



Child Care, Education, and the STEM Workforce

A new survey gives STEM industry leaders critical insights into what attracts and retains employees.

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Introduction

Broadly defined, STEM-related industries are vital to the U.S. economy, contributing over \$2 trillion dollars and supporting 69% of the GDP.¹ STEM roles are also desirable jobs for U.S. workers, on average paying more than twice as much as non-STEM jobs.² However, a shortage of skilled STEM workers poses a significant threat to economic growth and technical innovation, fueling a need to develop and retain talent within STEM industries and encourage future generations to pursue STEM degrees. It is predicted the United States will have to fill 3.5 million STEM jobs by 2025, with two million or more of those positions going unfilled because of a lack of highly skilled candidates.³

The skill shortage is especially acute in manufacturing where finding the right talent is now 36% harder than it was in 2018 with executives reporting they cannot fill high-paid entry level roles, and they are having an especially difficult time finding and retaining skilled workers for specialized roles.⁴ Hiring in the face of skills gaps is also a major pain point for life sciences and pharmaceutical organizations with 77% of leaders saying their organizations are more focused on talent than ever before and nearly two-thirds are utilizing freelancers and independent contractors to fill gaps.⁵

Given the robust need to attract, retain, and grow skilled workers in manufacturing and life sciences for not only the success of individual organizations but also in support of the U.S. economy as a whole, this report sheds light on what early to mid-career employees in manufacturing and life sciences organizations need in order to stay and grow in STEM fields.

Participant Background

STEM workers tend to be highly educated, nearly twice as likely than the general U.S. population to have earned at least a bachelor's degree (65% vs. 38%) and roughly three-in-ten STEM workers have earned a master's degree or higher.⁶ However, **only half of highly educated STEM majors actually join the STEM workforce, instead using their sought-after skills in other fields, such as banking and finance.**⁷ This issue is especially acute for women. While they earn 57% of bachelor's degrees and 50% of bachelor's in STEM fields, broadly defined, they only earn 38% of STEM degrees in engineering, computer science, and physical sciences that lend themselves to manufacturing and life sciences occupations.⁸ By 2031, if nothing changes, only 30% of the manufacturing sector's total workforce will be women.⁹

Considering that the early-to-mid career timeframe is also when employees tend to have young children,¹⁰ combined with the importance of education to the field and the employees, this research focused on education and child care needs as they relate to STEM employment.

In partnership with Qualtrics, Bright Horizons Workforce Consulting surveyed a sample of 999 participants who currently or previously work(ed) in a STEM organization and are currently or plan to be parents of children under the age of six.¹¹ Much of the report focuses on the 796 full-time & 97 part-time current STEM employees with additional analyses for former employees (N=106).



Attracting and Growing a Highly Skilled and Highly Educated Workforce

The majority of survey participants hold a bachelor's degree or higher (63%), well above the 38% of U.S. population as a whole. Twenty-two percent hold a master's or higher, compared to 14% of the general population.¹² Despite the high level of educational attainment in the sample, advancing one's education is still critical to attracting and retaining these individuals. For parents, child care is necessary for advancement.

For those currently employed in a STEM organization (N=893), **92% said an opportunity to advance their STEM education would impact their decision to leave their current employer for another STEM organization.**

For those who previously left STEM-related industries (N=106), **93% said opportunities for advancing their STEM education would impact their decision to rejoin the STEM field,** with two-thirds calling it highly impactful to their decision.

Furthermore, while 96% of those surveyed¹³ say it is important to grow their career in the next 1-3 years (65% say very important), **for a majority of parents (67%), child care is holding them back from career growth. Nearly every parent** who expressed an interest in advancing their education (N=608), **said child care was important to achieving their educational goals (98%) with 66% calling it very important.**

Sixty-one percent of full-time STEM employees plan to change employers eventually, with 7% looking to change within a year.

92%

currently employed in STEM said an opportunity to advance their STEM education would **impact their decision to change employers**

67%

of parents said child care is holding them back from **career growth**

61%

of STEM employees said they plan to change employers eventually, **7% within the year**

While the survey sample was comprised of a nearly equal male/female gender distribution (52% vs. 48%), males were significantly more likely than females to report full-time employment in a STEM organization (56% vs. 44%, $p < .001$) and **females were more likely to have left a STEM organization** (67% vs. 31%, $p < .001$).¹⁴

Reported reasons for leaving STEM-related industries varied widely between participants (N=106), with the most frequently reported reasons being:

- ▶ Burnout (25%)
- ▶ Stress (24%)
- ▶ Lack of career advancement/promotion (24%)
- ▶ To continue education (19%)
- ▶ Insufficient compensation (18%)
- ▶ Hours didn't align with child care availability (17%)
- ▶ To gain more flexibility (17%)

For those with children under the age of six who left STEM-related industries (N=65), 23% did so because their hours and 19% did so because their shifts **did not align with child care availability**. **More than 1 in 10 left to be a stay-at-home parent due to lack of child care options** (11%).

24%

already left at least one STEM organization due to **a lack of career advancement/promotion**

23%

of parents who left STEM organizations did so because **their hours did not align with child care**

1 IN 10

parents who left STEM organizations did so to become a stay-at-home parent because they **lacked other options**

Quality Child Care is Critical to Recruitment and Retention

A majority of STEM workers surveyed (both current and future parents) **reported that child care benefits would impact their decisions to change employers**, including:

- ▶ High-quality on-site child care **(90%)**
- ▶ Back-up/emergency child care **(90%)**
- ▶ After-school/out-of-school time care for children ages 6-12 **(84%)**

Similarly, for those who left STEM-related industries (N=106), when it comes to **what impacts their decision to rejoin the field**, **92% said back-up/emergency child care**, **90% said high-quality on-site child care**, and **87% said after-school care for children ages 6-12**.

90%

of those who left the STEM field reported high-quality on-site child care and back-up/emergency child care would **impact their decision to rejoin the STEM industry**

87%

of those who left the STEM field reported after-school care for school-aged children would impact their decision to **rejoin the STEM industry**



The Importance of Child Care for Growth and Innovation

Despite having household incomes above the U.S. median¹⁵ (69% above \$75,000), which is correlated with use of licensed child care centers,¹⁶ more than half of the 671 STEM-related industry parents of young children surveyed said **child care difficulties are impacting their attendance at work, 40% said productivity is impacted, and a third (34%) of parents said both collaboration and innovation are impacted.** Even if a family can afford child care, that does not mean that reliable child care is available in a convenient location to home or work — 51% of the U.S. population lives in a child care desert, a situation predicted to get worse as American Rescue Plan Funding ended without additional aide.^{17,18} Nor does being able to afford care mean child care is available for the days, shift lengths, and times that match the unique schedules of many STEM manufacturing and life sciences occupations.

When asked about the types of child care difficulties parents are facing, the responses varied. For at least one in four parents, the challenges included:

- ▶ Finding reliable child care (37%)
- ▶ Availability of child care (34%)
- ▶ Conveniently located child care (29%)
- ▶ Care for a sick child (27%)
- ▶ Back-up child care (27%)
- ▶ Care that matches work hours (27%)
- ▶ Care that matches shift lengths (25%)
- ▶ Care that meets my quality standards (25%)
- ▶ Affording the cost of their preferred child care (25%)

54%

of parents said child care difficulties impact their **attendance** at work

40%

of parents said child care difficulties impact their **productivity** at work

34%

of parents said child care difficulties impact their ability to **collaborate** and **innovate** at work

Current Child Care Landscape

Parents with a bachelor's degree or higher are significantly more likely to be using a child care center than parents without a bachelor's degree (41% vs 24%).¹⁹

While parents with a bachelor's degree or higher show a preference for child care centers, they may not be available (by proximity to home/work, long waitlists, costs, and other factors). Current child care arrangements vary significantly by location, due to many factors, including both the variability in the type of child care available and the geographic distribution of parents by education level.

Parents surveyed with a bachelor's degree or higher are significantly more likely to live in a city (44%) than those without a bachelor's degree (29%) whereas those without a bachelor's degree are significantly more likely to live in a rural area (19%) than those with a bachelor's degree (10%). Suburban areas have a roughly equal representation (47% with a bachelor's or higher; 52% without).²⁰

Children under six in cities (35%) and suburbs (36%) are more likely to be in center-based care than those in rural areas (21%). A third of children from rural areas (34%) are cared for by a parent compared to 29% of children in cities, and 20% of children in suburbs. Children in rural areas are also twice as likely as children in cities to be in family child care homes (9% vs. 4%).

How Parents Choose Child Care

Overall, more than half of parents shared they chose their current care arrangement for a clean and safe environment (53%) and the available hours/days (52%). After the basics are taken care of, parents look for provided meals (32%), affordable tuition/rates (30%), socialization (29%), STEM-based enrichment offerings (29%), and playground/outdoor time (27%). Parents also prioritize convenience, looking for care with proximity to home (33%) or proximity to work (29%).

Parents with a bachelor's degree or higher are significantly more likely to be using a child care center than parents without a bachelor's degree and they are significantly more likely to say they chose a center based on:²¹

- ▶ STEM-based enrichment activities (33% vs. 21%)
- ▶ App/website for updates during the day (12% vs. 7%)
- ▶ Employer-provided, on-site child care (11% vs. 6%)
- ▶ QRIS/State quality ratings (5% vs. 1%)

Parents without a bachelor's degree were significantly more likely to say their current child care was their only option (18% vs. 10%) and that they chose child care based on word-of-mouth recommendations (24% vs. 15%).

Conclusion

Nationwide, child care and education benefits are needed in order to attract new talent, retain current talent, shine light on STEM manufacturing and life sciences organizations as a desirable career choice for STEM degree holders, and foster an environment conducive to collaboration and innovation.

As STEM manufacturing organizations face a critical skill shortage, upskilling, reskilling, and education advancement opportunities are not only a retention and recruitment strategy for sought-after employees, but also necessary for the stability and growth of STEM industries. The role of child care in fostering innovation among the STEM workforce is crucial. At a minimum, child care supports increase attendance, work production, and company growth. However, by alleviating the challenges and worries associated with balancing work and parenting, high-quality, accessible, affordable child care that matches an organization's work shifts alleviates a primary challenge of the many early and mid-career professionals. Appropriate child care allows them to parent young children, grow their careers, and pursue opportunities for additional education and skill-building. Knowing your child or children are cared for in a high-quality, enriching, educational setting enables parents not just to show up, but to immerse themselves more fully in their professional pursuits, channeling their creativity, energy, and focus towards generating new ideas and innovative solutions.

By recognizing the importance of child care and supporting employees who need it, employers can unleash the full potential of their workforce, leading to fresh perspectives and groundbreaking advancements that benefit the employee, employer, and broader economy.

About The Survey

To be included in the survey, participants had to be U.S. residents between the ages of 21 and 45, employed or previously employed in a STEM-manufacturing organization (defined as a STEM organization that manufactures, or develops a product including CHIP/Semiconductor manufacturing, auto/aviation manufacturing, medical device manufacturing, pharmaceuticals/pharmaceutical manufacturing, biotechnology, or similar), with a household income over \$50,000 per year, currently a parent of a child under the age of 6, and/or planning to have children in the future. The survey was conducted online in July 2023.

The median age of participants was 34. The sample composition is 52% male, 48% female, <1% non-binary. The state geographic distribution is roughly equivalent to the state-by-state population distribution. Parents of children under the age of six comprise 67% of the sample.



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Endnotes

- ¹ Aerospace Industries Association, et. al (2020). *STEM and the American Workforce*.
- ² U.S. Bureau of Labor Statistics. (2023, September 6). *Employment in STEM Occupations*.
- ³ Wellener, P., Reyes, V., Ashton, H., & Moutray, C. (2021). Creating pathways for tomorrow's workforce today. *Deloitte Insights*.
- ⁴ *Ibid.*
- ⁵ Randstad Enterprise. (2023). *2023 Talent Trends Sector Report: Life Sciences & Pharma*.
- ⁶ Pew Research Center. (2018). *Women and Men in STEM Often at Odds Over Workplace Equity*.
- ⁷ *Ibid.*
- ⁸ Charlesworth, T. E., & Banaji, M. R. (2019). Gender in science, technology, engineering, and mathematics: Issues, causes, solutions. *Journal of Neuroscience*, 39(37), 7228-7243.
- ⁹ Manufacturers Alliance Foundation (2023). *In Her Own Words: Breaking the Glass Ceiling Is Good for Business*.
- ¹⁰ 84% of women have a child by age 45; 3% have a child before age 20 (U.S. Census Bureau, 2023).
- ¹¹ Survey participants are between the ages of 21 and 45 and were asked if they currently or previously work(ed) for a STEM organization that manufactures or develops a product, defined as CHIP/Semiconductor manufacturing, auto/aviation manufacturing, medical device manufacturing, pharmaceuticals/ pharmaceutical manufacturing, biotechnology or similar.
- ¹² U.S. Census Bureau. (2022). *Census Bureau Releases New Educational Attainment Data*.
- ¹³ Not yet at an owner or C-level (N=944)
- ¹⁴ $\chi^2 (2, N = 994) = 31.1, p < .001$
- ¹⁵ U.S. Census Bureau. (2022). *Median Household Income*.
- ¹⁶ Center for American Progress. (2019). *Working Families Are Spending Big Money on Child Care*.
- ¹⁷ Center for American Progress. (2018). *Child Care Deserts*.
- ¹⁸ Kashen, J., Gutierrez, L.V., Woods, L., & Milli, J. (2023). *Child Care Cliff: 3.2 Million Children Likely to Lose Spots with End of Federal Funds*.
- ¹⁹ Analysis of youngest child, $\chi^2 (8, N = 671) = 43.4, p < .001$.
- ²⁰ $\chi^2 (2, N = 671) = 20.1, p < .001$
- ²¹ Fisher's Exact Test, $p < .05$ for all