who are looking for work tend to have multiple choices for their next opportunity. It's not uncommon for somebody to get one offer, and then having the choice to take it or continue to look for work," Green said. "That trend was probably just emerging about a year ago, but now that it's fully in place, companies are having a harder time attracting good people."

The unemployment rate for individuals 25 years and older with a bachelor's degree or higher is 3.2 percent, much lower than the 6.1 percent overall unemployment rate, according to the BLS.

A specialized skill set not only typically leads to landing a job; it usually means earning a higher salary, too.

According to the Robert Half 2014 Salary and Hiring Outlook survey, starting salaries for technology sector workers are expected to increase by 5.6 percent. More specifically, salaries for mobile application developers, software developers and user experience designers are predicted to rise by 7.8, 7.7 and 7.5 percent, respectively.

Starting salaries for those in accounting and financial services (3.4 percent), creative and marketing (3.3 percent), administrative and office support (3.3 percent), as well as legal services (2.7 percent) are all expected to increase, the survey said.

At 4.8 percent, lawyers with at least four years' experience are expected to see the highest salary increase out of all nontechology-focused professions. Financial analysts with at least one year of experience are predicted to see the second highest salary increase of all nontech-related professionals at 4.3 percent.

"Salary increases for temporary workers are following what we're seeing in the permanent placement market," McDonald said. "In the high-demand areas, we're seeing salary increases, and in the low-demand areas, we're not."

People with science, technology, engineering and math backgrounds — popularly known as STEM — are typically some of the most highly sought-after workers for temporary positions, Link said, who added that their desirability doesn't make them harder to find, just harder to woo to a specific organization.

In addition to people with STEM skills, other highly prized workers include health care professionals as well as managing and professional services workers. Randstad has even seen an increase in lawyers turning to staffing firms for work, favoring the flexibility that contracted service offers over long-term responsibilities at one organization.

Staffing firms have started to confront the increasing challenge of attracting top talent. For example, Professional Services Group has added resources to aid its recruiting department as it grows and talent becomes more difficult to recruit, Green said. The company recently increased its recruitment staff, updated its recruitment software tools and partnered with Monster Worldwide Inc. to overhaul its website, all in hopes of gaining an edge in the war for talent.

A staffing firm's success is dependent on the strength of its recruiting strategy in Link's opinion.

"The attraction, attention and engagement in the recruitment of employees is going to have to become more and more central to the entire human management team of an organization," Link said. "Paying more attention to how we pull people into our companies and keep them there is something that all organizations need to do."