The Impact of I-O Psychology on Understanding the Changing Technology-Enabled Workforce

As the rate of technological change continues to accelerate, understanding how these changes affect American workers has never been more critical. These changes impact not only the products that our workforce creates and sells but also the work environment itself, such as increased coworking with robots and artificial intelligences, and the national context for work, such as the ever-increasing threat of cyberattacks. As federal stakeholders consider programs and policy regarding the national response to these changes, the Society for Industrial and Organizational Psychology (SIOP) urges the application of evidence-based methods in industrial and organizational (I-O) psychology.

I-O psychology is the scientific study of working and the application of that science to workplace issues facing individuals, teams, and organizations. Collectively, I-O psychologists bring over a century of expertise in understanding and predicting workplace behavior. Below are some of the ways I-O psychologists can help in this space:

- **CHALLENGE:** Automation is transforming the production of goods and services. Workforce trends require employees to develop new routines, skills, and competencies to better work alongside automated systems.
  I-O IMPACT: I-O psychologists have deep expertise in both preparing for this shift and understanding how current workers will react to it. Assessing job demands and developing responsive employee training programs using new technologies can dramatically reduce later costs. As jobs are transformed or replaced, it is also critical to understand how American workers react and respond. Assessing, interpreting, and anticipating human reactions to automation and other new technologies is a core I-O competency.

- **CHALLENGE:** The changing nature of work and the increasing prevalence of technology in the workplace has resulted in a need for new skills and capabilities. However, the current workforce lacks these newly essential skills and is ill-equipped to face new workforce challenges.
  I-O IMPACT: I-O psychologists have expertise in effective strategies and processes to retrain workers, including identifying current skill needs and projecting the skills of importance for the future. Efficient job retraining can address the need for lifelong skills education, keep older workers in the workforce, and combat talent shortages in areas critical for societal well-being.

- **CHALLENGE**: As the federal workforce evolves, high quality employees with well-designed jobs help federal agencies serve the public more effectively and efficiently. In addition, reducing the time to hire and fill open positions saves money, reduces strain on current employees, and improves efficiencies.
  I-O IMPACT: I-O psychologists develop selection assessments and processes to help maximize performance on the job. Using predictive statistical models, I-O psychologists streamline hiring processes to focus on fewer, but higher quality, candidates. For current employees, I-O psychologists have expertise in redesigning the work itself to make it less stressful but more efficient. These practices

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improve performance and reduce turnover, which has become a focal challenge as government shutdowns and partial shutdowns become increasingly common.

- **CHALLENGE**: Our dependence on technology is increasing exponentially. At the same time, dark actors are gaining sophistication and scale to do harm. We do not have the sufficient cybersecurity workforce depth to keep our data and transactions safe, which creates risk.
  I-O IMPACT: I-O psychologists have deep expertise in analyzing jobs, developing tests that predict job performance, and developing training to improve performance. These capabilities can help identify core skills necessary for cybersecurity positions, form curricula to develop cybersecurity skills, and ensure candidates who can sufficiently perform required tasks are selected.

- **CHALLENGE:** Workers that are geographically dispersed, or "teleworkers," are becoming an increasingly major part of the U.S. workforce. Within this group, contingent or "freelance" workforces are also becoming more prevalent. This shift is creating a need for employers to create new jobs and organizations that support a healthy and productive "gig" economy.
  I-O IMPACT: I-O psychologists are trained in best practices for geographically dispersed teams and workers, as well as in high-impact techniques for motivating and supporting the health, well-being, and performance of all employees, regardless of geographical location. Because the experience of telework is fundamentally different from traditional collocated work, I-O psychologist expertise in leadership, management, and teamwork at a distance will become increasingly valuable.

- **CHALLENGE:** Our ability to develop effective skills education and strong workforce pipelines is hindered by a lack of good data connecting education and work, and a disconnect between educators and employers in developing new programs.
  I-O IMPACT: I-O psychologists are experts in needs analysis and evaluation of educational and training initiatives. By aligning the needs of employers with the skills taught in education and workforce programming, development initiatives will be more focused and of higher quality.

SIOP is a community of nearly 10,000 members worldwide with a common interest in promoting the research, practice, and teaching of I-O psychology to enhance human well-being and performance in organizational and work settings. SIOP provides a platform for scientists, academics, consultants, and practitioners to collaborate, implement, and evaluate cutting-edge approaches to workplace challenges across sectors. SIOP urges federal policymakers to engage I-O psychologists to promote efficient and effective strategies related to the technology-enabled workforce.

To this end, SIOP has launched a new Advocacy Area on the Technology-Enabled Workforce. The Advocacy Area features a working group of I-O psychologists from industry and academia with targeted expertise in relevant areas, such as the impact of automation and new technologies on the workforce. The Advocacy Area will be available to provide evidence-based support to policymakers as they address the various challenges and opportunities related to the future of work moving forward.