularly in those middle skills jobs that may have previously been accessible with only a high school diploma.

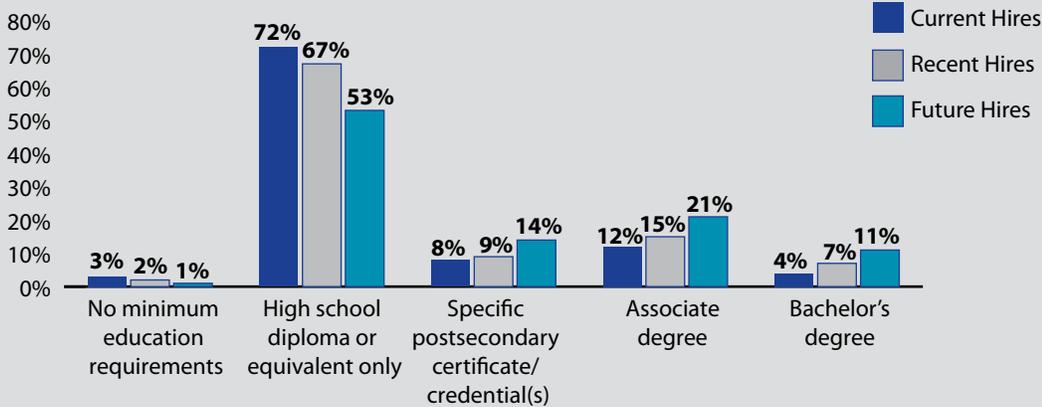
Table 2. Minimum Education Level Required by Job Category

	No minimum education requirements	High school diploma or equivalent only	Specific postsecondary certificate/credential(s)	Associate degree	Bachelor's degree	Advanced degree
<b>Labor, Low Skilled</b>						
Current Employees	28%	70%	1%	1%	0%	0%
Recently Hired Employees	25%	72%	1%	1%	1%	0%
Future Employees	23%	71%	4%	2%	1%	0%
<b>Labor, Skilled</b>						
Current Employees	8%	58%	26%	5%	2%	0%
Recently Hired Employees	7%	59%	26%	6%	3%	0%
Future Employees	6%	50%	31%	9%	3%	0%
<b>Administrative/Secretarial</b>						
Current Employees	3%	72%	8%	12%	5%	0%
Recently Hired Employees	2%	65%	9%	14%	9%	0%
Future Employees	2%	56%	11%	21%	9%	0%
<b>Salaried Individual Contributor/Professional</b>						
Current Employees	1%	8%	8%	14%	65%	4%
Recently Hired Employees	1%	7%	7%	13%	67%	5%
Future Employees	1%	5%	6%	12%	71%	5%

**Figure 1. Industry Snapshot: Changing Education Requirements for Skilled Labor in Manufacturing**



**Figure 2. Industry Snapshot: Changing Education Requirements for Administrative/Secretarial Labor in Nonprofessional Services**



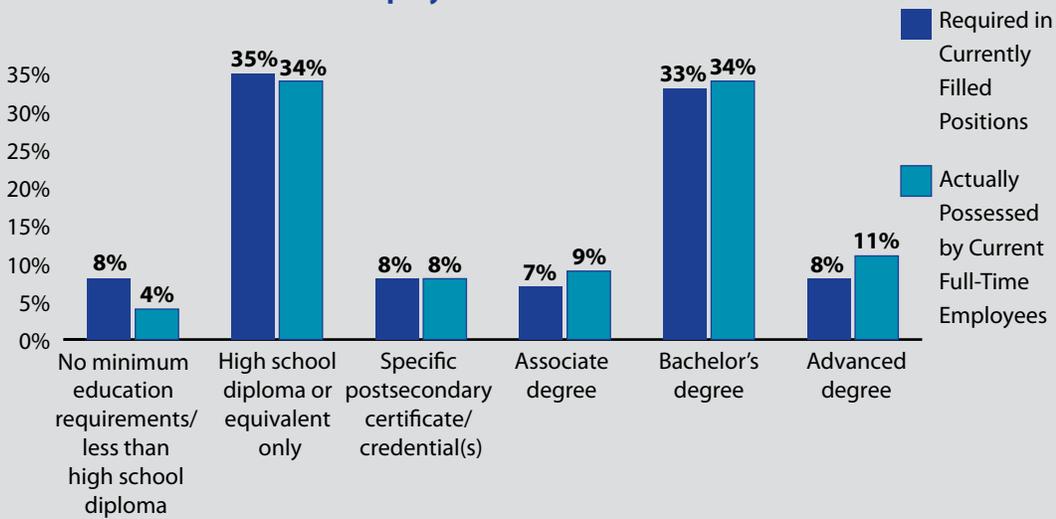
## Education Levels of Today's Workforce

What percentages of your organization's positions that are currently filled *require* the following education credentials? What

percentages of your organization's current full-time-equivalent employees actually *possess* these education credentials?

Overall, organizations across all industries report that most jobs are held by individuals with education credentials that closely match those required by the job. Slightly more individuals possess additional education credentials beyond those needed for jobs with no minimum education requirements, as well as for jobs requiring an advanced degree.

Figure 3. Required Education Levels Compared to Actual Education Levels of Current Full-Time Employees



## Of your organization’s job openings in 2011, what percentage had specific education requirements?

Every industry was hiring in 2011, even with the lasting effects of the recent recession, with more than 95 percent of respondents saying they had open positions in 2011. Across the board, nearly every industry identified “high school diploma or equivalent” and “bachelor’s degrees” as the most commonly demanded level of education for its 2011 job openings, with few industries paying particular attention to postsecondary certificates/credentials or associate degrees. Health care is one exception with, on average, more than a quarter of the job openings pinned at those education requirement levels, including on average 15 percent of respondents identifying job openings at their companies that require postsecondary certification and another 13 percent identifying job openings that require an associate degree.

A few industries do still offer some jobs with no minimum education requirements: nonprofessional services (21 percent); construction, mining, oil and gas (19 percent); and manufacturing (12 percent). However, in all other industries, fewer than 10 percent of 2011 job openings had no minimum education requirements.

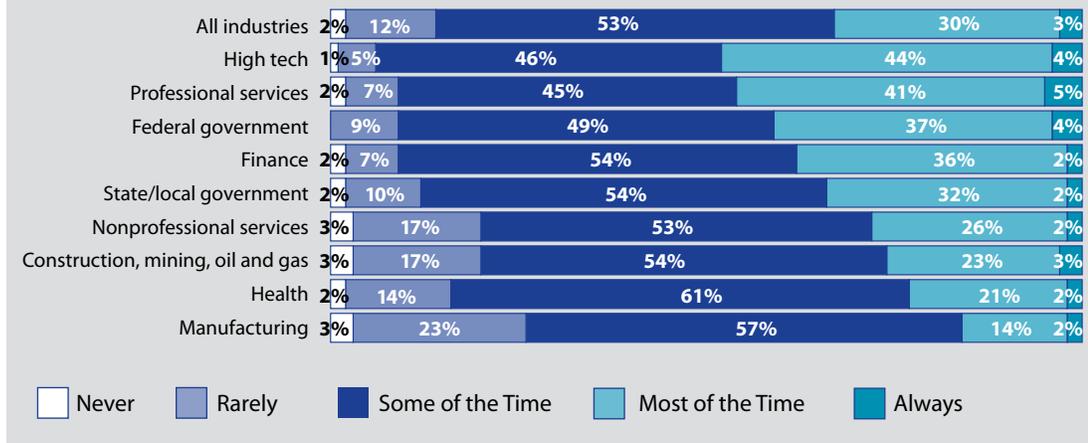
**Table 3. 2011 Reported Job Openings, by Industry**

	Percentage that had job openings in 2011	No minimum education requirements	High school diploma or equivalent only	Specific postsecondary certificate/credential(s)	Associate degree	Bachelor’s degree	Advanced degree
<b>All Industries</b>	96%	8%	36%	8%	6%	36%	7%
<b>Construction, Mining, Oil and Gas</b>	95%	19%	33%	10%	5%	31%	2%
<b>Federal Government</b>	93%	7%	30%	9%	6%	35%	13%
<b>Finance</b>	97%	3%	52%	3%	4%	34%	3%
<b>Health</b>	99%	3%	33%	15%	13%	27%	10%
<b>High Tech</b>	97%	3%	15%	5%	6%	65%	8%
<b>Manufacturing</b>	96%	12%	47%	4%	5%	29%	2%
<b>Nonprofessional Services</b>	95%	21%	44%	5%	5%	22%	2%
<b>Professional Services</b>	95%	3%	21%	6%	6%	51%	13%
<b>State/Local Government</b>	95%	5%	45%	10%	7%	29%	5%

## For current job openings that require a minimum of a high school diploma or equivalent, how often are the newly hired employees' education credentials actually higher than the minimum education listed in the job announcement?

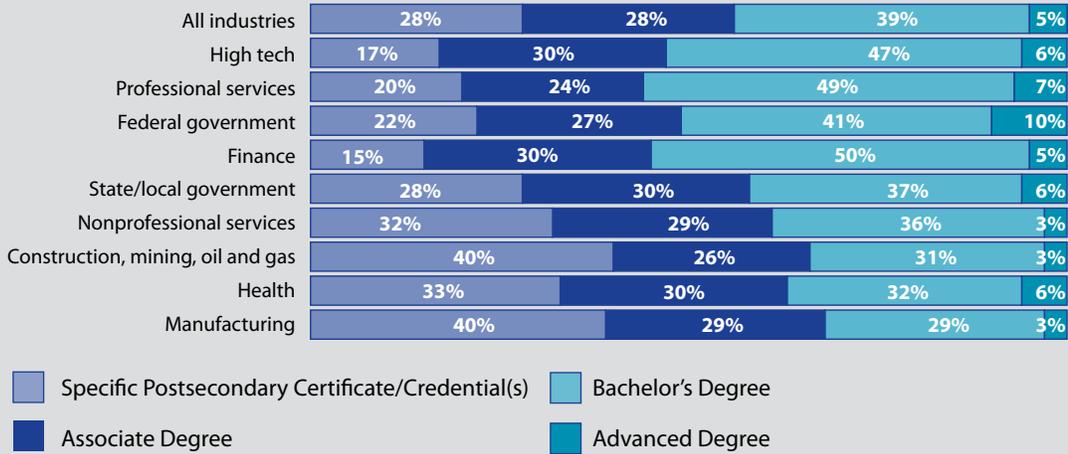
On average, organizations that had open positions in 2011 say that 36 percent of these positions required a minimum of a high school diploma and 8 percent had no minimum requirements, which is higher than expected but can be at least partially explained by the high turnover in and out of low skills jobs. The data also suggest that many of these low skills jobs are currently being filled by workers with higher levels of education and training. About a third of respondents (33 percent) acknowledge that they “always” or “most of the time” hire employees with education credentials above a high school diploma for jobs that — *as posted* — require only a high school diploma, with another 53 percent saying they do so “some of the time.” This mismatch is likely driven by high unemployment (and individuals being willing to enter jobs for which they are overqualified) coupled with employers’ desire to have employees with more training and skills in any and all positions. The industries that are most likely to say “most” or “all of the time” are high tech (48 percent), professional services (46 percent) and the federal government (41 percent).

**Figure 4. Reported Likelihood of Hiring Employees with Higher Levels of Education than Required, by Industry**



The employees hired to fill those jobs who had more than the minimum (posted) education requirements are most likely to have a bachelor's degree (39 percent), followed by a postsecondary certificate/credential (28 percent) or an associate degree (28 percent), with just 5 percent possessing an advanced degree. Interestingly, construction, mining, oil and gas production and manufacturing are the most likely to fill those lower-level positions with certificate holders, while finance, professional services and high tech are most likely to fill them with bachelor's degree holders.

**Figure 5. Reported Education Levels of Employees Hired To Fill Jobs with Minimum Education Requirements, by Industry**



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## Opportunities for Training and Advancement

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Are employees that are hired with a high school diploma or equivalent — with no further education/postsecondary certification or

credentials — eligible for promotions or career advancement at your organization, and if so, what are those opportunities?

According to one-half of the HR professionals surveyed, employees with only a high school diploma are “always” or “most of the time” eligible to advance in their organizations, with another 37 percent of respondents saying these employees are eligible “some of the time” — without additional education degree or certificate attainment.

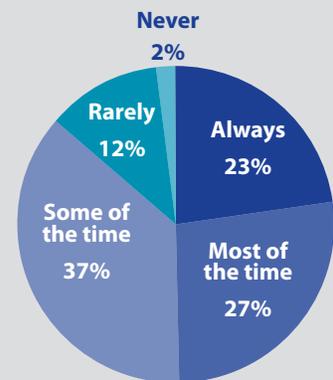
The majority of the positions available for employees with only a high school diploma to advance into are lateral (38 percent) or one-step (39 percent) promotions; the latter would also likely encompass promotions to hourly supervisory positions (43 percent) or to front-line managers (25 percent). Thirty-eight percent of HR professionals do note that the career pathways are “endless, depending on a person’s attitude and work ethic,” but this finding is tempered by the fact that there are simply fewer jobs for — and being filled by — high school graduates without additional education and training.

### What type of additional *training and/or education* do employees at your organization need to advance in a career pathway?

Generally, it appears that low skilled laborers are most likely to be able to advance with job-specific training, which is not surprising given that the majority of their promotions are lateral or one step to supervisory positions, which require the attainment of job-specific knowledge more than a broader set of skills. Postsecondary certificates also are beneficial to low skilled laborers, according to 30 percent of respondents. Skilled labor benefits from technical, job-specific and professional development training, along with postsecondary certificates or credentials (see Table 4).

Administrative/secretarial and salaried professionals are even more likely to benefit from job-specific training and professional development, as well as by earning additional certificates and degrees. Salaried professionals are the most likely to need a bachelor’s degree to advance (according to 51 percent of HR professionals).

**Are employees that are hired with a high school diploma or equivalent — with no further education/postsecondary certification or credentials — eligible for promotions or career advancement at your organization?**



It is important to note that none of these categories is discreet, meaning employees may require multiple types of training and/or education to advance. For example, attainment of a postsecondary credential/certification may be linked with technical or job-specific training, if that training occurs on a college campus and culminates in some credential. It is also safe to assume that remedial training alone is not enough to support an individual's advancement but is a necessary component for a promotion to happen, particularly for low skills employees.

**Table 4. Types of Training and Education Necessary for Advancement, by Occupation Type**

	Labor, low skilled	Labor, skilled	Administrative/secretarial	Salaried professional
<b>What type of additional TRAINING do employees need to advance in a career pathway?</b>				
<b>Remedial Education (e.g., Basic Math, Communication Skills)</b>	20%	10%	10%	4%
<b>Technical Training, Including Math and Science Education</b>	21%	30%	15%	15%
<b>Job-Specific Training</b>	56%	61%	69%	58%
<b>Other Professional Development</b>	19%	31%	58%	76%
<b>No Promotions Available</b>	4%	2%	4%	2%
<b><i>N/A — None Are Needed</i></b>	29%	25%	5%	8%
<b>What type of additional EDUCATION do employees need to advance in a career pathway?</b>				
<b>Attainment of Postsecondary Certification/Credential(s)</b>	30%	30%	19%	13%
<b>Attainment of an Associate Degree</b>	13%	20%	27%	8%
<b>Attainment of a Bachelor's Degree or Above</b>	8%	15%	30%	51%
<b>No Promotions Available</b>	5%	3%	5%	4%
<b><i>N/A — None Are Needed</i></b>	56%	48%	38%	34%

## Does your organization spend money on training, and if so, where do your employees generally receive training?

More than half (57 percent) of HR professionals say that their organizations had a training budget in 2011, but those training budgets varied widely. The minimum budget was \$99, and the maximum budget was \$400 million, while the mean was \$942,157 and the median \$50,000.

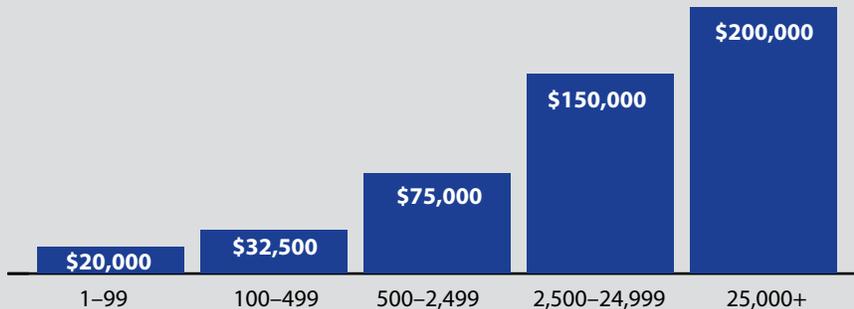
**Figure 6. Range of Companies' Training Budgets**

\$99	\$50,000	\$942,157	\$400,000,000
Minimum	Median	Mean	Maximum

State/local government (72 percent), the federal government (70 percent) and finance (59 percent) were the most likely industries to have a training budget, while organizations in construction, mining, oil and gas (49 percent) and manufacturing (49 percent) were the least likely to have a training budget in 2011.

High-tech companies (\$82,500), the federal government (\$75,000) and finance organizations (\$62,500) had the highest median training budgets across industries, but company size was still the most significant determinant of the training budget.

**Figure 7. Median Training Budget, by Number of Employees**



The most common location of training was on site (81 percent of respondents said their organizations offer training on site), followed by employer-provided off-site locations (57 percent), a technical or community college (44 percent), and a college or university (41 percent). Employers were much less likely to provide (and pay for) training through professional conferences, seminars and workshops or through webinars, with only 9 percent and 4 percent of HR professionals noting their organizations' support for those training categories, respectively. Only 7 percent of all training budgets went toward remediating employees' basic skills in mathematics, communications or other core competencies.

## Changes in the Workforce: Looking Behind and Ahead

What are the differences between your organization's workforce from 10 years ago and today? Between today and the next three to five years?

HR professionals are optimistic about the continued growth of their organizations, with 55 percent noting that they anticipate staff size increases in the next three to five years. Some areas of the largest projected growth include higher education levels for most jobs; more jobs with specific technical requirements; more jobs related to science, technology, engineering and math (STEM); and increasing employee diversity.

**Table 5. Percentage of HR Professionals Reporting Changes in Their Organizations' Workforces over Time**

	Previous 10 years to today	Anticipated in next three to five years
<b>Staff Size Increased</b>	53%	55%
<b>Staff Size Decreased</b>	29%	19%
<b>Higher Education Level Required for Most Jobs</b>	46%	50%
<b>Lower Education Level Required for Most Jobs</b>	1%	1%
<b>Fewer Entry-Level Jobs</b>	31%	30%
<b>More Entry-Level Jobs</b>	18%	19%
<b>More Jobs with Specific Technical Requirements</b>	51%	60%
<b>More Jobs That Are Service Oriented</b>	23%	29%
<b>Greater Reliance on Temporary or Contingent Workers</b>	21%	20%
<b>Increased Employee Diversity</b>	45%	49%
<b>More Jobs Related to Science, Technology, Engineering and Math (STEM)</b>	26%	31%
<b>Other</b>	3%	3%

More specifically, HR professionals from health (54 percent), manufacturing (52 percent), state/local government (48 percent) and the federal government (46 percent) are the most likely to report higher education requirements today than 10 years ago. Interestingly, manufacturing (59 percent), health (56 percent), high tech (51 percent), state/local government (51 percent) and professional services (49 percent) are most likely to predict a need for higher education levels for most jobs in the next three to five years.

High tech (73 percent); manufacturing (56 percent); construction, mining, oil and gas (56 percent); state/local government (53 percent); and health (51 percent) are most likely to report more jobs with specific technical requirements (i.e., skills) today than 10 years ago. Similarly, high tech (79 percent); manufacturing (71 percent); and construction, mining, oil and gas (69 percent) are also most likely to predict that there will be more jobs with specific technical requirements in the next three to five years.

## Do you anticipate that your organization’s needs for employees at the following education levels will increase, stay the same or decrease over the next three to five years?

The vast majority of respondents, across industries, note that their needs will stay the same or increase for employees at every education level. Generally, a high school diploma is the category most likely to see responses of demand *decreasing* in the next three to five years, with only a substantial number (at least 20 percent) of respondents from the manufacturing; construction, mining, oil and gas; and nonprofessional services industries predicting a significant increase in employees with only a high school diploma in coming years.

The most consistent increases are at the bachelor’s degree level, with more than half of respondents in every industry but one expecting an increase in their need for employees with education at this level in the next three to five years. Advanced degrees is the second most common area of predicted increased demand (41 percent of respondents predict an increase at this education level), followed by postsecondary certificates/credentials (32 percent of respondents predict an increase).

**Table 6. Changing Demand for Employees with Education Levels, by Industry**

	High school diploma or equivalent only			Specific postsecondary certificate/credential(s)			Associate degree			Bachelor’s degree			Advanced degree			↑ Increase — Stay the Same ↓ Decrease
	↑	—	↓	↑	—	↓	↑	—	↓	↑	—	↓	↑	—	↓	
<b>All Industries</b>	16%	68%	16%	32%	62%	5%	25%	67%	7%	55%	43%	2%	41%	56%	3%	
<b>Construction, Mining, Oil and Gas</b>	24%	67%	9%	36%	62%	2%	22%	75%	4%	57%	41%	1%	33%	64%	2%	
<b>Federal Government</b>	7%	69%	24%	30%	63%	7%	26%	62%	11%	52%	46%	3%	45%	51%	5%	
<b>Finance</b>	13%	73%	14%	22%	71%	6%	23%	72%	5%	57%	41%	1%	38%	61%	1%	
<b>Health</b>	17%	69%	14%	40%	57%	3%	29%	62%	9%	62%	37%	2%	51%	47%	1%	
<b>High Tech</b>	9%	63%	27%	28%	61%	11%	18%	69%	13%	56%	42%	2%	56%	44%	1%	
<b>Manufacturing</b>	26%	64%	10%	39%	58%	3%	36%	60%	5%	58%	40%	2%	39%	58%	3%	
<b>Nonprofessional Services</b>	24%	67%	10%	26%	70%	4%	23%	73%	5%	44%	54%	2%	27%	68%	5%	
<b>Professional Services</b>	8%	70%	22%	29%	62%	9%	19%	71%	10%	52%	46%	3%	49%	48%	2%	
<b>State/Local Government</b>	13%	71%	16%	35%	61%	3%	31%	64%	5%	52%	45%	3%	32%	64%	4%	

# Conclusion

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The SHRM and Achieve survey data offer a number of insights into the skills mismatch and how HR professionals view education and skills across industries. For one, the survey reaffirms that employers have been demanding more education and skills for their new employees — and that they will continue to do so in the future, particularly employees in the so-called middle skills jobs such as skilled labor and administrative professionals. For example, while 75 percent of organizations currently employ administrative assistants/secretaries who have a high school diploma or less, HR professionals expect that 41 percent of their future administrative/secretarial jobs will require some postsecondary credential or degree. Even more directly, half of HR professionals expect to require higher levels of education among most employees in the next three to five years.

On the heels of the recession, it is heartening that 96 percent of HR professionals say they had open positions in 2011, including more than 90 percent of HR professionals in every industry surveyed. The jobs available suggest that there are still some options for those individuals without any formal postsecondary education and training, but these jobs are minimal and decreasing in nearly every industry. Only three industries note that more than 10 percent of their job openings in 2011 had minimal education requirements — and about 75 percent of the time these three industries (manufacturing; nonprofessional services; and construction, mining, oil and gas) may hire people with more education than the minimum required.

Also of interest is that many HR professionals report that career pathways are available for employees with only a high school diploma or less — although the pathways are often contingent on additional training (particularly for low skilled labor and skilled labor) or additional education (particularly for administrative/secretarial and salaried professionals), suggesting that HR professionals may be more optimistic about pathways for those with only a high school diploma than the data bear out.

The survey supports the notion that the skills mismatch is a newer phenomenon, given that respondents across industries unanimously report that most jobs are held by individuals with the education credentials matching those required by those jobs, with a minor overqualification for jobs with no minimum education requirements and more employees with advanced degrees than required. This is not surprising given the rapid pace of globalization in just the past five to 10 years and the fact that many of the jobs lost in the recession were low skills, replaced by jobs requiring higher levels of education and skills.<sup>3</sup>

# Endnotes

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- 1** SHRM's typical response rate is approximately 15 percent, making this survey above its standard response rate.
- 2** Achieve. (2012). *The Future of the U.S. Workforce: Middle Skills Jobs and the Growing Importance of Postsecondary Education*. [www.achieve.org/middleskills](http://www.achieve.org/middleskills)
- 3** Carnevale, A.P., Jayasundera, T., & Cheah, B. (2012). *The College Advantage: Weathering the Economic Storm*. Washington, DC: Georgetown University. <http://cew.georgetown.edu/collegeadvantage>

*The Future of the U.S. Workforce: A Survey of Hiring Practices across Industries* was the result of many months of hard work. Achieve would like to thank those individuals whose efforts made it possible:

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**Michael Cohen**

President

Achieve

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