AEA Papers and Proceedings 2022, 112: 121–125
https://doi.org/10.1257/pandp.20221034

Soft Skills in the Youth Labor Market†

By Sara B. Heller and Judd B. Kessler*

The changing demand for soft skills has been a major driver of trends in employment, earnings, and education (Atalay et al. 2020; Deming 2017; Goldin and Katz 2010; Heckman and Kautz 2012). Differences in soft skills may also partially explain why labor market outcomes have been improving for women while declining for men (Autor and Wasserman 2013; Beaudry and Lewis 2014). Much recent academic work on the value of soft skills in the US labor market focuses on middle- and high-income jobs, in part due to data availability; online vacancy boards that provide information on jobs' skill requirements disproportionately contain professional job postings (Deming and Kahn 2018), and recurring employer surveys like the National Association of Colleges and Employers focus on demand for new college graduates.

Consequently, despite widespread interest in helping those struggling to enter the lower-wage labor market and indications that soft skills are particularly important for this group (Aghion et al. 2019; Houseman and Heinrich 2015), we know relatively little about what kinds of soft skills employers value in modern entry-level jobs. Some of the most direct evidence comes from employer surveys and interviews that are now several decades old (Holzer 1996; Moss and Tilly 1996; Maxwell 2006).

In this paper, we provide new descriptive evidence on how employers value soft skills among a group of entry-level workers who face consistently higher unemployment and disconnection rates: low-income and minority youths (ages 14–24). We also explore whether gender differences in soft skills can help explain why—unlike their older counterparts—young women have better labor market outcomes than young men regardless of whether they are enrolled in school (US Bureau of Labor Statistics 2021).

Our data come from surveys we ran as part of an experiment, discussed in Heller and Kessler (2021), to produce recommendation letters for participants in New York City's Summer Youth Employment Program (SYEP). For about 9,200 youth employees in that paper's treatment group, SYEP supervisors provided an overall quality rating and feedback about 10 specific soft skills. We show that supervisor ratings are positively correlated with higher earnings in the formal labor market, measured in administrative data from the New York State Department of Labor. Ratings also show the same gender gap as national youth employment statistics: women in our sample have higher ratings than men as well as higher employment and earnings.

Our main results assess which soft skills are most valued by employers in this labor market. We find that communication skills have the largest partial correlation with overall quality ratings and that dependability measures—taking instruction, showing up on time, and being responsible or trustworthy—also significantly contribute to employers' views of employees. By contrast, being respectful and being a team player are not correlated with overall ratings when controlling for other soft skills. Lastly, we find that women's strength in these soft skills explains the entire female advantage in overall employer ratings as well as 10 percent of the female earnings advantage in the labor market. By providing insight into which soft skills contribute the most independent influence on employer impressions of workers, our results can inform both future research and efforts to help young people develop or credibly signal their strengths to potential employers.

*Heller: Department of Economics, University of Michigan (email: sbheller@umich.edu); Kessler: Wharton School, University of Pennsylvania (email: judd.kessler@wharton.upenn.edu). The underlying experiment was funded by the Social Policy Research Initiative at J-PAL North America. We thank the New York City Department of Youth and Community Development and the New York State Department of Labor for providing data. All opinions in the paper are ours and do not represent the views of any agency or data provider.

†Go to https://doi.org/10.1257/pandp.20221034 to visit the article page for additional materials and author disclosure statement(s).

I. Data

As fully detailed in Heller and Kessler (2021), we partner with the New York City SYEP to provide letters of recommendation for randomly selected participants from the summer of 2016 (when we ran a pilot) and the summer of 2017 (when we ran our study at scale).

For that study, we emailed supervisors from program work sites—around six to eight weeks after the program summer—and invited them to complete a survey about the individuals who worked for them. We randomly selected some of these youth workers to be eligible to receive a letter of recommendation, and we generated a letter if a youth's supervisor both agreed to take a survey to generate letter content and answered the survey questions about the youth positively enough. In total, we have a full set of supervisor responses for 9,203 youth workers from our experimental treatment group, including responses that were not positive enough for us to generate a letter of recommendation. Table 1 provides information on the demographics of this group from SYEP program data, showing that the modal participant is a non-White high school student.

Table 1—Summary Statistics

	Mean
Age	17.25
Male	0.42
Black	0.42
Hispanic	0.30
Asian	0.15
White	0.09
Other race	0.04
In high school	0.74
High school graduate	0.04
In college	0.20

Note: $N = 9{,}203$; 98 observations are missing data on race and ethnicity.

For these participants, we first asked the supervisor an *Overall rating* question. This question read "Overall, how would you rate *youth name* as an employee?" Supervisors could choose from seven possible options: "Very poor," "Poor," "Neutral," "Good," "Very good," "Excellent," and "Exceptional." For the analysis, we assign values to the responses, from a 1 for "Very poor" to a 7 for "Exceptional." The mean response across the workers we analyze here was 5.62.

In addition to the overall rating question, supervisors were asked five questions about specific soft skills. The first four questions each asked about a specific soft skill on a five-point Likert scale (we again assign values to the responses, from 1 for the lowest to 5 for the highest). The fifth question asked about six binary traits, and the supervisor could indicate whether each described the youth. The questions (with mean responses in brackets) were

(i) *On time*: "How often did *youth name* arrive on time for work?" ("Never" to "Always") [4.47]

(ii) *Prompt work*: "How often did *youth name* complete work-related duties in a timely manner?" ("Never" to "Always") [4.45]

(iii) *Communication*: "How was *youth name* at communicating?" ("Not effective" to "Incredibly effective") [3.90]

(iv) *Following instructions*: "How was *youth name* at following instructions?" ("Very poor" to "Excellent") [4.41]

(v) *Binary responses*: "Which of these describe *youth name*? Please select all that apply."
- "Takes initiative" [0.62]
- "Trustworthy" [0.76]
- "Respectful" [0.89]
- "Works well in teams" [0.82]
- "Good at responding to criticism" [0.66]
- "Responsible" [0.82]

To aid in comparability, we standardized responses to each of the Likert scale questions so that each question has a mean response of 0 and a standard deviation of 1. For each of the six binary responses in question 5, we set the value to 0 if the supervisor did not select the trait as describing the youth and 1 if she did.

To assess whether ratings contain information about performance in the real labor market, we use data from the New York State Department of Labor's quarterly unemployment insurance (UI) records. We sum each youth's earnings across the four quarters that precede the program summer, with earnings set to 0 for those who did

not work. We use prior-year earnings because post-program earnings may be contaminated with the treatment effects of our recommendation letters, which report the soft skill ratings from the surveys and thus might create a direct relationship between specific survey responses and future earnings (Heller and Kessler 2021).

II. Results

We find that overall ratings do capture something meaningful about youth performance on the labor market: a one standard deviation increase in *Overall rating* corresponds to a 3.1 percentage point higher employment rate ($p < 0.001$, *Mean employment* $= 0.46$) and \$168 in additional earnings in the prior year ($p < 0.001$, *Mean earnings* $=$ \$1,365). Note that the correlation between ratings and earnings could reflect influences in both directions; ratings may capture youth ability, which increases the chance of securing employment and earning more in the prior year, or prior work experience may help build the skills or abilities that lead youths to be rated highly. Additionally, the correlation could reflect other omitted variables correlated with both ratings and earnings. The key point here is that supervisor ratings contain information about labor market performance regardless of whether or how the two measures are causally related.

Table 2 shows our main results, which explore what predicts the overall rating a supervisor gives a youth. The dependent variable is the standardized *Overall rating*. Column 1 estimates the gender difference in this rating by regressing it on a male indicator. Male workers receive dramatically lower overall ratings from employers than female workers, a 0.13 standard deviation difference.

Column 2 includes measures of all ten soft skills as covariates to explore which ratings best predict an employer's overall perception of a youth worker, holding the others constant. Because of the differences in the range of values across different types of questions, it is most natural to compare the first four coefficients from the Likert scale questions to each other and to compare the latter six coefficients from the binary responses to each other.

While all four Likert scale responses are highly statistically significant, the strongest predictors of overall rating are being a good communicator (*Communication*) and following instructions (*Following instructions*). The coefficient estimates on these two variables are around two times larger than the coefficient estimates for the other two variables (*On time* and *Prompt work*), suggesting that supervisors particularly value when youths excel at communicating and following instructions.

The coefficient estimates on the binary responses suggest that employers value young people who take initiative, are trustworthy, and are responsible. The coefficients on these variables are statistically significant and positive. *Takes initiative* has the largest partial correlation with overall ratings (0.155), and *Responsible* has the smallest (0.058). The coefficients on the other three variables—being respectful, being a

Table 2—Correlates of Overall Ratings

	(1)	(2)	(3)
Male	−0.131		0.003
	(0.021)		(0.013)
On time		0.139	0.139
		(0.012)	(0.012)
Prompt work		0.103	0.103
		(0.01)	(0.01)
Communication		0.348	0.348
		(0.01)	(0.01)
Following instructions		0.267	0.267
		(0.012)	(0.012)
Takes initiative		0.155	0.155
		(0.017)	(0.017)
Trustworthy		0.091	0.091
		(0.02)	(0.02)
Respectful		−0.036	−0.036
		(0.025)	(0.025)
Team player		−0.011	−0.011
		(0.021)	(0.021)
Responds well to criticism		0.013	0.013
		(0.017)	(0.017)
Responsible		0.058	0.058
		(0.021)	(0.021)

Notes: $N = 9{,}203$. Table reports regression results where the dependent variable is the overall supervisor rating of a youth. *Overall rating*, *On time*, *Prompt work*, *Communication*, and *Following instructions* are standardized (mean 0, standard deviation 1). *Male* indicates self-reported gender of male in the SYEP application data. Other variables are 1 if the supervisor said that the trait described the youth and 0 otherwise. Reported estimates for the ten soft skills are identical in columns 2 and 3 because coefficient estimates are nearly identical; differences cannot be observed due to rounding. Standard errors are clustered on the individual, since the same person can appear in both the 2016 and 2017 cohorts of our survey.

team player, and responding well to criticism—are not statistically significant, and the first two are directionally negative. Controlling for other soft skills, these three traits are less important in predicting the overall perception of employers.

Column 3 controls for both soft skills, as in column 2, and gender, as in column 1. The coefficient on *Male* in this regression is 0.003 and far from statistically significant, suggesting that the gender gap in overall ratings can be explained by women's higher level of soft skills than their male counterparts (or other omitted features correlated with both soft skills and gender). As might be expected from the regressions in columns 1 and 3, if we use a Oaxaca-Blinder decomposition to explore the roles of soft skills and gender in overall rating, we estimate that 100 percent of the gap in ratings is explained by women's advantage in soft skills.

We can perform a similar exercise to explore the relationship among gender, soft skills, and earnings. The raw gender gap in prior-year earnings is $381 (mean earnings were $1,526 for women and $1,145 for men).[1] A similar, descriptive Oaxaca-Blinder decomposition of this gender gap in earnings estimates that 10 percent of the prior-year earnings can be explained by the soft skill measures on the survey. Determining how much of this relationship is causal would be an interesting avenue for future work.

III. Discussion

This paper presents descriptive evidence on the relationship between how supervisors view youth workers' soft skills and how they evaluate those workers overall. The results provide insight into which soft skills employers value in a modern entry-level labor market and how young women's soft skill advantage might contribute to their better labor market outcomes.

The lack of well-validated and consistently collected skill measures over time makes comparisons of our results to prior work difficult. But the dominance of communication skills has been a relatively consistent finding across decades (Holzer 1996; Moss and Tilly 1996). In addition, the value of dependability in our data—following instructions, showing up on time, being responsible, and being trustworthy—is consistent with anecdotal evidence about employers' hesitance to hire young people because of uncertainty about reliability.

There are important limitations to the analysis. The survey was designed to collect simple information for recommendation letters, so it did not use validated soft skill measures; the results are descriptive, not causal; and the data are from one cross section within one specific context. Nonetheless, the available measures still provide new information about the factors that correlate with employers' views about what makes for a good employee. And the context may be particularly relevant for considering the role of soft skills for young people struggling to enter the labor market. By definition, our sample of youth participants in a summer youth employment program want to work, may not be able to secure gainful employment without the help of an active labor market program, and are relatively capable (i.e., their supervisors are willing to take a survey to generate a letter of recommendation on their behalf). Since these youths are on the margin of being active in the labor market, knowing which soft skills most impress employers may be particularly valuable for addressing barriers to employment among young job seekers.

In addition, our setting is one in which supervisors do not directly hire the youth they supervise, but they observe the youth firsthand for roughly six weeks on the job. Consequently, rather than asking employers what they aspirationally want in a hypothetical employee or what they value in the employees who successfully made it through a (potentially biased) hiring process, our data provide insight into what kinds of skills most shape supervisors impressions of young employees to whom they might not otherwise be exposed.

As fully detailed in Heller and Kessler (2021), we know that the youth subjects of this study benefit from having recommendation letters—generated from the supervisors' survey responses—signaling their existing soft skills. Future work could usefully test whether helping young people, and young men in particular, *develop* the soft skills we find most predictive of employers' views of worker quality could enhance their labor market success.

[1] Some of this difference is on the extensive margin, as employment is about 5 percentage points higher for women (48.3 percent of women versus 43.2 percent of men work in a UI-covered job). Conditional on working, the earnings gender gap is even larger: average earnings are $3,156 for women who work and $2,649 for men who work.

REFERENCES

Aghion, Philippe, Antonin Bergeaud, Richard W. Blundell, and Rachel Griffith. 2019. "The Innovation Premium to Soft Skills in Low-Skilled Occupations." https://scholar.harvard.edu/files/aghion/files/innovation_premium_to_soft_skills.pdf.

Atalay, Enghin, Phai Phongthiengtham, Sebastian Sotelo, and Daniel Tannenbaum. 2020. "The Evolution of Work in the United States." *American Economic Journal: Applied Economics* 12 (2): 1–34.

Autor, David, and Melanie Wasserman. 2013. *Wayward Sons: The Emerging Gender Gap in Labor Markets and Education*. Washington, DC: Third Way.

Beaudry, Paul, and Ethan Lewis. 2014. "Do Male-Female Wage Differentials Reflect Differences in the Return to Skill? Cross-City Evidence from 1980–2000." *American Economic Journal: Applied Economics* 6 (2): 178–94.

Deming, David J. 2017. "The Growing Importance of Social Skills in the Labor Market." *Quarterly Journal of Economics* 132 (4): 1593–1640.

Deming, David, and Lisa B. Kahn. 2018. "Skill Requirements across Firms and Labor Markets: Evidence from Job Postings for Professionals." *Journal of Labor Economics* 36 (S1): S337–69.

Goldin, Claudia, and Lawrence F. Katz. 2010. *The Race between Education and Technology.* Cambridge, MA: Harvard University Press.

Heckman, James J., and Tim Kautz. 2012. "Hard Evidence on Soft Skills." *Labour Economics* 19 (4): 451–64.

Heller, Sara B., and Judd B. Kessler. 2021. "The Effects of Letters of Recommendation in the Youth Labor Market." NBER Working Paper 29579.

Holzer, Harry J. 1996. *What Employers Want: Job Prospects for Less-Educated Workers.* New York: Russell Sage Foundation.

Houseman, Susan N., and Carolyn J. Heinrich. 2015. "Temporary Help Employment in Recession and Recovery." W.E. Upjohn Institute for Employment Research Working Paper 15-227.

Maxwell, Nan L. 2006. "Low-Skilled Jobs: The Reality behind the Popular Perceptions." In *The Working Life: The Labor Market for Workers in Low-Skilled Jobs*, by Nan L. Maxwell, 1–23. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

Moss, Philip, and Chris Tilly. 1996. "'Soft' Skills and Race: An Investigation of Black Men's Employment Problems." *Work and Occupations* 23 (3): 252–76.

United States Bureau of Labor Statistics. 2021. *Women in the Labor Force: A Databook.* Washington, DC: United States Bureau of Labor Statistics.