

The Modern App



Application of Modern Technology and Social Media in the Workplace



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A Year in Review:

#SIOP15 Technology & Social Media Highlights!

Over the past year, we've seen technology enhancements impact and shape our workplace practices and research topics. In 2013 alone, over \$600 million dollars in funding was given to start-up human resource technology companies to build out new capabilities such as applicant tracking tools, video interview capabilities, and other employee development software (Lanik et al., 2015).

The integration of technology and social media in the workplace has brought both positive effects such as improvement in efficiency and cost savings as well as negative effects including the introduction of new legal, ethical, and validity concerns. Given these rapid changes, we've dedicated our 2-year anniversary issue of [The Modern App](#) to summarizing the influence technology has had on our field by discussing trends in current research. Although these themes and topics are not exhaustive, they should help I-O psychologists understand how technology is changing our work for better and worse.

In order to identify current hot topics, we examined the research and sessions from our recent Society for Industrial-Organizational Psychology (SIOP) conference. Across 865 sessions at SIOP, approximately 11% of topics were related to technology and social media. Below we have categorized the trends within broad areas of I-O psychology, including recruitment and selection, virtual workplaces, training, and big data.

Recruitment and Selection

It is now the norm to include technology and social media in the recruitment and selection process. However, I-O psychologists are just beginning to understand the effects of these new workplace practices. Below are three themes that emerged from the SIOP 2015 conference.

Legal Implications of Leveraging Social Media in the Recruiting and Hiring Process

Many organizations leverage information found on social media and/or integrate new social networking tools into their systems without thinking about the legal and ethical implications and the lack of empirical support for usage (Mills et al., 2015). Research has shown that invasive employer requests to access applicant Facebook pages tend to decrease applicant perceptions of organizational justice and job pursuit intentions, making these organizations less attractive (Menzies & Bartles, 2015). Another study investigated issues of weight discrimination based on employers evaluating social media information and determining whether applicants engage in healthy or unhealthy behaviors (McHugh & Joseph, 2015).

Optimizing User Experience in Technology-Enhanced Assessment

Technology is changing the testing environment and organizations need to ensure candidates are having a good experience. Over the past year, more researchers are investigating innovative delivery modes (Payne et al., 2015) and other characteristics that influence user experience such as test length, ATS integration, and much more (Tafero, Granger, Lux, Steffensmeier, & Glatzhofer, 2015). Studies have shown that applicants in technology-mediated interviews (Blacksmith, Willford, & Behrend, 2015) and unproctored Internet settings (Wasko, Lawrence, & O'Connell, 2015) were found to be less favorable in online settings than traditional settings.

Validity and Utility of Technology-Enhanced Assessments

Traditional paper and pencil tests are being transformed and delivered through computers and mobile devices with video-based items and within virtual reality scenarios. With changes in the way these assessments are traditionally delivered, I-O psychologists are recognizing a need to ensure equivalence across measures. This is due to the fact that several features of technology-enhanced assessments could impact the validity or usefulness of assessments and how applicants perform. For example, mobile delivery mode screens are smaller, candidates are more likely to be on the go as well as distracted during the assessment, and navigation options may change depending on the device being used (Boyce et al., 2015). Other issues such as development algorithms, determining item exposure frequencies in computer adaptive testing, and protecting integrity of the test are also huge concerns being investigated within the research (Moclaire, Olson, Drollinger, Vorm, & Foster, 2015).

Although I-O psychologists are beginning to increase their understanding of these selection and recruiting impacts, there are still gaps that need to be addressed in future research. We imagine this area will continue to evolve in the coming years.

Virtual Workplaces

Approximately 64 million workers telecommuted in 2012, according to Global Workplace Analytics (2013), an increase of 58% since 1997 (Jackson, 1997). This theme is

likely of no surprise because virtual work still continues to increase each year and new technologies mitigate the associated challenges ([Poeppelman & Blacksmith, 2015](#)). Some of the most immediate research trends include balancing work and life in virtual settings, effects of communication methods, and virtual methods of performance management.

Balancing Work and Life in Virtual Settings

Virtual workplaces are rapidly changing our understanding and implementation of [work-life balance](#). This is due to the realities of merging one's home with work, which makes for longer workdays and weeks given everything is blended together under one roof. Managing boundaries is critical. This can be done through strategies such as recreating an office environment by having separate, designated areas for work activities; mimicking routines that are found in offices; and other behavioral tactics (Basile & Beauregard, 2015). Other research found frequent social cell phone use can buffer against harmful effects such as emotional exhaustion and poor sleep quality (Ragsdale & Hoover, 2015). Researchers suggest this might be due to an increase in social support. Employees can experience positive affective benefits from teleworking but these benefits vary depending on several individual differences such as openness to experience, trait rumination, and social connectedness outside of the workplace (Anderson, Kaplan, & Vega, 2015).

Computer-Mediated Communication in Virtual Teams

Although technology continues to change virtual working conditions, it cannot replace the value of face-to-face time. In face-to-face situations, group members share the same physical location, see and hear one another, receive facial indicators, and engage in camaraderie. Recent research continues to examine teamwork, communication, and methods of communication such as mobile devices, text, and email messages to determine if the positive benefits of face-to-face can be replicated in virtual settings.

For instance, research has shown communication channels affect the type of persuasive information readers attend to (Larson, Lipani, Zhu, & Kern, 2015) and emotional reactions (e.g., emotional recognition or emotional contagion processes; Doerr, Clark, & Svyantek, 2015). Other research examined the moderating effect that virtuality has on the relationship between communication and performance (Marlow, Lacerenza, Petruzzelli, & Salas, 2015). Seely and DeChurch (2015) also developed and validated a psychometric measure of process sociomateriality which describes how member interactions are enabled, augmented, or impaired by the use of technology during task work.

Performance Management

Managing virtual workers also requires a new understanding of performance management within organizations. Predictors of contextual performance such as organizational citizenship behaviors (OCBs) differ in virtual

settings. Recent research identified two mediating processes that can help explain the relationship between the frequency of telework and OCBs, which includes teleworkers' perceptions of professional isolation and their social identification with their work group (Kane & Sommer, 2015). Other recent research investigated the conceptual space of performance constructs and determined that negative social networking behaviors are conceptually distinct from other counterproductive work behaviors (CWBs) but share many of the same antecedents (Brown, Weidner, Wynne, & O'Brien, 2015). These results also highlight that only some of the previous research investigating CWBs can be translated to our understanding of negative social media postings.

Last, organizations are introducing new performance management practices with the advent of sophisticated technology. Examples include methods of monitoring employee behavior electronically (Willford, Howard, Cox, Badger, & Behrend, 2015), which can be done through email and Internet usage, computer and phone use, and workplace surveillance techniques that utilize video smartcard technology. As you might imagine, electronic performance monitoring raises issues of ethics and impacts on employee attitudes. Future research will need to examine additional effects of these monitoring practices on employees.

Training and Development

New Approaches to Learning

As technology has completely changed most organizational practices, this most

certainly includes the learning environment that encompasses training and development methods. Unlike before, training can now be implemented through virtual reality such as head-mounted display units and computer-based methods. However, recent research demonstrated that learners with head-mounted displays performed worse on posttests than those who used a traditional computer-based method as mediated by cognitive engagement (Howard et al., 2015). Learning environments are also being [gamified](#) (Armstrong & Landers, 2015; Broadfoot & Chambers, 2015), and discussion channels are being leveraged to increase learner engagement (Cavanaugh, Landers, & Landers, 2015). For instance, research by Broadfoot and Chambers (2015) found that employees who participated in gamified training learned key facts and felt more comfortable at work when applying training knowledge.

Researchers are still striving to understand the best environments for virtual team training (Horn et al., 2015) and effects on learning attrition for online learning (Bauer, Cavanaugh, & Cameron, 2015). Bauer et al. (2015) showed that self-efficacy increased the odds of a learner dropping out, whereas pretraining experiences can have the opposite effect on attrition. Another study examined whether and to what degree video game and flight simulator experience contributed to the prediction of psychomotor-based selection test scores and subsequent flight training performance for a sample of student naval pilots (Drollinger et al., 2015). In addition, text-based peer discussions during lectures were implemented to increase learner

engagement but may be harmful due to cognitive load increasing over time (Cavanaugh et al., 2015).

Technology-Enhanced Training Delivery

Training classrooms are continuously being enhanced with technology and new tools. There are now readily accessible tools that are aiding teaching including [Skype](#), [Blackboard's blog platform](#), [PowerPoint's recording function](#), and [Twitter](#) (Bachiochi, Bulger, Everton, Bunk, & Giumetti, 2015). Researchers at this year's event also highlighted advances in technology-based training and implications for understanding the psychological processes relevant in training. In the future, we will likely see increased learner control as a function of new training technology (Behrend et al., 2015).

Big Data

Applicants and employees are leaving a "digital footprint" and I-O psychologists are studying how to best utilize such data with new tools such as [MongoDB](#), [Hadoop](#), and [Python](#) (Lee & Drown, 2015). Sessions this year discussed issues such as populated data matrices, data visualization, text data mining, computers to score candidates' narrative essays and more (Meade, Sinar, Bokhari, and Villanes, 2015). Of particular concern is defining parameters for legal and ethical conduct when using big data (Biga et al., 2015).

One particularly interesting session discussed a new I-O big data project, called [metaBUS](#) (Bosco, Uggerslev, Steel, & Field, 2015). This effort consists of a large team

of I-O psychologists developing a tool that assists in synthesis, analysis, and dissemination of more than a million scientific research findings. Upon completion, this tool will be available to all researchers for meta-analytic analyses and to translate research into practice instantaneously. Congrats to this team for winning the 2013 [Digging into Data Challenge!](#)

Conclusion

The "HR technology renaissance" is not only changing how organizations manage their human capital (Lanik et al., 2015), but there is a growing understanding among the community that to truly understand and measure this rapid technological change, we as I-O psychologists must work together and with other fields and disciplines. Below are key themes from presentations at this year's event:

- I-O psychology as a field must take an introspective, critical look at how its research methods and applied practices are keeping pace with or falling behind the technological curve (Boyd, Morelli, Doverspike, Handler, & Illingworth, 2015).
- I-O psychology has only had a minor role in understanding how technology-related efficacy judgments are formed and what their effects might be (Howardson et al., 2015).
- I-O psychologists need to build their technological skillsets (Aude et al., 2015). There are common barriers present in this cross-disciplinary field, and in order to continue to shed value on our I-O skillset, we must be able to

communicate with other fields.

- New technologies are commonplace in today's workplace environment. Ensuring that the technology is successfully transitioned remains an important priority for I-O psychologists to ensure our interventions can improve the workplace (Hedge et al., 2015).

There are specific technology and social media trends that continue to show up each year at SIOP. Although some areas have progressed and evolved, other areas still need to be examined. Hopefully, this article might also inspire some ideas for sessions we need to see next year in [Anaheim](#).

We'd like to hear from you! What trends do you expect to see at #SIOP16?



Email us at themodernapp@gmail.com



Tweet at us [@themodernapp](https://twitter.com/themodernapp)



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